



2nd OIE Global Conference on Animal Welfare:

Putting the OIE Standards to Work

**Cairo (Egypt),
20-22 October 2008**



PROCEEDINGS



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Foreword

OIE Global Conference on Animal Welfare

20–22 October 2008: ‘Putting the OIE Standards to Work’

I am very pleased to introduce the Proceedings of the Second OIE Global Conference on Animal Welfare, a publication that has collected together the experiences shared by international animal welfare experts in Cairo.

For several years now, the European Commission has been working closely with the OIE to support the development and implementation of OIE standards. In accordance with one of the main areas of actions identified in the Community action plan on the protection and welfare of animals 2006–10, the EU Commission is working to raise awareness and facilitate greater understanding of animal welfare issues and on internationally recognised animal welfare standards, such as those developed by the OIE.

In this context, a number of seminars and conferences have been co-organised with the OIE to support the international implementation of these standards.

The First OIE Global Conference on Animal Welfare, held in Paris in 2004, greatly contributed to a wider understanding of animal welfare issues. Consequently, it led to the unanimous adoption of the first OIE animal welfare standards during the World Assembly of OIE Delegates in May 2005.

The Second OIE Global Conference on Animal Welfare, held in Cairo from 20 to 22 October 2008, highlighted the state of play of the implementation of OIE animal welfare standards as well as the needs and possible tools to improve animal welfare globally. The conference brought together international experts and addressed the challenges and opportunities relating to proper animal welfare legislation in all countries and regions of the world.

The Lisbon Treaty introduced a specific article (Article 13 TFEU) recognising animals as sentient beings. Concerns over animal welfare reflect the European Union’s own values of solidarity, respect, compassion and empathy that extend well beyond the EU’s borders. The EU support and contribution to the organisation of the Second OIE Global Conference on Animal Welfare clearly shows our commitment to the global improvement of animal welfare.

I would like to welcome again the development of OIE animal welfare standards and their implementation worldwide and to personally thank all speakers and participants who contributed to the success of this Second OIE Global Conference on Animal Welfare.

I look forward to continuing the fruitful collaboration with the OIE to ensure that animal welfare standards will be properly enforced internationally.

Paola Testori Coggi
Director-General for
Health and Consumers

Avant-propos

Conférence mondiale de l'OIE sur le bien-être animal, 20-22 octobre 2008: «Pour une application effective des normes de l'OIE»

J'ai l'honneur de présenter les actes de la deuxième conférence mondiale de l'OIE sur le bien-être animal. Il s'agit d'une publication qui regroupe toutes les expériences partagées de la part des experts du bien-être animal lors de la conférence au Caire.

La Commission européenne travaille pendant plusieurs années déjà en collaboration étroite avec l'OIE afin de soutenir le développement et la mise en application des normes OIE. Selon un des domaines d'action identifiés dans le Plan d'action communautaire sur la protection et le bien-être des animaux 2006-2010, la Commission s'engage à sensibiliser davantage et à favoriser une meilleure compréhension du bien-être animal et des normes internationales reconnues sur le bien-être des animaux, comme celles de l'OIE.

Dans ce contexte, des séminaires et des conférences ont été organisés en partenariat avec l'OIE en vue de soutenir la mise en application de ces normes au niveau international.

La première conférence mondiale de l'OIE sur le bien-être animal a eu lieu à Paris en 2004 et a largement contribué à élever le niveau de compréhension pour les sujets sur le bien-être animal. Par conséquent, lors de l'assemblée mondiale des délégués de l'OIE en mai 2005, les premières normes OIE sur le bien-être des animaux ont été votées à l'unanimité.

La deuxième conférence mondiale de l'OIE sur le bien-être animal a eu lieu au Caire du 20 au 22 octobre 2008 et a mis l'accent sur l'état des lieux concernant la mise en application des normes OIE du bien-être animal, ainsi que sur les besoins et instruments possibles afin d'améliorer le bien-être animal à l'échelle mondiale. La conférence a réuni des experts nationaux et a abordé les défis et opportunités présentés par la législation appropriée sur le bien-être des animaux à travers tous les pays et régions du monde.

Le traité de Lisbonne a introduit un article spécifique (article 13 du TFUE) reconnaissant les animaux comme des êtres sensibles. Les inquiétudes liées au bien-être animal reflètent ainsi les valeurs propres de l'Union européenne en matière de solidarité, respect et compassion et s'étendent bien au-delà des frontières de l'UE. Le support et la contribution européenne à l'organisation de la deuxième conférence mondiale de l'OIE sur le bien-être animal montrent manifestement notre engagement en ce qui concerne l'amélioration mondiale du bien-être animal.

C'est donc avec un grand plaisir que j'accueille le développement et la mise en application mondiale des normes OIE sur le bien-être animal et je voudrais remercier personnellement tous les orateurs et participants qui ont contribué au succès de cette deuxième conférence mondiale de l'OIE sur le bien-être animal.

J'attends avec impatience de pouvoir continuer la collaboration fructueuse avec l'OIE afin d'assurer que les normes sur le bien-être animal soient appliquées à l'échelle mondiale.

Paola Testori Coggi
Directrice générale de la santé
et des consommateurs

Prólogo

Conferencia Mundial de la OIE sobre el Bienestar Animal, 20-22 de octubre de 2008: «Por la aplicación efectiva de las normas de la OIE»

Estoy muy contenta de presentar las actas de la Segunda Conferencia Mundial de la OIE sobre el Bienestar Animal, publicación fruto de todas las experiencias compartidas por los expertos internacionales en bienestar animal en El Cairo.

Desde hace varios años, la Comisión Europea ha estado trabajando estrechamente con la OIE para apoyar el desarrollo y aplicación de dichas normas. Según uno de los principales ámbitos de acciones identificadas en el plan de acción comunitario sobre protección y bienestar animal 2006-2010, la Comisión Europea está trabajando para crear conciencia y facilitar una mayor comprensión de los aspectos de bienestar animal y sobre las normas internacionalmente reconocidas, tales como las elaboradas por la OIE.

En este contexto, una serie de seminarios y conferencias han sido co-organizadas con la OIE para apoyar a nivel internacional la aplicación de las mismas.

La primera Conferencia Mundial de la OIE sobre el Bienestar Animal, celebrada en París en 2004 contribuyó en gran medida a una mayor comprensión de las cuestiones de bienestar animal. Se produjo, como consecuencia, la aprobación por unanimidad de los primeros estándares de bienestar animal de la OIE durante su Asamblea Mundial de Delegados en mayo de 2005.

La segunda Conferencia Mundial de la OIE sobre el Bienestar Animal, celebrada en El Cairo, 20-22 de octubre de 2008, puso de relieve la situación de la aplicación de las normas de la OIE de bienestar animal, así como las necesidades y posibles herramientas para mejorar el bienestar animal a nivel mundial. La conferencia reunió a expertos internacionales y se orientó a los desafíos y oportunidades en relación con la adecuada legislación sobre bienestar animal en todos los países y regiones del mundo.

El Tratado de Lisboa introduce un artículo específico (artículo 13, del TFUE) reconociendo a los animales como seres sensibles. La preocupación por el bienestar animal refleja los valores propios de la Unión Europea de, solidaridad, respeto, compasión y empatía que se extienden mucho más allá de sus fronteras. El apoyo de la UE y la contribución a la organización de la Segunda Conferencia Mundial de la OIE sobre el Bienestar Animal demuestra claramente nuestro compromiso con la mejora global del bienestar animal.

Me gustaría dar la bienvenida de nuevo al desarrollo de las normas de la OIE sobre el bienestar animal y su aplicación en todo el mundo, así como agradecer personalmente a todos los oradores y participantes que han contribuido al éxito de esta segunda Conferencia Mundial de la OIE sobre el bienestar animal.

Espero poder continuar la fructífera colaboración con la OIE para garantizar que las normas de bienestar animal se apliquen correctamente a nivel internacional.

Paola Testori Coggi
Directora General de Sanidad
y Consumidores

Opening address by Dr Bernard Vallat for the Second Global Conference on Animal Welfare 'Putting the OIE Standards to Work'

Four years ago the OIE held the First OIE Global Conference on Animal Welfare in Paris. This was the first step in a work programme that culminated in 2005 with the unanimous adoption of the first series of international animal welfare standards by OIE Member Countries, which numbered 168 countries at that time.

Three years on, it is appropriate to review where we stand with regard to the implementation of these standards globally and also to highlight the importance the OIE and the international community place on improving animal welfare in all countries and regions of the world. The increasing importance of animal welfare, both to developed and developing countries, is reflected in the fact that this conference takes place in Cairo, with the kind support of the Egyptian Government.

The main theme of this Second OIE Global Conference on Animal Welfare, entitled 'Putting the OIE standards to work', is the worldwide implementation of the OIE animal welfare standards for the transport of livestock by land, sea and air, the slaughter of animals for human consumption and the killing of animals for disease control purposes.

In convening this conference, the OIE wishes to support its members, especially the in-transition and developing countries, to implement the OIE standards and, thereby, improve animal welfare worldwide. The involvement of veterinary services and veterinarians is a key and fundamental tool for improving animal welfare. This conference also aims to provide practical assistance to OIE delegates and national animal welfare focal points under their authority to help them to implement the OIE animal welfare standards in their countries. We know that many countries started to develop a national legislation for the first time after our first conference, but we also know that several others still lack appropriate legislative texts.

I am convinced that the veterinary profession and associated professions and partners have the knowledge, expertise and commitment to achieve the goals set for this conference. By working together, we can raise the profile of animal welfare worldwide and encourage OIE members, veterinary services, including veterinarians in the private sector, and their partners to take greater responsibility for animal welfare.

The relation between humans and animals is crucial and we need national, regional and global regulatory frameworks that address the relationship between humans and animals.

The main objective of the OIE and of all national veterinary services is to improve animal health worldwide. Animal health is a key component of animal welfare.

Veterinary services should be considered as a 'global public good' and should be given the rightful place they deserve and be provided with the necessary resources to enable them to deliver to society the services expected of them. They play a front-line role in the prevention and control of animal diseases, including those transmissible to humans. As such, their contribution in public health, food security, food safety, alleviation of poverty and market access is becoming more and more visible. Today veterinary services and their partners should not only play a leading role in their traditional activities of disease control and surveillance but also work closely with the human health services in contributing to public health.

In the course of this conference, the role of veterinary services, as one of the key players in the implementation of the OIE animal welfare standards will no doubt be highlighted.

It is particularly important to make improvements in animal health and associated public health issues, and in animal welfare in regions where there is an intimate association between humans and livestock.

The significant advancement in the animal welfare field globally cannot be achieved by the OIE alone. The OIE regards its relationship with its partners to be of primary importance. Our close association with the European Commission and other donors supporting the OIE through important contributions to the Animal Health and Welfare World Fund has enabled the OIE to initiate a new programme of regional meetings on animal welfare. One significant outcome of these meetings has been the development of OIE regional animal welfare strategies, which are highlighting issues and approaches that are tailored to each OIE region.

Collaborative partnerships are also reflected in the work of the OIE Animal Welfare Working Group. The group includes eight permanent members: representatives from a great consortium of non-governmental organisations, the agri-food industry and international producer associations.

The OIE Animal Welfare Working Group has made great progress to date, supported by many internationally recognised scientific experts working in OIE ad hoc groups. There are still many challenges and the OIE continues to develop its standard-setting work in new areas of importance to animal welfare, such as laboratory animal welfare and, more recently, animal welfare in relation with livestock production systems. In these fields, the permanent input of scientific research is crucial.

OIE standards are fully science-based, as science is the unique common denominator for the 172 members of the OIE, which showed foresight in mandating the OIE as the global organisation providing animal welfare standards to the international community.

The adoption of OIE standards is a fully democratic process starting with a meeting of high level experts, then working groups, commissions elected by the General Assembly of National Delegates and, finally, by vote of the General Assembly. The adoption of standards by national delegates represents an official commitment of governments to try to implement these standards.

This procedure is totally different to the procedures for the introduction of private standards which are not transparent, not democratic and often not science-based.

The finalisation of the OIE recommendations on the control of stray dog populations is of great significance. This work falls within the OIE mandate for animal health, public health and animal welfare, as it addresses humane methods for the control of dog populations and the prevention of important zoonotic diseases, such as rabies and hydatidosis. Rabies is particularly important in some developing countries where rabies kills thousands of children every year, causing them tremendous suffering. I am pleased to note that a final text will be circulated with the Commission's report on the OIE *Terrestrial Animal Health Code* towards the end of this year and will be proposed for adoption in the Code as a standard at the General Session in May 2009.

May I end by assuring you that the OIE will continue to work tirelessly to improve the animal welfare situation globally.

Sincere thanks to His Excellency Mr Amin Abaza and to the Government of Egypt for their generosity in hosting this conference, to the OIE Delegate of Egypt, Professor Dr Hamed Abdel Tawab Samaha, and to Dr Hassan Aidaros. Thanks also to the European Commission, the governments of Australia, Egypt, Germany, New Zealand and the United States of America for their support in the organisation of this second Global Conference on Animal Welfare.

Dr Bernard Vallat
Director-General of the World
Organisation for Animal Health

Discours d'ouverture du Docteur B. Vallat à la 2^e conférence mondiale sur le bien-être animal intitulée «Pour une application effective des normes de l'OIE»

Il y a quatre ans, l'Organisation mondiale de la santé animale (OIE) avait organisé la première conférence mondiale sur le bien-être animal à Paris. Il s'agissait de la première étape d'un programme de travail dont l'apogée a été marqué, en 2005, par l'adoption de la première série de normes internationales sur le bien-être animal, à l'unanimité des 168 membres que comptait alors l'OIE.

Quatre ans plus tard, il est apparu opportun de faire le point sur l'application mondiale de ces normes et de mettre en lumière l'importance que l'OIE et la communauté internationale attachent à l'amélioration du bien-être animal dans tous les pays et toutes les régions du monde. Le choix de la région où nous avons pu organiser cette conférence, grâce à l'invitation du gouvernement égyptien, traduit bien l'intérêt croissant porté à la protection animale tant par les pays développés que par les pays en développement.

Le thème principal de cette 2^e conférence mondiale de l'OIE sur le bien-être animal, intitulée «Pour une application effective des normes de l'OIE», concerne l'application mondiale des normes de l'OIE sur le bien-être animal lors du transport terrestre, maritime ou aérien des animaux d'élevage, de leur abattage pour la consommation humaine ou de leur mise à mort à des fins prophylactiques.

Par cette manifestation, l'OIE souhaite aider ses membres à appliquer les normes qu'elle adopte et, par là même, améliorer le bien-être animal dans le monde. Dans ce processus, elle soutient plus particulièrement les pays en transition ou en développement. L'implication des services vétérinaires et des vétérinaires est à la fois une clé et un outil essentiel pour améliorer la bien-traitance animale. Cette conférence vise également à apporter une assistance pratique aux délégués de l'OIE et aux points focaux nationaux chargés du bien-être animal, qui sont placés sous leur autorité, afin de les aider à mettre en œuvre dans leurs pays respectifs les normes de l'OIE sur le bien-être animal. À la suite de notre première conférence, de nombreux pays ont commencé à élaborer pour la première fois une législation nationale en la matière, mais d'autres ne se sont pas encore dotés des textes législatifs appropriés.

Je suis convaincu que la profession vétérinaire, les professions associées et leurs partenaires possèdent les connaissances, l'expertise et la capacité d'implication suffisantes pour atteindre les objectifs fixés par cette conférence. En travaillant tous ensemble, nous pourrions améliorer le niveau du bien-être animal dans le monde et inciter les membres de l'OIE, les services vétérinaires, les vétérinaires du secteur privé et l'ensemble des partenaires à prendre davantage de responsabilités pour le bien-être animal.

Les relations entre l'homme et les animaux sont fondamentales, et il nous est nécessaire de disposer de cadres réglementaires nationaux, régionaux et mondiaux qui traitent de cet aspect.

Le principal objectif de l'OIE et de tous les services vétérinaires nationaux est d'améliorer la santé animale dans le monde. La santé animale est une composante clé du bien-être animal.

Les services vétérinaires doivent être considérés comme un «bien public mondial» et il convient de leur réserver la place qu'ils méritent, avec les ressources dont ils ont besoin pour fournir à la société les services attendus. Les services vétérinaires jouent un rôle de premier rang dans la protection et la lutte contre les maladies animales, notamment les affections transmissibles à l'homme. En tant que telle, leur contribution à la santé publique, à la sécurité des approvisionnements alimentaires, à la sécurité sanitaire des aliments, au recul de la pauvreté et à l'accès aux marchés devient de plus en plus visible. Aujourd'hui, les services vétérinaires et leurs partenaires

doivent non seulement jouer le rôle de chef de file dans leurs activités traditionnelles de prophylaxie et de surveillance des maladies, mais ils doivent aussi collaborer étroitement avec les services de santé humaine en aidant à préserver la santé publique.

Cette conférence soulignera sans aucun doute le rôle des services vétérinaires en tant qu'acteurs principaux de la mise en œuvre des normes de l'OIE sur le bien-être animal.

Il est particulièrement important d'obtenir des améliorations au niveau de la santé animale, des questions de santé publique qui en dépendent et du bien-être animal dans toutes les régions où il existe un lien intime entre l'homme et les animaux d'élevage.

À elle seule, l'Organisation mondiale de la santé animale ne pourra réaliser des avancées significatives mondiales dans le domaine du bien-être animal. L'OIE considère que les relations qu'elle entretient avec ses partenaires ont une importance capitale. Les liens étroits que nous maintenons avec la Commission européenne et les autres bailleurs de fonds qui soutiennent l'OIE par des contributions importantes au Fonds mondial pour la santé et le bien-être des animaux ont permis à l'OIE de mettre en place un nouveau programme de réunions régionales sur le bien-être animal. Un résultat important de ces réunions a été l'élaboration de stratégies régionales de l'OIE sur le bien-être animal, focalisées sur des enjeux et des approches adaptés à chaque région de l'OIE.

Les partenariats noués trouvent également un écho dans les travaux du groupe de travail de l'OIE sur le bien-être animal. Ce groupe comprend huit membres permanents qui incluent des représentants d'un grand consortium d'organisations non gouvernementales, de l'industrie agroalimentaire et de l'association internationale des agriculteurs.

Le groupe de travail de l'OIE sur le bien-être animal a considérablement progressé, avec le soutien de nombreux experts scientifiques de renom international, qui collaborent avec les groupes ad hoc de l'OIE. Il reste aujourd'hui de nombreux défis à relever, et l'OIE poursuit son travail de normalisation dans de nouveaux domaines importants du bien-être animal tels que la bien-traitance des animaux de laboratoire et, plus récemment, les rapports entre le bien-être animal et les différents systèmes de production animale. Pour toutes ces questions, il est fondamental de disposer de l'apport permanent de la recherche scientifique.

Les normes de l'OIE reposent systématiquement sur des fondements scientifiques, car les sciences constituent le seul dénominateur commun entre les 172 membres de l'Organisation. Ces membres ont décidé de demander à l'OIE de devenir l'organisation mondiale de référence chargée de procurer à la communauté internationale des normes en matière de bien-être animal.

L'adoption des normes de l'OIE suit une procédure parfaitement démocratique, qui débute par des travaux d'experts à haut niveau, se poursuit par la réunion de groupes de travail puis de commissions élues par l'assemblée générale des 172 délégués nationaux et s'achève par le vote de cette même assemblée générale. L'adoption des normes par les délégués nationaux implique officiellement les gouvernements qui s'engagent à faire leur possible pour appliquer les normes adoptées.

Cette procédure est totalement différente de celle qui préside à l'introduction des normes privées qui ne sont ni transparentes ni démocratiques et, bien souvent, ne reposent pas sur des fondements scientifiques.

L'application des recommandations de l'OIE sur le contrôle des populations de chiens errants revêt également une importance majeure. Cette activité fait partie du mandat de l'OIE dans le domaine de la santé animale, de la santé publique et du bien-être animal, car elle inclut des méthodes décentes de maîtrise des populations canines ainsi que la prévention de maladies zoonotiques importantes comme la rage et l'hydatidose. La rage est particulièrement dramatique dans certains pays en développement où elle tue chaque année des milliers d'enfants, provoquant des souffrances atroces. Je suis heureux de pouvoir annoncer qu'un texte final sera diffusé en fin d'année avec le rapport de la commission du code terrestre, en vue d'être proposé comme

norme, pour inclusion dans le *Code sanitaire pour les animaux terrestres de l'OIE*, lors de la session générale de mai 2009.

Je terminerai en vous assurant que l'OIE continuera de travailler sans relâche à l'amélioration de la situation mondiale du bien-être animal. Je souhaite enfin adresser toute ma reconnaissance à la Commission européenne et aux gouvernements de l'Égypte, de l'Australie, de l'Allemagne, de la Nouvelle-Zélande et des États-Unis d'Amérique qui ont apporté leur soutien à l'organisation de cette deuxième conférence mondiale sur le bien-être animal.

Docteur Bernard Vallat
Directeur général de l'Organisation
mondiale de la santé animale

Discurso de apertura del Dr. Bernard Vallat durante la segunda Conferencia Mundial de la OIE sobre Bienestar Animal «Por la aplicación efectiva de las normas de la OIE»

Hace cuatro años, la OIE organizó en París la primera Conferencia Mundial sobre bienestar. Este fue el primer paso de un programa de trabajo que culminaría en 2005 con la adopción por unanimidad de la primera serie de normas internacionales de bienestar animal por parte de los 168 miembros que entonces conformaban la Organización Mundial de Sanidad Animal (OIE).

Han transcurrido tres años y ha llegado el momento de revisar la situación con respecto a la puesta en aplicación de estas normas a escala mundial y resaltar la importancia que la OIE y la comunidad internacional otorgan a la mejora del bienestar animal en todos los países y regiones de la tierra. El interés creciente por el bienestar animal, tanto en los países desarrollados como en vías de desarrollo, se refleja en el hecho de llevar a cabo la Conferencia en esta región, gracias a la invitación del gobierno egipcio.

El principal tema de la segunda Conferencia Mundial sobre bienestar, que lleva por título «Por la aplicación efectiva de las normas de la OIE», es la puesta en práctica mundial de las normas de bienestar animal de la OIE para el transporte de animales por vía terrestre, marítima y aérea, el sacrificio de animales para consumo humano y la matanza con fines profilácticos.

Al organizar este evento, la OIE desea apoyar a sus miembros, especialmente a los países en transición y en desarrollo, a aplicar las normas de la OIE y, por consiguiente, mejorar el bienestar animal en todo el mundo. La participación de los Servicios Veterinarios y de los veterinarios constituye una herramienta clave y fundamental para mejorar el bienestar animal. Esta conferencia también busca brindar asistencia a los delegados de la OIE y puntos focales de bienestar animal, bajo su autoridad, a implementar las normas de la OIE en su territorio. Sabemos que muchos países empezaron a desarrollar una legislación nacional por primera vez después de la primera conferencia, pero también sabemos que muchos otros carecen de textos legislativos apropiados.

Estoy convencido de que la profesión veterinaria y otras profesiones afines y asociadas poseen el conocimiento, la experiencia y el compromiso para alcanzar las metas propuestas en esta conferencia. Mancomunando esfuerzos podemos mejorar el bienestar animal en el mundo y alentar a los miembros de la OIE, a los Servicios Veterinarios, incluyendo a los veterinarios del sector privado, y a sus asociados a asumir una mayor responsabilidad en el campo del bienestar animal.

La relación entre los hombres y los animales es crucial, por lo que necesitamos marcos de trabajo reguladores a escala nacional, regional y global que tengan en cuenta dicha relación.

El principal objetivo de la OIE y de todos los Servicios Veterinarios nacionales es mejorar la sanidad animal en el mundo. Cabe recordar que la sanidad animal es un componente clave del bienestar animal.

Los Servicios Veterinarios deberían ser considerados como un «bien público mundial» a los que se les debe atribuir el lugar que les corresponde y otorgar los recursos necesarios para que puedan brindar a la sociedad los servicios que ésta espera. Su contribución es esencial en la prevención y control de las enfermedades animales incluidas aquellas que se transmiten al ser humano. De este modo, su aporte a la salud pública, a la seguridad y la inocuidad de los alimentos, a la reducción de la pobreza y al acceso a los mercados es cada vez más reconocida. Hoy en día, los Servicios Veterinarios y sus asociados no solo ejercen un papel de liderazgo en sus actividades tradicionales de control y vigilancia de enfermedades sino que también trabajan de cerca con los servicios sanitarios para contribuir a la salud pública.

Durante esta conferencia, sin duda se destacará el papel de los Servicios Veterinarios como uno de los protagonistas en la puesta en práctica de las normas de bienestar animal.

Es esencial lograr mejoras en sanidad animal y en temas de salud pública asociados, así como en bienestar animal en regiones en las que existe una asociación estrecha entre humanos y ganado.

Los logros significativos de bienestar animal a escala mundial no los puede alcanzar sola la OIE. Para la Organización, su relación con sus socios reviste una importancia primordial. Los fuertes vínculos con la Unión Europea y con otros donantes que apoyan a la OIE a través de importantes contribuciones al Fondo Mundial para la salud y el bienestar de los animales han permitido que la OIE inicie un nuevo programa de reuniones regionales en torno al bienestar animal. Un resultado significativo de estos encuentros ha sido el desarrollo de estrategias regionales de bienestar animal, que constituyen un enfoque adaptado a cada una de las regiones de la OIE.

Asimismo, los acuerdos de colaboración se reflejan en la labor del grupo de trabajo de la OIE sobre bienestar animal. Este grupo cuenta con ocho integrantes permanentes, con representantes de un gran consorcio de organizaciones no gubernamentales y de asociaciones internacionales de industrias agroalimentarias y de productores.

Hasta la fecha, el grupo de trabajo ha dado grandes pasos apoyado por muchos expertos científicos de renombre internacional que trabajan en los grupos *ad hoc* de la OIE. No obstante, subsisten grandes retos y la OIE continúa adelante con su trabajo de elaboración de normas en nuevas áreas de importancia para el bienestar animal, tales como el bienestar de los animales de laboratorio y, más recientemente, el bienestar y los sistemas de producción del ganado. En estos ámbitos el aporte de la investigación científica es crucial.

Las normas de la OIE se basan en principios científicos ya que la ciencia constituye el denominador común entre los 172 miembros de la OIE, quienes decidieron solicitar a la OIE que se convirtiera en la organización mundial de referencia en la elaboración de normas de bienestar animal para la comunidad internacional.

La adopción de las normas de la OIE constituye un proceso democrático que empieza con una reunión de expertos de alto nivel, seguida por grupos de trabajo y Comisiones elegidas por la Asamblea General de los 172 delegados nacionales. La aprobación de normas por parte de los delegados nacionales representa un compromiso oficial de los gobiernos para tratar de aplicar dichas normas.

Este procedimiento difiere totalmente de los procedimientos de introducción de las normas privadas que no son transparentes, ni democráticas y que a menudo carecen de un fundamento científico.

Por otro lado, quisiera evocar la finalización de las recomendaciones de la OIE para el control de las poblaciones de perros callejeros. Este trabajo se inscribe dentro del mandato de la OIE para la sanidad animal, la salud pública y el bienestar animal, al promover métodos humanos para el control de poblaciones caninas y la prevención de enfermedades zoonóticas importantes, tales como la rabia y la hidatidosis. La rabia reviste una significación particular en algunos países en vías de desarrollo, en donde provoca la muerte de miles de niños al año, causándoles un inmenso sufrimiento. Hacia finales de este año, un texto final circulará dentro del informe de la Comisión de Normas Sanitarias para los Animales Terrestres que se propondrá para adopción en la próxima edición del *Código Terrestre*, durante la Sesión general en mayo de 2009.

Quisiera concluir garantizándoles que la OIE seguirá trabajando incansablemente para mejorar la situación del bienestar animal a escala mundial. Renuevo mi agradecimiento a la Comisión Europea, a los gobiernos de Egipto, Australia, Alemania, Nueva Zelanda y Estados Unidos por su apoyo en la organización de esta segunda Conferencia Mundial de la OIE sobre Bienestar Animal.

Doctor Bernard Vallat
Director General de la Organización
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I Putting the standards in context



Implementation of animal welfare standards by OIE members

Different national realities

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Keywords: OIE, animal welfare, veterinary services, international standards.

This paper presents an update on the situation concerning the implementation of the OIE international animal welfare standards, including the difficulties faced by the diverse countries and territories comprising the 172 OIE members. The OIE has recognised that some countries are facing significant problems in implementing the animal welfare standards and it intends to identify means of supporting these members in accordance with the OIE mandate.

The OIE held the first Global Conference on Animal Welfare in Paris, 23 to 25 February 2004, which established a broad consensus amongst members, paving the way for the adoption, in 2005, of animal welfare standards, covering the transport of animals by land, sea and air, the slaughter of animals for human consumption and the killing of animals for disease control purposes. Since this time, the OIE has continued to work on refining the original standards and has maintained ongoing liaison with national delegates (in most cases, the Head of the National Veterinary Services) to encourage and support members to implement the OIE standards.

One of the main goals of the second Global Conference on Animal Welfare (Cairo, 20 to 22 October 2008) is to review the state of play in the implementation of OIE animal welfare standards globally and to identify means of supporting members in meeting these standards.

A questionnaire on the implementation of animal welfare guidelines was sent to all OIE members via e-mail, with a request for the National Veterinary Services to provide official responses. The survey comprised 17 ques-

tions, divided into nine sections, as follows: Competence; Legislation; Voluntary animal welfare schemes and stakeholder participation; Education, training and communication; Transport of live animals; Slaughter of animals for human consumption; Killing animals for disease control; Major welfare problems, needs or tools; and Future OIE activities.

Sixty-six (38 %) of the 172 OIE members had returned correctly completed questionnaires at the time of preparing this abstract. In terms of the five OIE Regions, 17 % of the answers came from the Regional Commission for Africa; 9 % from the Americas; 20 % from Asia, Far East and Oceania; 47 % from Europe and 8 % from the Middle East.

These responses indicate that there are significant differences between members in regard to the competencies of National Veterinary Authorities and in their approach to animal welfare legislation. Members reported that priorities for the future include the development of guidelines covering animal welfare in production systems, farmed fish and laboratory animals. Some respondents saw a need to develop a formal strategy to address the implementation of animal welfare standards. The publication of OIE guidance on humane methods for the control of stray dog populations was considered important by some respondents.

It is clear that OIE needs to do more to help OIE members implement the OIE animal welfare standards. Support in developing appropriate legislation and in education and training, particularly for veterinarians, are important priorities at the global level.

Mise en œuvre des normes de l'OIE sur le bien-être animal: Réalités nationales diverses

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Mots-clés: OIE, bien-être animal, services vétérinaires, normes internationales

Le présent article vise à fournir une mise à jour de la situation quant à l'application des normes internationales de bien-être animal de l'OIE, y compris les difficultés auxquelles sont confrontés les divers pays et territoires constituant les 172 membres de l'OIE. L'OIE reconnaît que certains d'entre eux font face à des problèmes significatifs pour appliquer les normes en matière de bien-être animal et recherche les moyens de leur porter assistance conformément au mandat de l'OIE.

L'OIE a tenu, du 23 au 25 février 2004, une première conférence mondiale sur le bien-être animal, à Paris, qui a permis d'établir un large consensus parmi les membres, ce qui a préparé l'adoption, en 2005, de normes de bien-être animal couvrant le transport d'animaux par terre, mer et air, ainsi que l'abattage d'animaux dans des buts de lutte contre les maladies. Depuis ce temps, l'OIE continue d'affiner les normes d'origine et entretient une liaison permanente avec les délégués nationaux (dans la plupart des cas, le directeur des services vétérinaires du pays) afin d'encourager et d'inciter les membres à appliquer les normes de l'OIE.

L'un des principaux objectifs de la seconde conférence mondiale sur le bien-être animal (Le Caire, 20-22 octobre) consiste à passer en revue l'état des interactions dans l'application des normes de l'OIE en matière de bien-être animal à l'échelle mondiale et à rechercher les moyens d'aider les membres à les respecter.

Un questionnaire sur l'application des lignes directrices en matière de bien-être animal a été envoyé par courrier électronique à tous les membres de l'OIE, demandant aux services

vétérinaires nationaux de donner des réponses officielles. Cette étude comprenait 17 questions, divisées en 9 sections, à savoir: «Compétence», «Législation», «Schémas d'application volontaire et participation des intervenants», «Enseignement, formation et communication», «Transport des animaux vivants», «Abattage des animaux pour la consommation humaine», «Élimination d'animaux pour lutter contre les maladies», «Grands problèmes de bien-être, besoins et outils» et «Activités futures de l'OIE».

Des 172 membres de l'OIE, 58 avaient renvoyé les questionnaires correctement remplis au moment de la rédaction du présent résumé. Quant à leur répartition entre les 5 régions de l'OIE: 12 % des réponses provenaient de la commission régionale pour l'Afrique; 4 % des Amériques; 21 % d'Asie, d'Extrême-Orient et d'Océanie; 54 % d'Europe; et 9 % du Moyen-Orient.

Ces réponses indiquent qu'il existe des différences significatives entre les pays membres quant à la compétence des autorités vétérinaires nationales et à leur façon d'aborder la législation en matière de bien-être animal. Les pays membres signalent, parmi leurs priorités pour l'avenir, la mise au point de lignes directrices couvrant le bien-être animal dans les systèmes de production, pour les poissons d'aquaculture et les animaux de laboratoire. Parmi les destinataires interrogés, certains estiment qu'il convient d'élaborer une stratégie officielle pour traiter de l'application des normes de bien-être animal. Certains considèrent qu'il est important que l'OIE publie une note de conseils sur les procédés de lutte sans cruauté contre les populations de chiens errants.

Il est clair que l'OIE doit faire davantage pour aider les pays membres à appliquer ses normes en matière de bien-être animal. Un soutien à l'élaboration de mesures législatives

appropriées ainsi qu'à l'enseignement et à la formation, en particulier pour les vétérinaires, représente une priorité importante au niveau mondial.

Implementación de las normas de bienestar animal por parte de los miembros de la OIE: diferentes realidades nacionales

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Palabras clave: OIE, bienestar animal, servicios veterinarios, normas internacionales

El presente trabajo presenta un balance de la situación de la implementación de las normas internacionales de la OIE de bienestar animal, así como las dificultades que enfrentan algunos países y territorios, incluyendo los 172 miembros de la OIE. La OIE es consciente de que algunos países enfrentan problemas considerables para implementar las normas de bienestar animal y prevé establecer las herramientas necesarias para ayudar a los miembros de conformidad con el mandato de la OIE.

La OIE organizó la primera Conferencia Mundial sobre Bienestar Animal, que se llevó a cabo en París del 23 al 25 de febrero de 2004, la cual alcanzó un amplio consenso entre los miembros, preparando el terreno para la adopción, en 2005, de normas de bienestar animal que abordan el transporte de animales por vías terrestre, marítima y aérea, el sacrificio de animales para consumo humano y la matanza de animales con fines profilácticos. Desde entonces, la OIE continúa trabajando en la actualización y el mejoramiento de las normas originales y se mantiene en contacto permanente con los Delegados Nacionales (que son habitualmente los Directores de los Servicios Veterinarios Nacionales) para estimular y apoyar a los miembros en la implementación de las normas de la OIE.

Uno de los principales objetivos de la segunda Conferencia Mundial sobre Bienestar Animal (El Cairo, 20-22 de octubre de 2008) es analizar el estado de la implementación de las normas de bienestar animal de la OIE a nivel mundial y establecer las herramientas necesarias para ayudar a los miembros a cumplir con las normas.

Los miembros de la OIE recibieron por correo electrónico un cuestionario sobre la imple-

mentación de las normas de bienestar animal, en el que se solicitaba a los Servicios Veterinarios Nacionales que dieran respuestas oficiales. El cuestionario tenía 17 preguntas, divididas en nueve secciones: «Competencias», «Legislación», «Programas voluntarios a favor del bienestar animal y participación de las partes interesadas», «Educación, formación y comunicación», «Transporte de animales vivos», «Sacrificio de animales para consumo humano», «Matanza de animales con fines profilácticos», «Principales problemas del bienestar animal, necesidades y herramientas» y «Actividades futuras de la OIE».

Un total de 58 miembros, de los 172 miembros de la OIE, había enviado su cuestionario completo en el momento de redactar el presente resumen. En cuanto a las cinco regiones de la OIE, el 12 % de las repuestas provenía de la Comisión Regional para África; el 4 % de las Américas; el 21 % de Asia, Extremo Oriente y Oceanía; el 54 % de Europa y el 9 % de Oriente Medio.

A través de estas respuestas, se aprecian las diferencias que existen entre los miembros con respecto a la competencia de las Autoridades Veterinarias Nacionales y a su enfoque de la legislación sobre bienestar animal. Según los miembros, una de las prioridades para el futuro es la elaboración de directrices sobre el bienestar animal en los sistemas de producción, los peces de cultivo y los animales de laboratorio. Para algunos encuestados, es necesario desarrollar una estrategia oficial para la implementación de las normas de bienestar animal. Algunos encuestados consideran esencial la publicación de pautas de la OIE sobre métodos decentes para el control de las poblaciones de perros vagabundos.

Es evidente que la OIE debe intensificar las medidas para ayudar a sus miembros a implementar las normas de bienestar animal de la OIE. Algunas de las prioridades a nivel

mundial son el apoyo en la elaboración de una legislación adecuada y en el desarrollo de programas de formación y educación, dirigidos principalmente a los veterinarios.

Implementation of animal welfare standards by OIE members

A preliminary analysis of replies to the OIE Animal Welfare Questionnaire 2008

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Keywords: OIE, animal welfare, veterinary services, international standards

Introduction

The theme of the Second OIE Global Conference on Animal Welfare, 'Putting the OIE Standards to Work', is the worldwide implementation of the OIE animal welfare standards for the transport of livestock by land, sea and air, the slaughter of animals for human consumption and the killing of animals for disease control purposes.

The First OIE Global Conference on Animal Welfare, held in Paris in 2004, was attended by more than 400 participants and helped pave the way for the unanimous adoption of a first series of international animal welfare standards by the OIE members, numbering 168 countries in 2005. It is now timely to review where we stand with the implementation of these standards globally.

This Second OIE Global Conference brings together veterinarians, researchers, regulatory officials, stakeholders and international non-governmental organisations (NGOs) who are actively involved in the implementation of animal welfare policies in their countries to share their experiences on the implementation of the OIE standards. The Conference also focuses on the importance of strong veterinary services to support the implementation of OIE animal health and welfare standards as animal health is a very important component of animal welfare.

The Conference includes a forum to discuss the challenges that countries face and the best means for the OIE to support their efforts as

well as future needs for the development of additional OIE animal welfare standards and scientific research in this domain.

This paper presents a preliminary analysis of the replies provided by OIE members in response to an OIE questionnaire on animal welfare circulated in August 2008. The objective of this exercise was to obtain up-to-date information on the implementation of the OIE animal welfare standards, including the difficulties faced by members, with a view to providing assistance within the OIE mandate.

Methodology

The questionnaire was drawn up using terminology defined in the OIE *Terrestrial Animal Health Code*. The OIE acknowledges the assistance of the European Commission (EC), the Council of Europe (CoE) and the OIE Regional Commission for the Americas in the preparation of the questionnaire, which was distributed to members on 23 July 2008 with a requested deadline for reply of 29 August 2008.

As of October 2008, 66 of the 172 OIE members had completed the questionnaire, as follows:

Region of Africa

Algeria, Cameroon, Democratic Republic of the Congo, Eritrea, Ghana, Guinea-Bissau, Niger, Senegal, Sudan, Tanzania and Yemen

Region of the Americas

Brazil, Chile, Ecuador, the United States, Uruguay and Venezuela

Region of Asia, the Far East and Oceania

Brunei, Maldives, Myanmar, Nepal, New Caledonia, New Zealand, Pakistan, Philippines, South Korea, Taiwan, Thailand, Vanuatu and Vietnam

Region of Europe

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Liechtenstein, Luxembourg, Moldova, Montenegro, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom

Region of the Middle East

Israel, Lebanon, Qatar, Turkey and the United Arab Emirates

The level of economic development of countries may be described using the Human Development Index (HDI) as described in the 2007/08 Human Development Report of the United Nations Development Programme (UNDP) (Anon. 2008). Based on the UNDP system, 61 % of the countries answering the questionnaire have a high HDI, 30 % have a medium HDI and 9 % have a low HDI.

Most respondents from the Europe region are developed countries, comprising 27 EU members and four other European countries. EU members' replies were compiled and supplemented by the EC and submitted to the OIE.

In collaboration with the EC and the CoE, the OIE made a preliminary qualitative analysis of the responses to the questionnaire. The answers to closed questions were analysed using a spreadsheet (Microsoft Excel) and displayed using tables and graphs. The 66 respondents cannot be considered as a random selection of OIE members, so statistical testing was not used.

The distribution of responses by OIE region is shown in Table 1 and Figure 1.

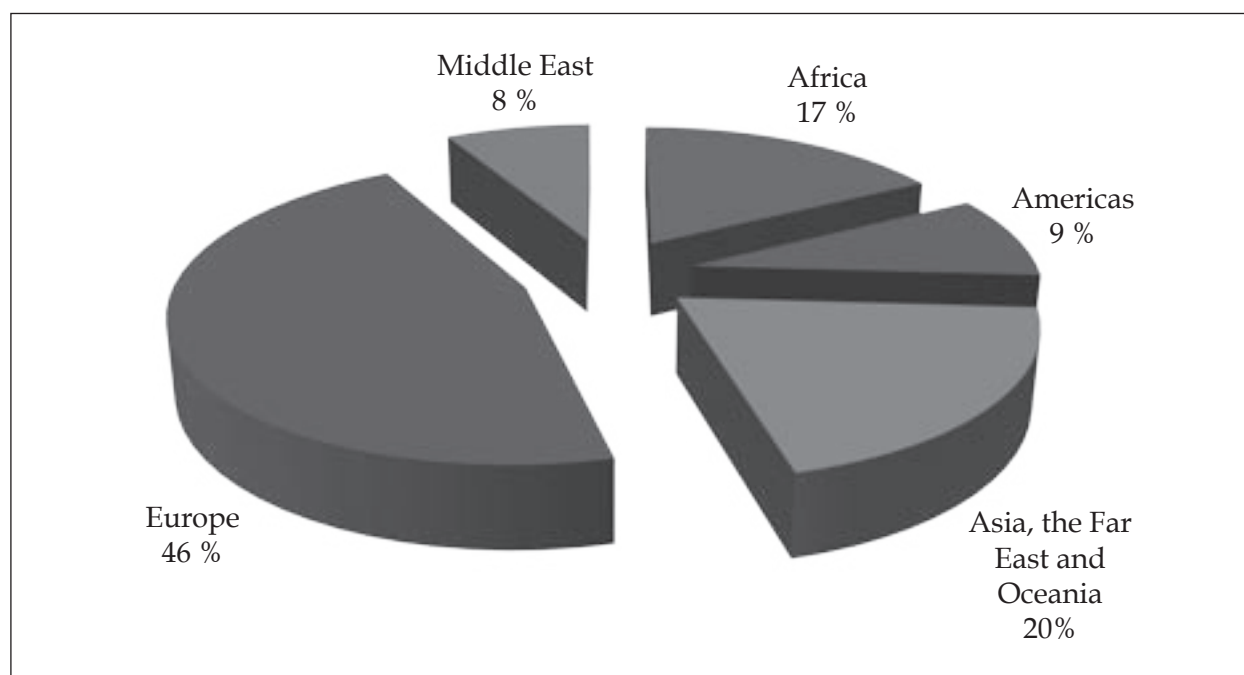
Competent authorities

In this section, members were asked to provide information on the competent authority for animal welfare. Responses indicated that 89 % of the countries have a competent authority for animal welfare at the first administrative level (national) and 42 % have one at the second administrative level (provincial or state). Where this was reported, the competent authority was normally the ministry responsible for agriculture or the veterinary services within or reporting to the ministry responsible for Agriculture.

Table 1:
The distribution of responses by OIE region

OIE region	Total OIE members	Number of respondents	% of countries by OIE Region
Africa	51	11	20
Americas	29	6	21
Asia, the Far East and Oceania	28	13	46
Europe	51	31	61
Middle East	13	5	38
Total	172	66	38

Figure 1:
Distribution of OIE members completing the questionnaire



All countries reported that the competent authority responsible for the operational implementation of animal welfare legislation was the veterinary authority at the first administrative level. In addition, 91 % of countries reported that the veterinary authority at the second administrative level shared some responsibility for the implementation of animal welfare legislation.

Legislation

This section addresses legislation, which includes laws and regulations, relevant to animal welfare. Members were asked to indicate if they have legislation for the four categories of activity (transport, slaughter, killing for disease control, and the control of stray dog populations) and if such legislation reflects the OIE standards for the first three categories of activity (The OIE had not, at the time of writing, finalised standards for the humane control of stray dog populations). A final question concerned the type of sanctions applied in the case of non-compliance with legislation.

Countries of Europe provided the highest rate of positive responses on the existence of legislation for transport, slaughter and killing

for disease control. This legislation generally reflects the OIE standards, with the major exception of the slaughter legislation, where only 13 % indicated that their legislation reflects the OIE standards. This finding needs to be investigated: it may indicate that the legislation is stricter, not less strict, than OIE standards.

Replies from the regions of the Americas, Asia, the Far East and Oceania, and the Middle East indicated that members generally have animal welfare legislation covering transport, slaughter and killing for disease control but the consistency of such legislation with the OIE standards is variable; the highest level of positive responses being reported by Middle Eastern countries in regard to legislation for slaughter and killing for disease control (5/5 reported that there is legislation and 4/5 reported that the legislation reflects OIE standards). Overall, the reported consistency of legislation with OIE standards is lowest in respect of legislation on killing for disease control (27 %) but approximately two-thirds of countries reported that legislation for transport and for slaughter reflects OIE standards.

Most countries (83 %) indicated that they apply sanctions in the case of non-compliance

Table 2:
Legislation on animal welfare in transport by OIE region

	Number of countries	Legislation exists (%)	Legislation reflects the OIE standards (%)
Africa	11	36	36
Americas	6	83	50
Asia, the Far East and Oceania	13	77	77
Europe	31	97	87
Middle East	5	80	60
Total	66	80	67

with animal welfare legislation. Fines are most commonly used (44 % of replies), followed by warnings (29 %) and prison sentences (27 %).

Table 2 shows information on the existence of legislation and whether the legislation reflects the OIE standards for livestock transport.

Table 3 shows information on the existence of legislation and whether current legislation

reflects the OIE standards for slaughter and killing for disease control.

All regions provided a fairly high rate of positive responses (67–80 %) regarding the existence of legislation covering stray dog population control. As the OIE has not yet adopted standards for this area of activity, there was no question regarding consistency with OIE standards.

Table 3:
Legislation on welfare at slaughter and on killing for disease control

OIE region	Number of countries	Legislation on welfare at slaughter		Legislation on welfare on killing for disease control	
		Exists (%)	Reflects OIE standards (%)	Exists (%)	Reflects OIE standards (%)
Africa	11	64	45	73	36
Americas	6	100	100	67	50
Asia, the Far East and Oceania	13	77	38	69	38
Europe	31	97	13	90	6
Middle East	5	100	80	100	80
Total	66	76	61	82	27

Table 4:
Legislation on stray dog population control

OIE region	Number of countries	Legislation exists
Africa	11	8
Americas	6	4
Asia, the Far East and Oceania	13	8
Europe	31	21
Middle East	5	4
Total	66	45

Table 4 shows information on legislation for the control of stray dog populations.

Voluntary schemes and stakeholder participation

This section requested information on the extent of partnership between government and stakeholders to support animal welfare. Members were asked about the existence of voluntary schemes supporting animal welfare in three sectors (transport, slaughter, and killing for disease control). Quality assurance

programmes and industry codes of practice are included in this type of scheme. Where such schemes exist, countries were asked to indicate to what extent their schemes reflect the OIE standards.

In addition, the OIE tried to ascertain what steps members had taken to investigate public opinion on animal welfare. Members were asked if they had conducted surveys of primary producers, industry (abattoirs and food processors), retailers, and consumers. Those that had conducted surveys were asked to

Table 5:
Existence of voluntary animal welfare schemes

	Number of countries	Transport (%)	Slaughter (%)	Killing for disease control (%)
Africa	11	18	27	27
Americas	6	67	67	50
Asia, the Far East and Oceania	13	38	54	31
Europe	31	35	35	16
Middle East	5	60	60	60
Total	66	38	43	28

Table 6:
Do voluntary schemes reflect the OIE standards?

	Number of countries	Transport (%)	Slaughter (%)	Killing for disease control (%)
Africa	11	0	33	0
Americas	6	100	100	100
Asia, the Far East and Oceania	13	80	71	75
Europe	31	64	36	60
Middle East	5	67	100	100
Total	66	68	61	67

indicate the relative importance of animal welfare as rated by the four sectors.

Countries of the Americas and the Middle East gave the highest rate of positive replies on the existence of voluntary schemes across all three categories of activity, with a particular focus on transport and slaughter (67 % positive for the Americas; 60 % positive for the Middle East). Overall, slaughter was the category of activity that was most commonly addressed in voluntary schemes (43 %), followed by transport (38 %) and killing for disease control (28 %).

Overall, about two thirds of the assurance schemes relevant to transport, slaughter and killing for disease control were considered to reflect the OIE standards but there were wide variations between regions. The Americas and the Middle East reported that a high percentage of assurance schemes in all three sectors of activity reflected the OIE standards but in the African region, none of the assurance schemes relevant to transport and killing for disease control and only one-third of the schemes relevant to slaughter were considered to reflect the OIE standards.

Table 5 provides information on the existence of voluntary animal welfare schemes.

Table 6 and Figure 3 display information on whether these schemes reflect OIE standards.

In all, 65 countries replied that they had conducted surveys to ascertain stakeholders' views stakeholders on animal welfare. The percentages of positive replies for the different sectors were fairly consistent with 55 % of countries surveying primary producers, 55 % surveying the industry sector, 47 % surveying the retail sector and 52 % surveying consumers.

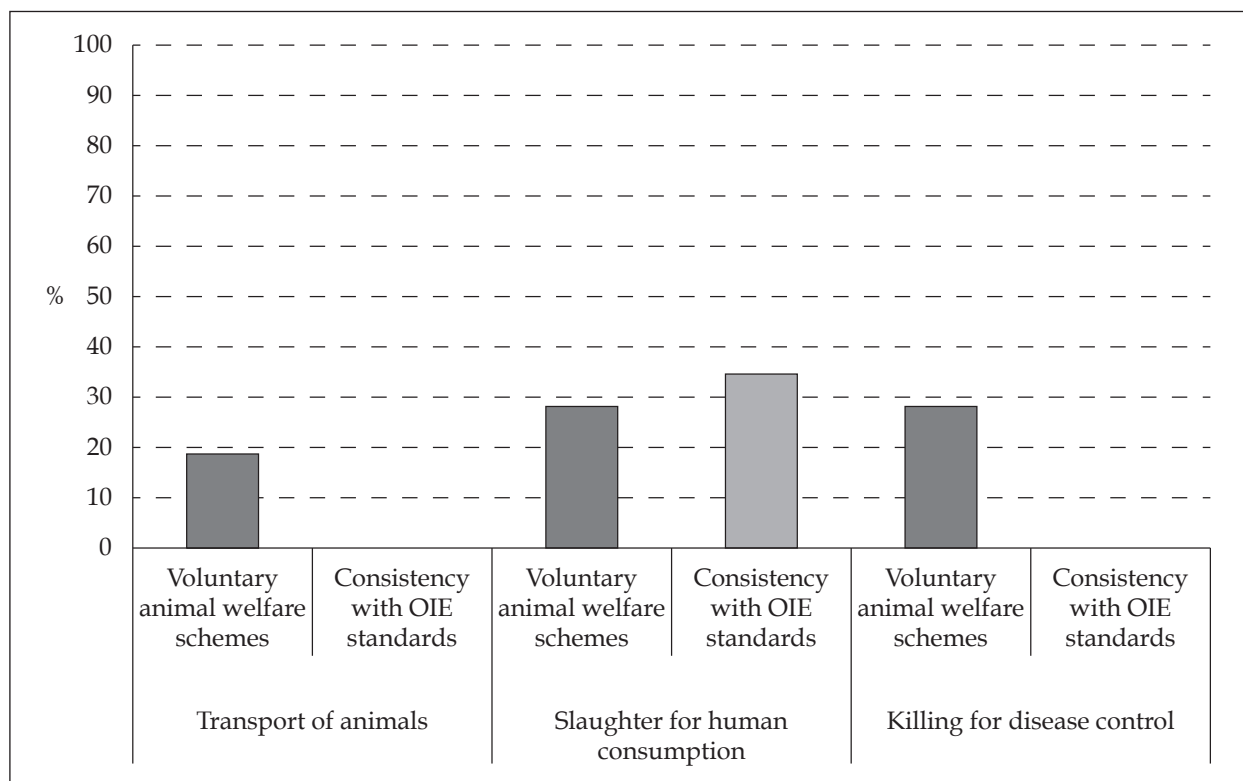
The surveys indicated that primary producers, industry and consumers generally considered that welfare at transport, slaughter, and killing are all very important. However, retailers generally considered welfare at slaughter to be more important than welfare in transport and at killing for disease control.

In the EU, a number of surveys and public web-based consultations had been coordinated and carried out by the EC over at least a decade to gather information on animal welfare from the general public and the main European stakeholders.

Education, training and communication

This section requested information on education, training and communication. Members were asked to advise what type of training was offered to veterinarians in the public and private sector, including training delivered through veterinary colleges and other profes-

Figure 3:
Voluntary animal welfare schemes: Do they reflect the OIE standards?



sional institutions. In addition, members were asked about activities conducted to train and raise awareness of animal welfare on the part of stakeholders and those working in the various industry sectors (livestock transport drivers and abattoir workers).

Overall, 71 % of countries indicated that they train official veterinarians in animal welfare and 20 % indicated that they train private veterinarians. The response rate was by far the highest for the countries of Europe where specific animal welfare training for official veterinarians of the EU and other countries has been held every year under the programme 'Better training for safer food'. For all members outside Europe the rates were much lower (less than 10 % of respondents reported that they provide animal welfare training for official veterinarians and less than 5 % for private veterinarians).

The responses on animal welfare training for the private sector also showed a similar pattern. Overall, slightly more than half the members advised that they provide training for primary producers (58 %) and processors (55 %). However, the highest response rate came from

Europe and for other respondents the rates were much lower (less than 6 % positive for stakeholder training from the other regions).

In regard to the training of veterinarians, 44 (67 %) members indicated that animal welfare training at veterinary faculties and other institutions is covered in other subjects rather than being addressed as a specific subject. Only 21 (32 %) countries indicated that they provide specialised training in the form of postgraduate courses (doctorate or master's level) on animal welfare and most of these are in Europe.

A majority (80 %) of members advised that the veterinary authority or other government authority has taken action to raise awareness of the OIE standards. In most cases (75 % of replies), this was done via seminars, workshops or other courses. Some countries (66 %) advised that they had set up working groups including official veterinarians and stakeholders. Another method of raising awareness is through the authorisation of transporters (56 %) and the licensing of drivers (52 %). Only 14 % of countries indicated that they license abattoir workers as a means of raising awareness of animal welfare.

Table 7:
Training courses on animal welfare provided to veterinarians and stakeholders

	Official veterinarians (%)	Private veterinarians (%)	Primary producers (farmers) (%)	Processors (%)
Africa	6	3	6	3
Americas	6	5	5	5
Asia, the Far East and Oceania	9	3	3	5
Europe	44	6	41	41
Middle East	6	3	3	2
Total	71	20	58	55

The EC advised that it has been working closely with the OIE and continues to hold international conferences and workshops to raise awareness of the OIE standards.

In response to a question about the involvement of non-governmental organisations (NGOs) in raising awareness, 75 % of members advised that NGOs are involved in communication on animal welfare issues and standards.

Table 7 shows information on the animal welfare training provided to veterinarians and stakeholders.

Table 8 shows information on the animal welfare training provided by veterinary facilities and other institutions.

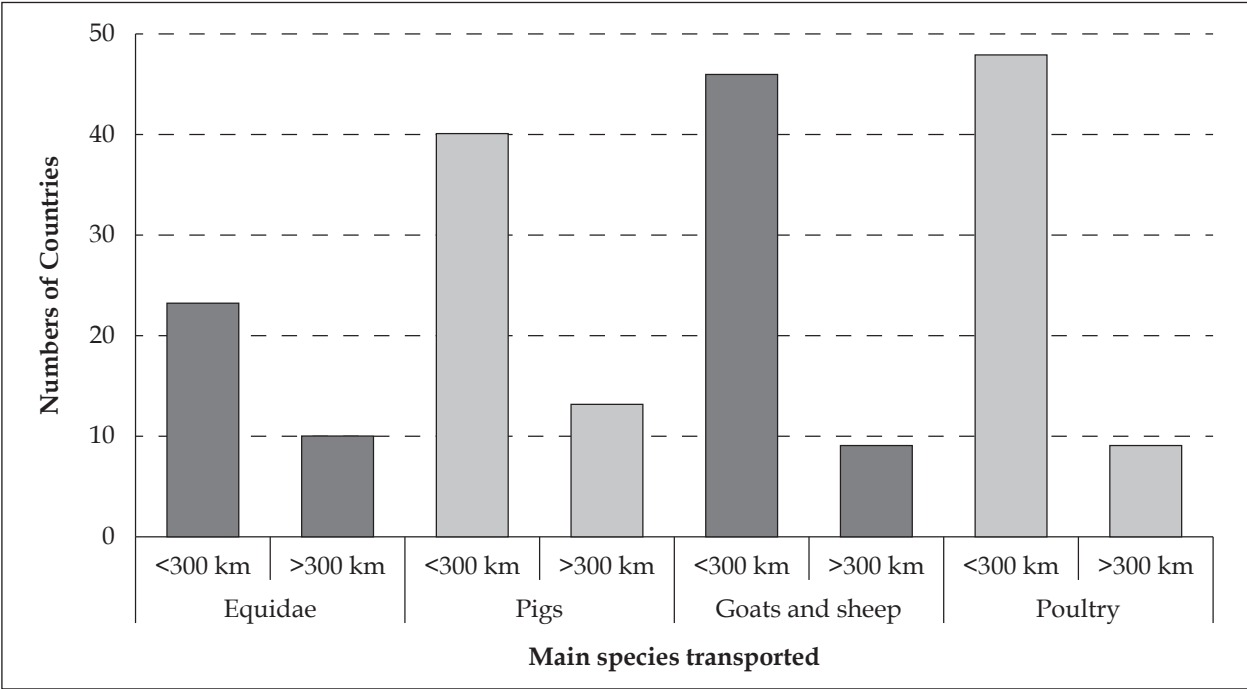
Livestock transport

In this section, members were asked to provide information about the reasons for exporting

Table 8:
Approach to animal welfare training in veterinary faculties and other institutions

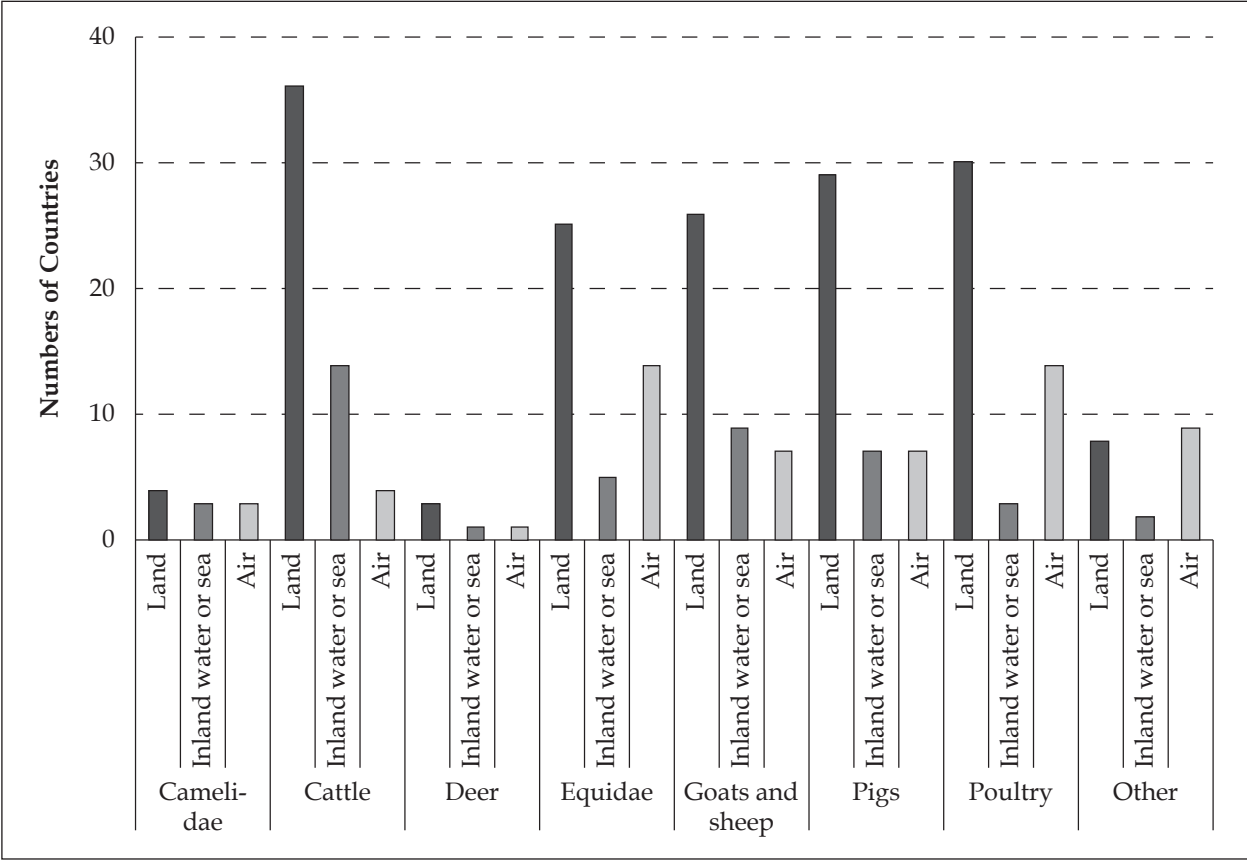
	Covered as part of other subjects	Specific subjects	Postgraduate degrees (doctorate or master's)
Africa	6	2	0
Americas	5	1	2
Asia, the Far East and Oceania	8	5	4
Europe	24	22	15
Middle East	1	2	0
Total	44	32	21

Figure 4:
Distances over which livestock are transported to slaughter



C1

Figure 5:
The means of transport of livestock species



S1

livestock, the distances over which livestock are transported, and the training of personnel responsible for handling livestock during transport. Finally, members were asked about the conduct of scientific studies and assessments of the effects of transport on animal welfare and product quality.

A total of 59 countries provided responses to the questions in this section. Members indicated that the main reason for transporting livestock is for slaughter (38 %), followed by reproduction (34 %) and fattening (25 %). Exported livestock generally travel more than 300 km to their destination (64 % of replies) whereas livestock transported to markets for sale are usually transported less than 300 km to their destination (72 % of replies).

Cattle are the species most commonly exported and most of the transport is by land. Cattle are also the species most commonly transported by inland waterways and by sea. Air transport is more common for horses and poultry.

Figure 4 shows the distances over which livestock are transported to slaughter.

Figure 5 shows the means of transport of livestock species.

In total, 60 % of members indicated that personnel handling animals during transport are generally aware of the OIE standards or other relevant national standards. Most (72 %) countries reported that the personnel han-

dling livestock at transport are trained in livestock handling.

Overall, 53 % of respondents indicated that they have carried out scientific studies or assessments on the effects of transport on animal welfare and/or on product quality. This research has mainly been conducted in Europe (39 %) with little comparable activity in the other regions, with only 6 % of countries giving positive responses in the Americas and Asia.

Livestock slaughter

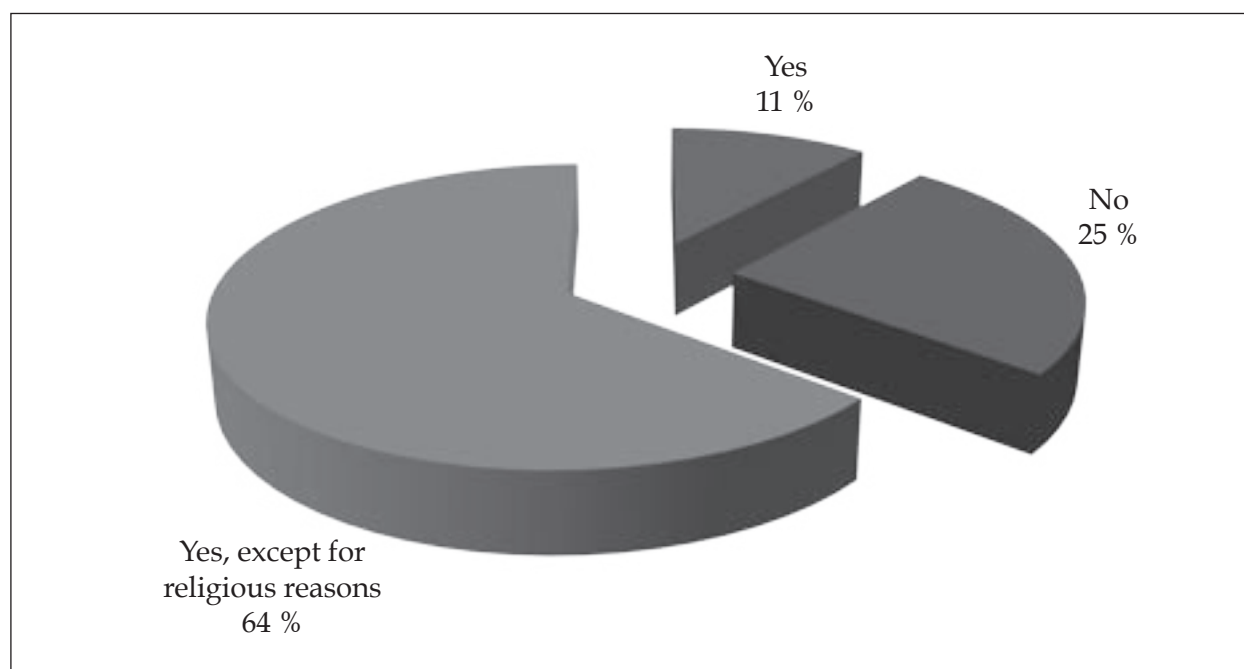
This section requested information on the humane slaughter of animals for human consumption. Members were asked to indicate whether they have legislation covering humane slaughter and, if so, to identify the competent authority for this legislation. Other questions asked whether stunning is mandatory and sought information on the methods used to stun animals prior to slaughter, the training and awareness of personnel working in abattoirs, and the conduct of scientific studies or other assessments on the effectiveness of stunning methods.

A majority of members indicated that they have legislation on humane slaughter (76 %) and that stunning prior to slaughter is mandatory (77 %). However, 66 % of members indicated that exemptions from stunning may be provided for religious reasons.

Table 9:
Distance travelled to slaughter by livestock

Species	Number of journeys to slaughter < 300 km/(%)	Number of journeys to slaughter > 300 km/(%)
Cattle	47 (63)	16 (22)
Sheep, goats	48 (73)	9 (14)
Poultry	46 (70)	9 (14)
Pigs	40 (61)	13 (20)
Horses	23 (35)	8 (12)

Figure 6:
Is it mandatory to stun livestock prior to slaughter?



Most countries (73 %) advised that the veterinary authority is responsible for the enforcement of humane slaughter legislation and 13 % indicated that another competent authority has, or shares, responsibility.

Mechanical stunning is most commonly used for cattle (68 %) and horses (48 %), while electrical stunning is more commonly used in pigs (62 %) and poultry (61 %). Gas stunning was also a preferred method for pigs (47 %) and poultry (44 %). Electrical stunning was

the most commonly used method for sheep and goats.

Most countries (71 %) advised that the personnel working in abattoirs are generally aware of the requirements of the applicable legislation on humane slaughter while 20 % indicated that this is not the case.

Only 58 % of respondents reported the conduct of scientific studies or other assessments in the field of the effectiveness of the stun-

Table 10:
Awareness of abattoir personnel regarding animal welfare legislation

OIE region	Number of countries	Positive replies
Africa	11	4
Americas	6	5
Asia, the Far East and Oceania	13	8
Europe	31	28
Middle East	5	2
Total	66	47

ning methods used in their country, with most of the positive responses coming from Europe.

Figure 6 provides information on the mandatory nature of pre-slaughter stunning.

Table 10 shows information on the awareness of abattoir personnel regarding animal welfare legislation.

Killing animals for disease control

This section requested information on the killing of animals for disease control purposes (sometimes referred to as sanitary killing). As in the previous sections, members were asked to advise on the existence of legislation, to identify the responsible competent authority, the training and awareness of personnel regarding legislative requirements, the methods used and the conduct of scientific studies and assessments on the animal welfare implications of the methods used for stunning animals. In addition, members were asked to advise if they have animal disease contingency plans and, if so, whether these plans specify the methods to be used when killing for disease control.

Most countries (73 %) indicated that there is legislation on animal welfare during killing for disease control and that in most cases (73 %) the national veterinary authority is

responsible for enforcing this legislation. A significant number (51 %) advised that authorities at the second administrative level (i.e. state or province) are responsible or share responsibility for this type of legislation.

Nearly all (95 %) of the countries advised that they have contingency plans for animal disease outbreaks. In most cases (90 %), these plans identify the procedures to be used when killing animals for disease control.

Similar to the information provided on pre-slaughter stunning, members advised that the preferred methods for stunning livestock are: mechanical stunning for cattle (75 %), deer (52 %) and horses (57 %); electrical stunning for pigs (54 %), sheep and goats (46 %); and the use of gas for poultry (63 %).

Members indicated that personnel responsible for killing for disease control are generally aware of the requirements of domestic legislation for animal welfare (76 % of replies).

A total of 47 % of respondents advised that scientific studies or assessments have been carried out. The various topics that countries are researching include the effective means of stunning/killing of poultry and the animal welfare implications of the main stunning/killing methods used.

Table 11:

Is it mandatory to stun livestock prior to killing? Is there legislation on humane killing?

OIE region	Is it mandatory to stun livestock prior to killing? Number of countries/ (%)	Is there legislation on humane killing? Number of countries/ (%)
Africa	2 (18)	2 (18)
Americas	2 (33)	4 (67)
Asia, the Far East and Oceania	4 (31)	7 (54)
Europe	28 (90)	29 (94)
Middle East	0 (0)	3 (60)
Total	36 (55)	45 (68)

Table 11 presents information on the mandatory nature of stunning and the existence of legislation on humane killing.

Welfare problems, needs and tools

Members were asked to advise about the issues and sectors that they consider present the most significant animal welfare problems. A total of 61 countries replied to this question. The most problematic area was seen as the control of stray dog populations. Some 40 % of members considered that there are major or severe problems with the control of stray dog populations. In comparison, major and/or severe problems at transport, livestock slaughter and killing for disease control were raised by 23, 20 and 17 % of respondents, respectively.

On commenting on the tools needed to address problem areas, members generally expressed a need for support in one or more of the following areas: legislation; voluntary schemes; education, training and communication; and the strengthening of veterinary services. Voluntary schemes, communication strategies and legislation were seen as particularly important to improve the welfare of livestock in transport. Education and training

were seen as important to improve welfare at slaughter, while the strengthening of veterinary services was seen as the preferred option to address animal welfare during the killing of animals for disease control.

For the control of stray dog populations, the main tools identified were education and training (66 % of replies) and communication (65 % of replies).

The conduct of policy-oriented, pragmatic research was evoked as an important tool to help to prevent and resolve welfare problems across the board.

Figures 7, 8, 9 and 10 display perceptions of animal welfare problems in livestock transport, slaughter and killing for disease control, and stray dog population control respectively.

Future OIE activities

In this section of the questionnaire, members were asked to indicate what areas of work they would like the OIE to undertake in future.

In order to facilitate the implementation of the current OIE standards, members called for capacity-building programmes to help pro-

Figure 7:
Perceptions of animal welfare problems in livestock transport

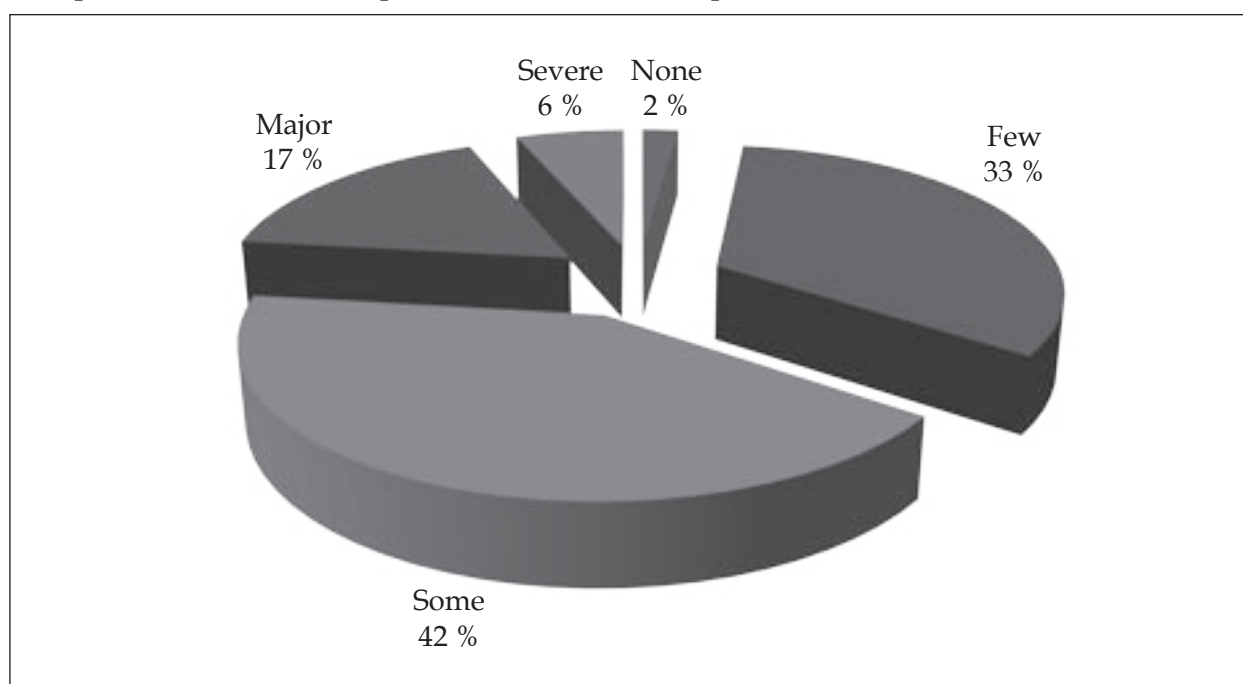
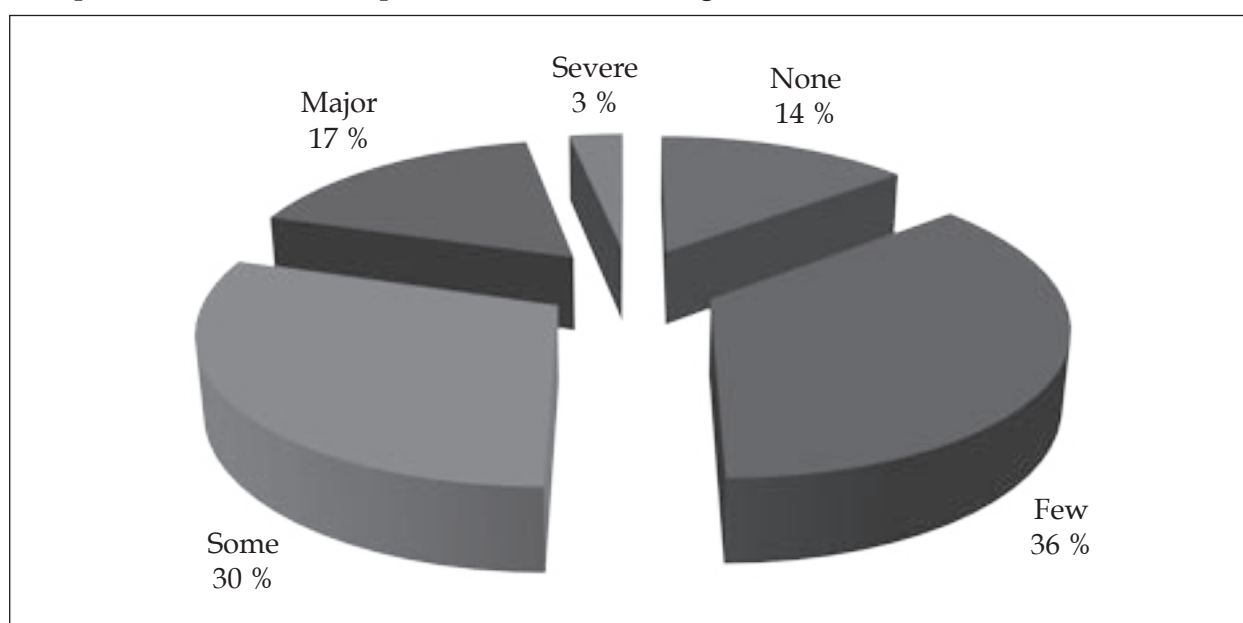


Figure 8:
Perceptions of animal welfare problems in livestock slaughter



vide financial and technical assistance, including in training and education. Some countries needed assistance with the development and implementation of legislation reflecting the OIE standards. Such assistance needs to be developed with due consideration of the local and regional situation and constraints, particularly in the case of the poorer countries.

Members highlighted a need for the OIE to continue to develop strategies and programmes that are tailored to each region, and to address the particular problems and priorities of members. The development of regional animal welfare strategies was seen as an important tool to help members implement the OIE animal welfare standards.

Figure 9:
Perceptions of animal welfare problems in killing for disease control

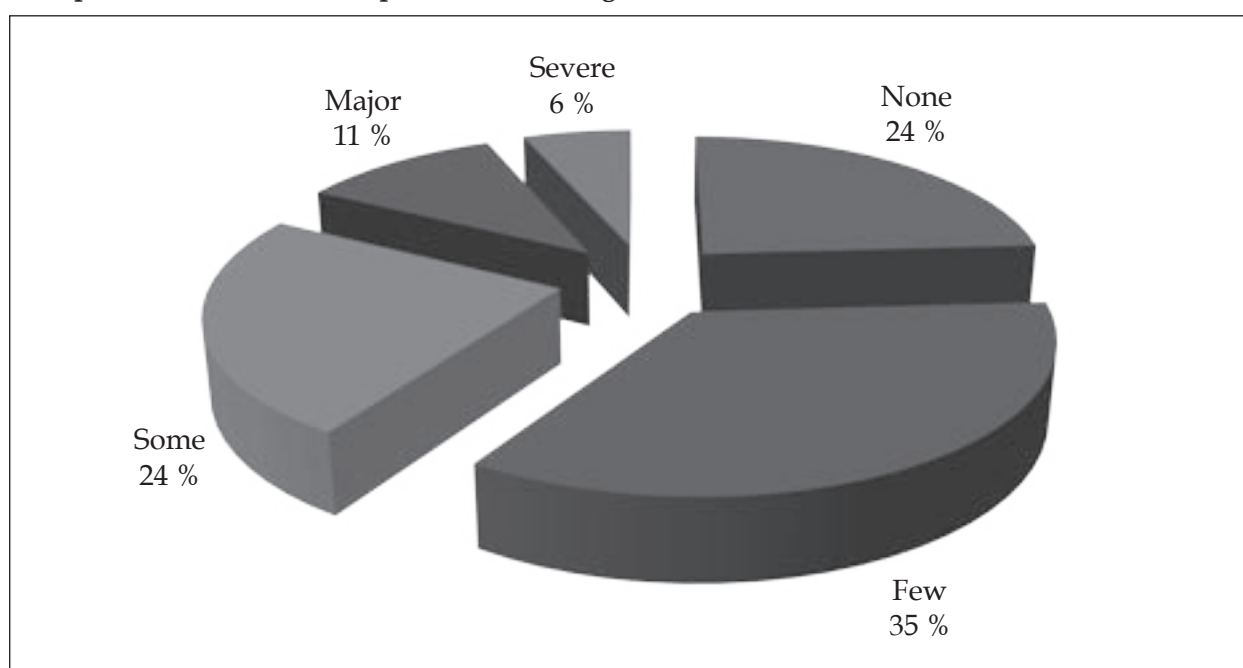
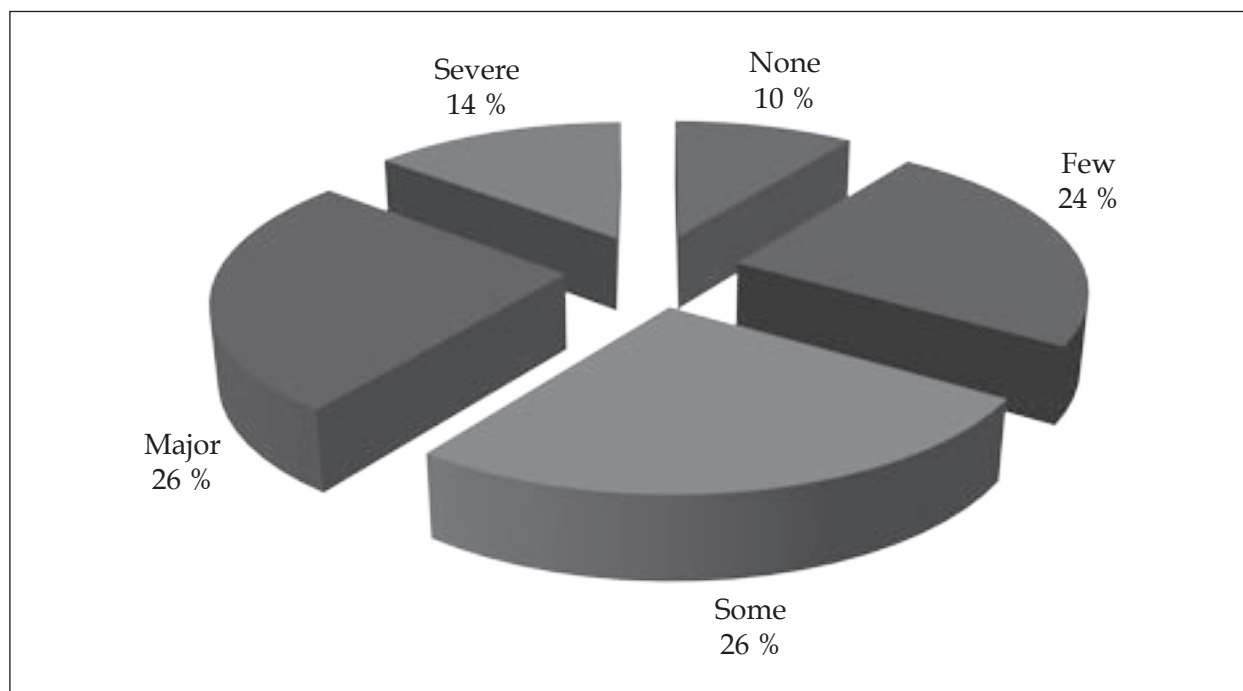


Figure 10:
Perceptions of animal welfare problems in stray dog population control



Education and training was seen as particularly important for official veterinarians and para-veterinary professionals. Such programmes should train trainers, who should then transfer their competencies from the central to the regional level to raise awareness and to help create an understanding of the importance of humane handling of animals.

The training of veterinarians in animal welfare should be supported as full engagement of the veterinary profession is critically important to improving animal welfare globally.

Communication programmes were seen as important to support competent authorities in promoting animal welfare and its benefits for stakeholders. Information should be shared between governments, industry, NGOs and stakeholders at the international, regional and national level to help to build ensure public awareness of animal welfare programmes.

Members called for the OIE to promote the conduct of scientific research in specific fields, including animal transport. This should be adapted to the regional situation and oriented towards the development of policies supporting implementation of the OIE standards. In addition, the development an international

database of experts, research centres and publications was supported.

OIE members encouraged the OIE to move ahead with its ongoing work programme on animal welfare standards for livestock production systems, stray dog population control, and the welfare of fish, laboratory animals and wildlife. Some members called for the development of standards covering animal breeding, pet animals, dog movements, and horses used in sport.

The defining of roles and responsibilities of governments, other organisations and stakeholders and the identification of best practices for animal welfare was evoked as an important OIE activity.

Members considered that OIE Animal Welfare Collaborating Centres could play an important role in many of these areas of work.

Discussion of findings

At the time of writing this paper, the OIE was continuing to receive completed questionnaires from members and this is, therefore, only a preliminary analysis of findings in this study.

The response rate of 66/172 members (36 %) is fairly typical for a questionnaire of this

type. In considering the extent to which these findings are representative of the global situation, it must be acknowledged that respondents are a 'self-selected' group and that the majority of respondents (61 %) are developed countries. However, there are responses from all five OIE regions and one third of the replies were provided by countries with a low or medium HDI, so the results overall can give some useful indications on the global situation.

For many questions there are quite significant differences between the situation reported in Europe and that in other OIE regions. In this regard, it should be noted that most (X/31) of the replies from Europe were provided by EU Member States and few from the less developed countries of Europe (Y/31).

Most respondents completed all questions in the questionnaire.

The basis for implementation of the OIE standards is national legislation. It is of concern that only one-third of the responses from African countries indicate they have animal welfare legislation. However, all considered that this legislation reflects OIE standards.

Overall, most respondents indicated that they have animal welfare legislation covering livestock transport (80 %), humane slaughter (76 %) and killing for disease control (82 %) but analysis on a country-by-country basis is needed in order to tailor assistance to those that lack the key element of legislation as a basis to implement the OIE standards.

The general availability of contingency plans for disease outbreaks is a positive finding and probably reflects global investments in disease control driven by concerns about the potential influenza pandemic and programmes introduced to strengthen national disease preparedness capacities. From an animal welfare perspective, it is a positive finding that disease contingency plans generally specify the killing methods to be used.

The results on animal welfare training of veterinarians (both official and private) and for stakeholders raise some concerns. Training of official veterinarians appears, at first glance, to be satisfactory with 77 % of respondents reporting that they provide such training.

However, when the European results are excluded, the rate of positive responses from all other regions was less than 10 % suggesting that this is an area for closer examination and possible support from the OIE. When Europe is excluded, the positive response rate for training of private veterinarians, producers and processors was, in all cases, less than 7 %.

One-third of countries reported that animal welfare was taught as a specific subject in the veterinary curriculum and only 14 % offered postgraduate courses in animal welfare. The shortage of postgraduate training is particularly of concern as this has a direct influence on research programmes and teaching. Approximately half the respondents reported that they had conducted scientific studies and assessments of animal welfare, with the majority of positive responses coming from Europe, similar to the information provided on veterinary postgraduate courses.

As veterinarians play a key role in safeguarding animal welfare, educating stakeholders and raising awareness of the OIE animal welfare standards, it seems clear that veterinary training needs to be strengthened. For the OIE, this issue should be considered within the context of the OIE global initiative for strengthening veterinary services.

Most of the positive responses on animal welfare research came from Europe. While some research is conducted in the Americas and the regions of Asia, the Far East and Oceania, this activity is negligible in Africa and the Middle East. The OIE's mandate is to set global standards on the basis of sound science. International donors and intergovernmental organisations with an interest in animal welfare should consider providing support for the conduct of applied, policy-oriented research relevant to livestock transport, slaughter and killing for disease control under conditions relevant to developing countries.

Approximately half of the respondents reported that they had conducted surveys of stakeholder attitudes to animal welfare and all had found fairly high levels of concern for animal welfare in transport, slaughter and killing for disease control. Most members also reported that they had programmes to raise

awareness of the OIE standards and that NGOs played a significant role in communication on animal welfare issues and standards. Cooperation between veterinary services, industry and NGOs is an important element of the strategy to improve the uptake of OIE guidelines and the OIE should reinforce this message in its communications with members on animal welfare.

In regard to members' perceptions of current animal welfare problems, the control of stray dog populations was considered to be the most problematic area with significantly less respondents identifying major and/or severe concerns with livestock transport, slaughter and killing for disease control. This is an interesting finding that warrants closer study. While only one third of replies were provided by developing countries, which might be thought to be at risk from and, therefore, more concerned about, stray dog populations, this area of activity generates the highest level of concern. The OIE should finalise relevant standards as a matter of priority.

Conclusions

This paper provides a preliminary analysis of the findings of the 2008 OIE survey on global

implementation of the animal welfare standards. The 66 respondents cannot be considered as a random selection of OIE members. However, all five OIE regions are represented; the respondents include countries with medium and low HDIs so the information provided can be considered useful in gaining an understanding of the current situation.

We conclude that there are some particular areas of priority to members, which the OIE should address, including the provision of support in developing and implementing appropriate legislation, in education, particularly for veterinarians, and in strengthening veterinary services.

There is evidence of significant differences between regions regarding the impediments to implementation of the standards. The development of regional strategies through collaboration with members, OIE regional and subregional representations and OIE Collaborating Centres on animal welfare is therefore recommended.

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How can the OIE Terrestrial Animal Health Code be used to improve animal welfare globally?

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Keywords: OIE, Code Commission, animal welfare, animal welfare standards

The OIE *Terrestrial Animal Health Code* is the official repository for international standards relating to terrestrial animal health issues within the OIE. This Code is updated yearly, on the basis of new scientific information and after adoption by the 172 OIE members.

The OIE incorporated the development of animal welfare standards into its work plan in 2001, as part of its 2001–06 Strategic Plan. Since then, the OIE has established an animal welfare working group which advises the OIE in matters of animal welfare. More significantly, the OIE, with the support of this working group, has developed and adopted a set of principles on animal welfare, as well as five standards on animal transport, slaughter and killing for disease control. Several other draft standards are being developed, addressing topics such as dog population control, laboratory animals, specific issues of welfare in poultry, as well as welfare of wildlife.

While animal welfare is not specifically addressed under the obligations of the World Trade Organisation (WTO), the incorporation

of animal welfare as part of the OIE international standards has received rapid acceptance by the international trade community. The fact that these standards are being developed on the basis of the most current scientific information, and following the strict democratic adoption procedures by the 172 OIE members, has given these standards on animal welfare a comparable recognition to that of the animal health standards.

This standard setting process in animal welfare will continue. It is expected that the recognition of the OIE as the credible standard setting body, its transparent adoption process, and the serious commitment by the delegates representing all countries, will mean this process can only gain in strength. The dedicated participation by all interested parties, whether public or private will remain of high importance. This participation is not only required in the standard setting process but, more importantly, in the rapid implementation of these standards by individual countries.

Dans quelle mesure le code sanitaire pour les animaux terrestres de l'OIE peut-il contribuer à améliorer le bien-être des animaux dans le monde?

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Mots-clés: OIE, commission du code, bien-être animal, normes de bien-être animal

Le *Code sanitaire pour les animaux terrestres* est le recueil officiel des normes internationales concernant les questions de santé des animaux terrestres au sein de l'OIE. Ce code est mis à jour chaque année, sur la base des nouvelles informations scientifiques et après adoption par les 172 pays membres de l'OIE.

L'OIE a incorporé le développement des normes de bien-être animal dans son plan de travail en 2001, dans le cadre de son plan stratégique 2001-2006. Depuis lors, l'OIE a créé un groupe de travail sur le bien-être animal, qui conseille l'organisation sur ces questions. De façon plus significative, l'OIE, avec le soutien de ce groupe de travail, a mis au point et adopté un ensemble de principes concernant le bien-être animal ainsi que 5 normes de transport animal, d'abattage et d'élimination pour lutter contre les maladies. Plusieurs autres projets de normes sont en cours d'élaboration, touchant des domaines tels que la maîtrise de la population de chiens, les animaux de laboratoire, certaines questions spécifiques au bien-être des volailles ou à la faune sauvage.

Quoique le bien-être animal ne relève pas spécifiquement des obligations contractées au

titre de l'Organisation mondiale du commerce (OMC), l'incorporation de cette question dans les normes internationales de l'OIE a rencontré une acceptation rapide au sein de la communauté internationale du commerce. Le fait que ces normes sont élaborées sur la base des informations scientifiques les plus récentes et en suivant des procédures d'adoption strictes par les 172 pays membres de l'OIE leur a donné un niveau de reconnaissance comparable à celui des normes de santé animale.

Ce processus de fixation des normes de bien-être animal doit continuer. Il ne peut vraisemblablement que se renforcer, du fait de la reconnaissance de l'OIE comme organisme possédant une légitimité en la matière, de la transparence du processus d'adoption et du sérieux de l'engagement des délégués représentant l'ensemble des pays. La participation active de toutes les parties intéressées, qu'elles soient publiques ou privées, restera d'une grande importance. Cette participation est nécessaire, non seulement lors du processus de fixation des normes, mais aussi, ce qui est plus important, pour une application rapide de ces normes par les divers pays.

¿Cómo el código sanitario para los animales terrestres puede ser usado para mejorar el bienestar animal en el mundo?

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Palabras clave: OIE, Comisión del Código, bienestar animal, normas de bienestar animal

El *Código Sanitario para los Animales Terrestres* es el depositario oficial de las normas internacionales relacionadas con los problemas sanitarios de los animales terrestres en la Organización Mundial de Sanidad Animal (OIE). El Código se actualiza anualmente, con base en aportes científicos, luego de ser aprobado por los 172 miembros de la OIE.

El bienestar animal entró a formar parte del plan de trabajo de la OIE en 2001, y fue identificado como una de las prioridades del Plan Estratégico de la OIE para el período 2001-2005. Desde entonces, la OIE ha establecido un grupo de trabajo sobre el bienestar animal, quien aconseja a la OIE con respecto al bienestar animal. Más importante aún, la OIE, basándose en las recomendaciones del grupo de trabajo, ha desarrollado y adoptado una serie de principios de bienestar animal, así como cinco directrices sobre el transporte de animales, el sacrificio de animales para consumo humano y la matanza de animales con fines profilácticos. Actualmente, se están elaborando otros proyectos de normas que incluyen temas como el control de la población canina, los animales de laboratorio, los problemas específicos relacionados con el bienestar de las aves de corral, al igual que el bienestar de la fauna salvaje.

A pesar de que el bienestar animal no forma parte de las obligaciones de la Organización Mundial de Comercio (OMC), la comunidad de comercio internacional ha aceptado sin reparos el hecho de que el bienestar animal forme parte de las normas internacionales de la OIE. Estas normas gozan del mismo reconocimiento que las normas sanitarias de la OIE, puesto que son elaboradas con base en la información científica más reciente y adoptadas conforme al estricto proceso democrático de adopción por parte de los 172 miembros de la OIE.

Continuaremos aplicando el mismo proceso de normalización para las normas de bienestar animal. Se espera que gracias al reconocimiento de la OIE como organismo de normalización internacional, a su proceso de adopción transparente y al compromiso de los delegados de los distintos países, este proceso sea cada vez más sólido. La participación entusiasta de todas las partes interesadas, ya sean públicas o privadas, seguirá siendo un factor esencial, no sólo en el proceso de normalización, sino principalmente en la rápida implementación de las normas por parte de los países.

Strategies for the implementation of OIE animal welfare standards

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Keywords: WTO Agreements, global treaty, legislation

To ensure the wide adoption and implementation of the OIE animal welfare standards, to the benefit of animals around the world, it is considered important that policy and legal strategies be contemplated to provide the leverage and administrative structure which has often been found necessary for global adoption of environmental and human rights standards. The domestic implementation of OIE standards is critical and may be achieved through the adoption of domestic legislation that complies with international trade guidelines under the World Trade Organisation (WTO). Scientific leadership from the veterinary profession is essential in the development of national legislation, global treaties, and other strategies that support the adoption and implementation of the OIE animal welfare guidelines.

There are multiple strategic approaches that can be utilised in support of the development and implementation of domestic animal welfare legislation. The creation of regional trade agreements, industry codes of good practice, private-public partnerships, and the drafting of model legislation may also serve as successful strategic approaches to promote the adoption and implementation of the OIE animal welfare standards. A global treaty could serve as the model for the legal implementation of the OIE animal welfare guidelines. The process of developing a global treaty can be modelled on the Convention on International Trade in Endangered Species of Wild Fauna and Flora which requires the adoption of national legislation but also provides support for the

states in implementing national legislation. As with many other treaties, there should be a role for scientific advice within the structure of the treaty and have a direct relationship to the OIE and its recommendations.

The OIE process of using a scientific approach to develop animal welfare guidelines provides the foundation for the development and acceptance by all OIE Member Countries of these guidelines. Once adopted by the OIE, the animal welfare guidelines can serve as part of the lexicon of discussion resulting in global consensus. The WTO trade regime is equipped to address animal welfare issues, if they relate to health, by the application of the Agreement on Sanitary Phytosanitary Measures (SPS), the Agreement on Technical Barriers to Trade (TBT), and under several General Agreement on Tariffs and Trade (GATT) Article XX exceptions. While the OIE guidelines may well be referenced as part of WTO disputes, they are not self-implementing at a national level. While there are challenges to overcome in the domestic adoption and implementation processes, domestic legislation may serve as the most effective vehicle to support the OIE animal welfare guidelines. The creation of a global treaty could serve as an umbrella for general use by member countries and later protocols can be developed to address specific science-based issues. In addition, the development and commitment by global corporations to a code of conduct may also serve as a contractual mechanism to employ these standards in the course of business.

Stratégies de mise en œuvre des normes de l'OIE sur le bien-être animal

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Mots-clés: accords de l'OMC, traité international, législation

Pour assurer une large adoption et application des normes de l'OIE en matière de bien-être animal, au bénéfice des animaux du monde entier, on considère qu'il est important d'envisager des politiques et des stratégies juridiques donnant les moyens et la structure administrative dont la nécessité se fait depuis longtemps sentir en vue de l'adoption de normes en matière d'environnement et de droits humains à l'échelle mondiale. L'application des normes de l'OIE à l'intérieur d'un pays revêt un caractère critique et peut être obtenue par l'adoption de mesures législatives nationales conformes aux prescriptions du commerce international édictées par l'Organisation mondiale du commerce. Il est essentiel que l'élaboration des lois nationales, des traités internationaux et autres stratégies visant à faire adopter et appliquer les lignes directrices de l'OIE en matière de bien-être animal se fasse sous la direction scientifique de la profession vétérinaire.

On peut faire appel à de multiples approches stratégiques pour faire progresser la mise au point et l'application d'une législation nationale en matière de bien-être animal. La signature d'accords de commerce régionaux, l'élaboration de codes de bonnes pratiques pour l'industrie et de partenariats privé-public et la création d'une législation modèle peuvent également constituer de bonnes méthodes d'action pour faire adopter et appliquer ces normes de l'OIE. Le processus d'élaboration d'un traité international peut être modelé d'après la convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction, qui implique la prise de mesures législatives au niveau national, mais fournit également un appui aux divers États dans la mise en œuvre de leurs propres réglementations. Comme c'est le cas pour nombre d'autres traités, les experts scientifiques doivent avoir

un rôle institutionnalisé dans le texte même et peuvent avoir une relation directe avec l'OIE et ses recommandations.

Le processus adopté par l'OIE, consistant à utiliser une approche scientifique pour mettre au point des lignes directrices en matière de bien-être animal, fournit une base pour les développer et les faire accepter par tous les pays membres de l'OIE. Une fois adoptées par l'OIE, ces lignes directrices peuvent être intégrées dans un fonds commun de discussion débouchant sur un consensus à l'échelle mondiale. Le régime commercial de l'OMC est apte à traiter les questions de bien-être animal si elles ont un rapport avec la santé, tant dans le cadre de l'accord sur l'application des mesures sanitaires et phytosanitaires (accord SPS) que dans celui de l'accord sur les obstacles techniques au commerce (accord TBT) et que sous diverses exceptions prévues dans l'accord général sur les tarifs douaniers et le commerce (GATT) à l'article XX. Quoique les lignes directrices de l'OIE puissent bien servir de référence dans le cadre des discussions à l'OMC, leur application au niveau national n'est pas automatique. Bien qu'il existe des obstacles à surmonter dans les processus nationaux d'adoption et d'application, la législation des différents pays peut se révéler le véhicule le plus efficace pour appuyer les lignes directrices de l'OIE sur le bien-être animal. La mise sur pied d'un traité international pourrait servir de parapluie à une utilisation générale par les pays membres, et des protocoles additionnels peuvent être élaborés pour traiter de questions scientifiques particulières. En outre, la rédaction d'un code de conduite et l'engagement des sociétés multinationales à le respecter peuvent également servir de mécanisme contractuel pour l'utilisation de ces normes dans le cours normal des affaires.

Estrategias para la implementación de las normas de bienestar animal de la OIE

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Palabras clave: acuerdos de la OMC, tratado internacional, legislación

Para garantizar la adopción y la implementación de las normas de bienestar animal de la Organización Mundial de Sanidad Animal (OIE) para beneficio de los animales de todo el mundo, es importante considerar la elaboración de estrategias políticas y legales que permitan la creación de las estructuras políticas que han sido necesarias para la adopción internacional de las normas medioambientales y de derechos humanos. La implementación a nivel nacional de las normas de la OIE es esencial y puede lograrse a través de la adopción de una legislación nacional que cumpla las directrices sobre comercio internacional de la Organización Mundial del Comercio (OMC). La profesión veterinaria debe ser el líder científico del desarrollo de una legislación nacional, de tratados internacionales, así como de otro tipo de estrategia que contribuyan a la adopción y a la implementación de las directrices de la OIE en materia de bienestar animal.

Existen numerosos enfoques estratégicos que pueden ser utilizados para desarrollar e implementar una legislación nacional sobre bienestar animal. La creación de acuerdos comerciales regionales, la elaboración de códigos industriales de buenas prácticas, las asociaciones público-privadas, así como la preparación de un modelo de legislación también pueden ser útiles en la adopción e implementación de las normas de bienestar animal de la OIE. Un tratado internacional podría servir de modelo para la implementación legal de las directrices de la OIE en materia de bienestar animal. La elaboración de un tratado internacional puede efectuarse basándose en la Convención sobre el Comercio Internacional de Especies Amenazadas de Fauna y Flora Silvestres, que exige la adopción de una legislación nacional y apoya

a los Estados en la implementación de una legislación nacional. Al igual que con otros tratados, la asesoría científica constituye un factor esencial dentro de la estructura del tratado y puede tener una relación directa con la OIE y sus recomendaciones.

La OIE aplica un enfoque científico para desarrollar las directrices sobre bienestar animal, lo que constituye la base para su desarrollo, y promueve su aceptación por parte de todos los países miembros. Una vez adoptadas, las directrices sobre bienestar animal pueden ser incluidas en las discusiones que darán lugar a un consenso global. El régimen comercial de la OMC abarca los problemas de bienestar animal si están relacionados con la salud, tanto en la Aplicación de Medidas Sanitarias y Fitosanitarias (SPS) como en el Acuerdo sobre Barreras Técnicas al Comercio (TBT), así como en numerosas excepciones del artículo XX del Acuerdo General sobre Aranceles Aduaneros y Comercio (GATT). Si bien las directrices de la OIE pueden formar parte de las diferencias de la OMC, no son aplicables a nivel nacional. Aunque todavía es necesario superar algunos desafíos relacionados con la aplicación a nivel nacional y los procesos de implementación, la legislación nacional puede ser el mejor medio para favorecer las directrices de la OIE sobre bienestar animal. La creación de un tratado internacional puede servir de «paraguas» para los países miembros y, por su parte, el desarrollo de protocolos en el futuro puede servir para solucionar problemas científicos específicos. Además, la elaboración de un código de conducta y el compromiso con el mismo por parte de diferentes corporaciones mundiales puede servir como mecanismo contractual para aplicar las normas en la práctica de los negocios.

Legal tools available to implement the OIE animal welfare guidelines

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Keywords: legislation, treaty, voluntary standards

Introduction

The efforts of the World Organisation for Animal Health (OIE) to promote the worldwide implementation of its animal welfare guidelines (Transport of livestock by land, sea and air; Slaughter of animals from human consumption; and Killing of animals for disease control purposes) has resulted in a number of positive animal welfare guidelines. However, the existence of these guidelines does not result in legally binding domestic guidelines. It is important to note that the absence of legally binding guidelines does not necessarily imply that countries do not have some efforts underway to promote animal welfare practices or that legally binding guidelines are being effectively enforced. In order to provide the leverage and administrative structure to allow for worldwide implementation of the OIE animal welfare guidelines, it is considered important that policy and legal strategies be contemplated. This analysis will explore both mandatory and voluntary legal tools that may help lead to the adoption of the OIE animal welfare guidelines, as well as discuss the challenges that each may potentially present. It is important to consider all possible legal tools in light of a needs assessment to ensure that one or more appropriate legal tools are utilised. Additionally, the role of veterinarians in the success of these potential legal tools for developed countries will be addressed.

Background

The OIE Member Countries and Territories mandated that the organisation take the lead internationally on animal welfare and, in May 2002, the Permanent Animal Welfare Working Group was inaugurated at the 70th General

Session of the OIE (1). In recognition of OIE's status as the international reference organisation for animal health, its members also required OIE to elaborate recommendations and guidelines covering animal welfare practices. The first recommendations of the Working Group were adopted in May 2003. The OIE guiding principles on animal welfare were included in the OIE *Terrestrial Animal Health Code* (Terrestrial Code) in 2004.

The World Trade Organisation (WTO) is the international organisation that deals with rules of trade between nations through international agreements (2). WTO agreements are designed to prevent and eliminate trade barriers (3). Only WTO recognised guidelines are legitimate for the purposes of trade. The WTO recognises the OIE as the standard setting organisation for animal health and zoonoses. Unlike animal health, animal welfare cannot be the basis for a trade restriction (4). There are limitations to the potential use of animal welfare guidelines in the WTO agreements. These may be found in Articles I and II of the General Agreement of Tariffs and Trade (GATT) and in sections of the Agreement on Technical Barriers to trade (TBT) (5). Implementing animal welfare guidelines and requiring trade partners to do the same may be viewed as a means of restricting trade (6).

None of the WTO provisions should prevent a country- from taking any measures necessary to protect animal health (7). The General Agreement on Tariffs and Trade (GATT) requires a country treat all imports from another WTO member country on an equal and non-discriminatory basis (8). If a member does discriminate against a product, the member needs to demonstrate that the products are not like products or that their own products are treated

in the same manner (9). Any decision to prevent the importation of a product must be based on the characteristics of the product itself and not on the process or production methods (PPMs) by which the product was manufactured (10). Animal production methods are classified as non-product-related process methods and since the way an animal is cared for does not directly alter the physical characteristics of the final product, most animal production methods are classified as non-product-related PPMs (11).

Animal health and life may be inclusive of animal welfare but require a scientifically established direct link between the two (12). Under the SPS Agreement, a measure taken based on animal welfare could be legitimate if (a) there is scientific evidence to justify the imposition of welfare guidelines as a means to protect animal health in the territory; (b) the measure taken is necessary; and (c) there is no less restrictive measure available (13). However, improvements in the health of animals on farms where animal welfare guidelines have been improved are not enough to link animal welfare and animal health to withstand a WTO challenge (14).

In the absence of WTO obligations, the OIE animal welfare guidelines can be used to achieve the common goal of promoting animal welfare in international trade. This can be accomplished by implementing the guidelines through the use of domestic legislation, regional and/or global treaties, and voluntary programmes. In order to include the OIE animal welfare guidelines in government regulatory systems there needs to be a formal mechanism in place. They may also be implemented by private corporations through the use of voluntary corporate codes or industry programmes. All efforts to improve animal welfare through the implementation of guidelines should be validated and science-based, implemented over a realistic time period, and take into account economic, regional, and cultural dimensions (15).

Domestic Legislation

Domestic legislation can serve as a legal tool to implement the OIE guidelines. This may be achieved through the adoption of domes-

tic legislation that complies with international trade guidelines under the WTO. As consumer interest, animal welfare-friendly business practices, and the recognition of the value of animal welfare in production systems increases, this may lead to changes in domestic legislation that reflect society's desire to ensure animal welfare. There are multiple legal tools that can be utilised in support of the development and implementation of domestic animal welfare legislation, depending on the design of the regulatory system. These may include referencing or incorporating the OIE animal welfare guidelines in statutes, regulations, directives, or codes of practice. However, there are political and economic dynamics which are unrelated to merit or consensus that will impact the implementation of the OIE guidelines through the adoption of domestic legislation. The adoption of OIE animal welfare guidelines in domestic legislation will depend on the perceived need of the country, including the buy-in of the government constituents and, specifically, animal users. The constituency will determine the success of proposed domestic legislation.

In some countries, it is possible for the OIE animal welfare guidelines to be directly adopted as lawful regulations in their entirety, such as by direct incorporation into domestic legislation. These external guidelines may provide a stable, science-based, and non-biased set of guidelines that may be less subject to political compromise. A direct adoption of OIE guidelines would be ideal, as the science-based guidelines would not face the risk of modification or a reduction in effectiveness through the domestic political process. As the actual OIE welfare guidelines contain significant detail, most domestic legislation will likely direct the adoption of regulations via an appropriate regulating agency such as veterinary services. The agency may be directed to follow the general details of the OIE principles and guidelines for animal welfare.

It is also important to consider the specific needs of the implementing country and what may be required to implement and enforce these guidelines. This may include the need for clear lines of authority, as well as human

and financial resources. If the country does not have a strong institution of government to require, supervise, and enforce the legislation this may not serve as an effective tool or it will require additional assistance to meet the goals.

As an alternative, model legislation could be drafted and utilised or referenced by countries as they develop appropriate legislation to address their specific concerns. For example, animal protection activists in the United States have long sought legislation to modify or curtail some US agriculture practices (16). There have been multiple attempts in the 110th Congress that would impact animal care on the farm, during transportation, or at slaughter (17). Similarly in the EU, new regulation entered into force 5 January 2007, designed to reduce the stress and harm that animals can experience during land and sea journeys (18). It includes new safeguards for animals and higher guidelines for vehicles and equipment. In addition to these mandates, the legislation also provides measures to ensure the enforcement of EU regulations in this area. Model legislation based on the OIE animal welfare guidelines could be used to ensure that science-based animal welfare guidelines were used in similar examples of proposed legislation.

One major challenge in enacting domestic legislation includes the length of time it takes for the legislation to be developed and passed. Drafting legislation is an extremely complex task that demands both technical and legal skills. Many outside influences will be centred around the specific language that goes into the bill and the implications it may have on stakeholder equities or to ensure that the language does not have unintended consequences. If the legislation is poorly drafted it will not be effective at improving animal welfare. This may be an additional benefit of referencing or incorporating the OIE guidelines.

As previously discussed, the difficulty of obtaining language in legislation that all parties can agree is a challenge to the implementation of domestic legislation. However, it may be more likely to encourage a consensus by using the OIE animal welfare guidelines as a reference in domestic legislation. The technical aspects of writing legislation can be

resolved by utilising not only the expertise of veterinarians trained in animal welfare, but also legal professionals to draft generic model legislation for use by multiple countries. Thus, the creation of an OIE animal welfare working group subcommittee, consisting of veterinary experts and lawyers could be used to produce model legislation for adoption by domestic lawmakers. This would be a useful tool to make available to OIE Member Countries to aid in the implementation of the OIE guidelines. Some regional variation should be expected, as different areas have different needs that the legislation will be drafted to address. Such a process could also result in a shorter time frame from development to enactment of the legislation. The creation of model legislation could also help ensure that the spirit of the legislation is consistent with the science-based OIE animal welfare guidelines and not manipulated for a specific purpose, preventing the common goal from being achieved.

While legislation designed to advocate for the human species is a great challenge, that challenge is amplified when trying to build a political constituency which has the ability to prioritise and advocate for another species. This is an additional challenge when one considers the multitude of societal, religious, cultural, and economic factors that encompass animal welfare issues. Once it is determined that domestic legislation is an effective legal tool to address the specific animal welfare concerns of a country, it is necessary to create awareness and to educate people. Public awareness and education are crucial steps in the implementation of animal welfare guidelines through domestic legislation. In addition, those stakeholders who already recognise the connection between animal welfare and human interests must be included in the process, in order to garner political will. Without such support, the likelihood that domestic legislation will be enacted is slight.

Widespread adoption of the OIE guidelines could be very useful to educate and in forming opinions on the political and economic feasibility of this type of domestic legislation, which may result in the enactment of new and improved existing laws. While there are challenges to overcome in the adoption and

implementation processes, domestic legislation may serve as an effective legal tool to support the OIE animal welfare guidelines.

International comparison of existing domestic AW legislation

A number of international recommendations, codes, and laws now focus on animal welfare, and a growing number of developed countries have enacted animal welfare legislation regulating specific animal husbandry practices. There are differing agricultural animal welfare guidelines in developed countries for animals on the farm, at slaughter, and in transport (19). This creates the need for a context in which to judge or evaluate the guidelines. These vary from a high level of protection; mixed efforts for protection; to no level of protection. The OIE animal welfare guidelines provide a baseline or context by which to complete this analysis.

In a variety of regulatory schemes 'legislation' may be defined by different terminology, associated responsibilities and mechanisms, or ability to enforce. The presence of legislation does not necessarily mean that it is effective. Therefore, it is necessary when comparing the existence of legislation to also consider the infrastructure and political will to enforce it. These considerations will aid in determining the best tool for implementation of the OIE animal welfare guidelines.

To ensure the OIE science-based guidelines have an independent foundation, the OIE developed the guidelines through the use of a transparent process and with the consensus of its member countries (20). The draft guidelines are developed by small groups of independent experts selected from all regions, reviewed by the relevant Specialist Commission and then circulated to OIE Members for comment (21). The comments are reviewed by the experts and Specialist Commission and appropriate changes made before the materials are resubmitted to OIE Members for adoption (22). The adoption of the OIE guidelines using this transparent development process will help minimise unintended negative consequences that may create trade barriers or hardship. Thus, developed countries may choose to adopt and implement the

OIE animal welfare guidelines in response to the growing demands of both its citizens and the global marketplace.

Customary international law

In the absence of the adoption of the OIE animal welfare standards into domestic legislation, they may be considered law by common usage if widely recognised internationally. Customary international law has played an important role in the development of international environmental law. Customary international law is a customary practice among nations that has evolved into a norm which nations follow out of a sense of legal obligation. The standard definition has two components: (a) widespread and uniform practice among nations; and (b) a sense of legal obligation even in those circumstances where it may be contrary to their self interests. For example, in *Paquete Habana*, a landmark US Supreme Court case, the US Navy seized two Cuban fishing boats during a blockade at the end of the 1800s during the Spanish American War (23). The court held that customary international law excluded enemy coastal fishing vessels from the right of capture during war. Due to the absence of a treaty or any other legislative, executive, or judicial decision, a precedent of customary law dating back to Henry VI in 1400 was used to overturn the lower court's ruling. This case illustrates and serves as a model for how a customary practice can ripen into international law. In the case of animal welfare, it would be difficult to establish both elements necessary to satisfy the definition of customary international law. However, in the absence of an alternative appropriate legal mechanism, it may be conceivable that this could be used in the future.

Global animal welfare treaty

A key concern for animal welfare issues in a global market is the potential for one country to adopt protective welfare guidelines that make local production more expensive than that of foreign production creating an economic disadvantage in a global market place. A global treaty on animal welfare could serve as an additional incentive or driver to adopt

the OIE guidelines to create a uniform playing field. A treaty is a device for the making of law internationally but it only creates obligations for those nations which are a party to it. Treaties can be a mechanism by which a party assumes obligations, and if a party fails to live up to their obligations, can be held liable under international law for that breach.

The process of developing a global treaty on animal welfare could be modelled after the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (24). In particular, the CITES community has adopted provisions which insist on the adoption of domestic legislation, provide technical support for countries which might lack legislative drafting expertise in the wildlife law area, and will impose sanctions on countries that do not adopt the necessary legislation.

A global animal welfare treaty could have an assortment of separately developed protocols to deal with topics such as animals in transportation, animals in public exhibits, and animal in commercial agriculture. As with many other treaties, there should be a role for scientific advice within the structure of the treaty, and, indeed, it could provide for a direct relationship to the OIE and its recommendations. The creation of a global treaty could serve as an umbrella for general use by OIE Member Countries and later protocols could be developed to address specific science-based issues. Animal welfare guidelines can be agreed by more than one state and lead to the development of bilateral or regional treaty. The development of a regional treaty has been successfully achieved by the EU and these models could be expanded to other countries and partners. For example, the Council of Europe has developed five treaties on animal welfare to date that serve as international treaties consisting of 30–40 parties that are legally bound to various degrees (25). This legal tool is implemented through codes of practice (26).

As with CITES and most other environmental and trade treaties, there would be a requirement for the adoption of necessary domestic law to carry out the responsibilities of a Party state or territory to the treaty. This may serve as a challenge, as a global treaty will nonetheless require the adoption of domestic legisla-

tion in order to be implemented. The development of a global treaty may also provide technical assistance to facilitate the successful participation of a greater number of countries. By using the format of an umbrella treaty with associated protocols, not all issues have to be agreed upon at the beginning, such as in the case of the Convention on the Protection of Biodiversity (27). Guidelines can be developed and modified over time as more experience is gained. The existence of a treaty would also allow for the creation of uniform methods, paper flow, and reporting of information and issues.

The reality exists that while a treaty can be developed and agreed, there may be multiple reservations made by parties to the treaty that would make it technically unachievable. Reservations are essentially exceptions to a state's acceptance of a treaty, or a unilateral statement purporting to exclude or to modify the legal obligation and its effects on the reserving state. This may be an action taken by a party that does not wish to comply or that possibly has alternative mechanisms in place to address these issues. Therefore, the development of a global treaty may not be the most effective legal mechanism to implement the OIE animal welfare guidelines globally, due to the difficulty of obtaining the consensus necessary to make it effective, but it is an available tool.

Voluntary standards: de facto laws

Industry-led voluntary programmes could be utilised to implement the OIE animal welfare guidelines. In contrast to the legislative approach taken in Europe, in the United States the food producers, in collaboration with the food retailers, have taken on the primary role of driving improved animal welfare guidelines (28). In North America, the model that has been most widely adopted is the involvement of animal welfare experts in the development of standards and the use of independent audits (29). In Canada, codes have been developed for all major species of farm animals, and the National Farm Animal Care Council was created in 2005 (30). Similarly, in the United States, several producer groups have been heavily engaged since the mid 1980s in ensuring that their members uti-

lise the animal welfare programmes they have developed. These programmes include science-based standards and many provide various forms of audit components. The industry groups take the responsibility for independently reviewing and expanding their efforts to make the programmes more comprehensive (31). A key element to the majority of these programmes is education of their members on how to implement these animal welfare programmes as well as the benefits of doing so (32). The OIE guidelines could be used by producers when negotiating with retailers about purchasing specification, including animal welfare.

In the United States, voluntary animal welfare programmes are diverse and becoming the industry norm. For example, the National Chicken Council (NCC) has developed a set of standards and an inspection and certification process that apply to the conditions for poultry (33). Their detailed audit checklist can be completed by the company itself, by a customer representative, or a third-party auditor (34). The United Egg Producers (UEP) sponsors the 'UEP Certified' programme covering more than 80 % of all eggs produced in the United States (35). All of UEP's members and their facilities must comply with UEP's animal welfare standards programme; they must agree to an annual third-party audit; and they must submit to UEP monthly compliance reports. As of 2008, the UEP has also incorporated into their standards for non-cage production systems (36).

The National Pork Board (NPB) supports animal welfare standards through the Pork Quality Assurance Plus programme and also administers a Transport Quality Assurance programme (37). All transporters of swine must be certified under the PQA Plus programme (38). Additionally, all processing companies now require that hogs purchased from suppliers be certified under the PQA Plus programme (39); this is an example where market access is ensuring producers are meeting the NPB's standards (40). The US dairy producers' commitment to animal welfare is evidenced in a multi-sector producer-led coalition that is promoting an effort to provide a set of principles and standards to help assure that the industry is meeting its

ethical obligations for dairy animal welfare (41); the Beef Quality Assurance programme began in 1987 and is supported by the National Cattlemen's Beef Association (42). This certification programme provides standards for livestock, requires continuous training to remain certified, and may include third-party verification and testing procedures to ensure good management practices (43). Most AMI members have implemented the American Meat Institute's (AMI) animal care and handling standards for the processing industry (44). AMI provides an annual animal care and handling conference specifically geared toward the animal handlers and packing plant managers to train them in ways to improve animal handling (45). The annual conference is attended every year by more than 300 individuals in the meat packing industry (46).

Voluntary standards may serve as an effective mechanism to help promote animal welfare practices. The combination of science-based animal welfare standards, independent audits, and education has encouraged members to implement the programmes by highlighting the many benefits they offer. Additionally, several retailers have incorporated animal welfare standards, such as the ones described above, into their buying specifications which are a strong economic incentive for compliance (47). The OIE animal welfare guidelines could be incorporated into similar programmes and used by both producers and retailers.

Purchaser standards can become de facto law in the absence of domestic legislation and thus impact the global market. De facto laws are not laws, but have the impact as such based on the usage of common practices such as industry standards. Private companies can contract for whatever terms they agree upon. The increase in affluence has increased the choices available to consumers as it relates to food production standards. Globally, consumers are increasing the demand for animal welfare assurances on the animal products they purchase. Currently, there are many portions of the international food supply chain that have animal welfare assurance programmes; for example, one-third of the leading global food retailers with turnovers rang-

ing from USD 25–250 billion, have public animal welfare policies (48). This may influence contractual agreements between retailers, suppliers, and livestock producers in emerging markets. As consumer demands increase, it is expected that these farm assurance or animal welfare schemes will continue to expand.

Major food companies have recognised that more consumers are concerned with animal treatment. In response, they have created their own animal welfare standards and developed animal welfare assurance programmes which require compliance from their suppliers as part of the contractual relationship. This may be referred to as a corporate code of conduct. The development and commitment by global corporations to a code of conduct may also serve as a contractual mechanism to employ these standards in the course of business. This path does require a mechanism in place to provide some method for inspections and enforcement for those that are contractually required to comply with purchaser standards. This method also allows for flexibility and changes in corporate policy. This legal tool may be effective and provides a mechanism for self-regulation.

For example, McDonald's recognises that their responsibility as a purchaser of food products includes working with our suppliers to ensure good animal handling practices (49). As part of their overall 'Socially Responsible Supply Initiative', McDonald's has made a global commitment to animal welfare and this commitment is governed by McDonald's Animal Welfare Guiding Principles (50). Regardless of the practices used in different countries, McDonald's requires humane treatment of animals and the Animal Welfare Guiding Principles apply universally (51).

Another legal tool that may be used to implement the OIE animal welfare guidelines is through the use of voluntary programmes that require a set of established animal welfare standards be met in order to display a marketing logo. Various industry groups, such as the UEP, have published their own voluntary standards for care that they encourage members to meet. Some welfare organisations have developed labelling schemes for

animal products which meet an established criterion. The British Royal Society for the Prevention of Cruelty to Animals (RSPCA) has assumed a leadership position within the United Kingdom to implement the concept of Five Freedoms as a consumer-choice labelling programme in the grocery stores of the nation (52). This relies on consumer education and demand to purchase products that bear this logo and support those food suppliers who comply with an established set of animal welfare standards. Additionally, a process must be in place to ensure the standards are being met via third-party certification. For those companies that do not wish to create their own standards and recognise the many advantages of implementing the OIE animal welfare guidelines, consumer-choice labelling is another viable legal tool for implementation.

In the absence of a contractual relationship, compliance with animal welfare standards may be incorporated into performance standards by private investment corporations; for example, the International Finance Corporation (IFC) will consider animal welfare issues when selecting projects and will seek ways to promote systems that positively impact animal welfare (53). This principle is based on the idea that in the countries where the IFC invests, livestock industries still have a major role to play in benefiting poor rural communities by enhancing food security, providing employment, and reducing the risks of social instability.

While animal welfare is not covered under the WTO agreements, there is currently broad-based support from a variety of stakeholders for the international animal welfare leadership role of the OIE. The OIE guidelines are developed using the latest scientific information. The OIE process for developing standards is flexible and allows for continuous improvement to the standards as supporting scientific information indicates. While voluntary programmes that use private standards can help improve the quality of products and gain access to high quality markets there have been discussions that these standards may be more prescriptive than OIE guidelines and act as a barrier to market access especially for developing coun-

tries (54). Additionally, the cost of complying with often multiple sets of standards may be a drawback. In those countries where voluntary programmes or private contracts provide an opportunity to incorporate animal welfare guidelines, the OIE animal welfare guidelines may be implemented.

Motivating factors

There are a number of different motivating factors for sellers of animal products that may impact the implementation of animal welfare guidelines. These may include: the enhancement of business efficiency and profitability; the development and flow of animal trade and response to animal health emergencies; the prevention or forestalling of government regulation; to meet consumer expectations and increase consumer confidence in and marketability of a product; to ensure a uniform and consistent product by all suppliers and producers; to respond to public demands for animal welfare to be adequately considered in the production of animal and animal products; and to satisfy domestic and international markets (55). These motivating factors may lead to the implementation of animal welfare guidelines which will promote business sustainability and in response to marketplace trends.

Commercial stakeholders understand the role of animal welfare and the OIE guidelines will equalise the playing field within the global economy. Animal welfare guidelines could be undermined if there is no method or process in place to ensure that agricultural and food products produced in accordance with domestic guidelines are not replaced with imports of lower guidelines from abroad.

Role of veterinarians in achieving implementation

Scientific leadership from the veterinary profession is essential in the development of national legislation, global or regional treaties, voluntary programmes and other legal tools that support the adoption and implementation of the OIE guidelines for animal welfare. While animal welfare is the responsibility of all society, veterinarians have a professional obligation to promote animal wel-

fare. A veterinarian takes an oath to 'use scientific knowledge and skills for the benefit of society through the protection of animal health, the relief of animal suffering, the conservation of livestock resources ...' (56). The court system is not an appropriate venue to resolve complex science and social policy issues related to animal welfare guidelines; the veterinary community has a duty to, and is best positioned, to take this role.

If the development of national legislation is contemplated to implement the OIE animal welfare guidelines, veterinarian involvement is essential to develop the specificity required in the technical aspects of writing the legislation. The legislature is not sufficiently educated on the topic of animal welfare, so there is a need for external experts; veterinarians will provide legitimacy to this process. In addition, veterinary support will be required to advance the enterprise of domestic adoption of the OIE animal welfare guidelines. Veterinarians are in the best position to increase the awareness and education of both governmental and non-governmental stakeholders on animal welfare and, therefore, may serve as the crystallisation point for the development of national legislation.

There is an important role for veterinarians to serve as experts for the animal industry and aid corporations in the development of sound scientific policies to incorporate animal welfare considerations into their contracts and quality assurance programmes. Additionally, third-party verification programmes that are either under voluntary programmes or under adopted laws will require veterinary participation. Veterinarians will assume critical roles as the implementation will need to be based on either agency or third-party verification to evaluate that the standard of care is in compliance with the guidelines.

Conclusion

There are several legal tools that can be utilised to encourage the implementation of the OIE animal welfare guidelines. These efforts should be explored in concert and adapted to meet the needs of the interested parties to provide the maximum benefit and flexibility. It is expected that developed countries will

have a greater number of veterinarians and animal production specialists, enhanced education, and industry awareness regarding animal welfare (57). This should facilitate the process of adopting the appropriate legal tools to help implement the OIE animal welfare guidelines in these developed countries. All of these legal tools will require the active participation and support of veterinarians.

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Animal welfare legislation in developing countries

Challenges and opportunities

Legislation in English-speaking countries

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Keywords: legislation, animal welfare, standards, OIE

Animal welfare is a complex, multifaceted public policy issue that includes important scientific, ethical, economic and political dimensions. Because of its growing importance in society, animal welfare must today be addressed in a manner that is clearly based on science and an appropriate legislative framework.

Animal welfare legislation is essential to support the enforcement of animal welfare standards and, as a result, improved animal health and animal production. However, the majority of developing countries either have animal welfare legislation that is not enforced or lack animal welfare legislation at the current time.

In addressing this problem, steps should be taken early in the process to establish good communication and coordination between the veterinary services, the community and

stakeholders. Implementation of animal welfare legislation requires significant efforts in training and in raising public awareness. In addition, the support of religious authorities should be secured and studies on market impact undertaken.

The OIE standards are the key international reference for national animal welfare programmes. The inclusion of animal welfare in the OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool) provides opportunities for the development of capacity-building programmes that address infrastructure needs relevant to animal welfare, including the development and implementation of appropriate legislation. Moves by the World Trade Organisation to consider the implications of animal welfare for international trade may provide additional support.

Législation sur le bien-être animal dans les pays en voie de développement – défis et opportunités – législation en vigueur dans les pays anglophones

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Mots-clés: législation, bien-être animal, normes, OIE

Le bien-être des animaux est une question de politique publique complexe et multiforme qui a d'importantes dimensions scientifiques, éthiques, économiques et politiques. Du fait de son impact croissant dans la société, le bien-être animal doit aujourd'hui faire l'objet d'un traitement scientifique et juridique.

Si l'on ne dispose pas d'une législation en la matière, il existe de nombreuses contraintes qui s'opposent à l'application et à l'amélioration des mesures affectant le bien-être des animaux, et qui par conséquent retardent l'amélioration de la santé animale et de la production. La majorité des pays en développement ou bien disposent de textes sur le bien-être animal qui ne sont pas appliqués, ou bien n'ont aucune base juridique en la matière.

Les étapes préliminaires doivent concerner la réhabilitation des services vétérinaires

dans le cadre de la société civile et avec les parties intéressées avant d'imposer une législation en matière de bien-être animal. Ceci doit inclure des mesures de formation, d'information du public, la recherche du soutien des autorités religieuses ainsi que des études portant sur leur impact sur le marché.

Il est bon de noter que les normes de l'OIE doivent être le point de référence pour toute législation en matière de bien-être animal; de plus, une mise en avant de cette question en utilisant un outil de stratégie de prévision des performances et un accord sur l'application des mesures sanitaires et phytosanitaires pourrait améliorer le bien-être des animaux dans le monde entier, en particulier lorsqu'il s'agit d'établir et d'imposer une législation sur ce problème.

Legislación sobre bienestar animal en los países en desarrollo – Retos y oportunidades – Legislación en los países anglohablantes

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Palabras clave: legislación, bienestar animal, normas, OIE

El bienestar de los animales es una cuestión de interés público compleja y multifacética que incluye importantes dimensiones científicas, éticas, económicas y políticas. Por ser un tema de importancia creciente en la sociedad, el bienestar animal ha de abordarse tomando en consideración la ciencia y el marco legal apropiado.

La legislación sobre bienestar animal es esencial para permitir la aplicación de las normas de bienestar animal y, por consiguiente, mejorar la sanidad y la producción animal. Sin embargo, la mayoría de los países en desarrollo dispone de una legislación sobre bienestar animal que no se cumple o simplemente carece de legislación.

Para resolver esta situación, es necesario tomar medidas desde el principio del proceso con el fin de establecer un buen nivel de comunicación y coordinación entre los servicios veterinarios, la comunidad y las demás partes interesadas. La implementación de la

legislación sobre bienestar animal exige una serie de esfuerzos considerables en materia de formación y la concienciación del público. También es necesario garantizar el apoyo de parte de las autoridades religiosas y analizar su impacto sobre el mercado.

Las normas de la OIE constituyen la referencia clave internacional para los programas nacionales de bienestar animal. El hecho de incluir el bienestar animal en la herramienta de la OIE para la evaluación de las prestaciones de los servicios veterinarios (Herramienta OIE PVS) permite la creación de programas de capacitación focalizados en las necesidades en términos de infraestructuras relacionadas con el bienestar animal, incluyendo el desarrollo y la implementación de una legislación adecuada. Las iniciativas de la Organización Mundial de Comercio para examinar las repercusiones del bienestar animal sobre el comercio internacional aportarán una ayuda adicional.

Animal welfare legislation in developing countries

Challenges and opportunities

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Introduction

In light of the expansion of international trade in live animals, many countries are now willing to define key animal welfare principles as they recognise the need to set standards to be followed in order to avoid problems with trade or public opinion relating to animal welfare problems that gain media attention internationally. Governments are increasingly aware of the linkages between animal welfare and animal health and the need for rules on animal handling, to minimise practices that cause animal suffering. Animal welfare is a complex, multi-faceted, public policy issue that includes important scientific, ethical, economic and political dimensions. Because of its growing importance in society and the need to improve animal health and productivity, animal welfare must be addressed in a scientific and lawful manner.

In the situation where governments are not fully aware of the importance of animal welfare, making progress in developing and/or enforcing animal welfare legislation presents significant challenges. The role of the veterinary services in raising awareness about animal welfare on the part of the general public and decision-makers is of great importance as a preliminary step.

In developing animal welfare legislation, the quality of the legislation and the capacity to enforce it, within the social, religious and cultural national context, must be carefully considered.

Materials and Method

Materials

The work was undertaken via using desk research, literature review and the construction of a literature database. It also involved

consultations with key relevant institutions/authorities and experts.

The study was designed to review the importance of animal welfare legislation and the situation with animal welfare legislation currently, and to propose actions to encourage countries to adopt animal welfare legislation.

Method

The author reviewed several animal health and veterinary Acts, structures and responsibilities of the veterinary services in many countries and the role of NGOs.

The following definitions were used for the purpose of this study.

Developing countries

There is no global standard definition for a 'developing country'. Different organisations have different criteria for classification.

In the World Trade Organisation (WTO), member countries are considered as 'developing countries' and 'least developed countries' but there are no WTO definitions of 'developed' and 'developing' countries. Members announce for themselves whether they are 'developed' or 'developing' countries.

For the purpose of this paper, a developing country is a country with limited financial resources, infrastructure and/or technical capabilities.

Legislation

Legislation means the legal instrument, executive statutes and standard operating procedures.

Animal welfare legislation

Animal welfare legislation is the legal instrument that gives the legal authority and power to implement and enforce measures for animal welfare.

Results

The search and review of animal welfare legislation in some developing countries reveals a wide discrepancy in the content, detail, dates of issuance and state of enforcement of the legislation.

It is noteworthy that Egypt was one of the first countries to develop animal welfare legislation, not only among the developed countries but among all the countries. In 1902, a Decree was issued by the Khedwi (King) of Egypt. Qatar, also, has legislation covering the neglect/abandonment of animals.

Examples of these legislative instruments are presented below.

Decree of the Khedwi of Egypt, 1902

Having regards on the General Assembly Decision of the Higher Court issued according to the higher order dated 31 January 1889.

According to what is presented by the Manager of the Justice, and

The approval of the Senate.

We decide the following,

Article 1

A penalty of imprisonment for a period of not more than seven days or a fine equal to one Egyptian pound should be enforced on any person carrying out one or more of the following practices against animals:

- over-exhaustion of the animals intended for riding and draught purposes with loads incompatible to the capacity of the animal,
- using of sick or injured animals for work,
- unjustified torture or imprisonment of animals as well as improper feeding, watering and ventilation of them,

- cruel handling of pet or domesticated animals,
- using animals for fighting each other, as in sheep-butting or cock-pecking,
- torture of captive wild or undomesticated animals,
- using unjustified torture to kill the captive wild or undomesticated animals.

Article 2

Disregard of any decision contradictory to that.

Article 3

This decree enters into force 15 days after issuance in the Official Gazette.

Article 4

The enforcement of this decree is the responsibility of the Manager of Justice.

Issued on 5 June 1902, KHEDAWI 'ABBAS HELMY'

In 1902, one Egyptian pound was sufficient to buy an acre of cultivated land.

This decree was superceded by the Law of Agriculture 53/1966. Article 119 of this Law banned violent management of animals and authorised the Minister of Agriculture to issue a ministerial decree to define relevant conditions. Subsequently, the Minister issued the following decree:

Egyptian Decree number 127/1967 (Lawful) defining the conditions relevant to the banning of violent management of animals

Minister of Agriculture,

Having regard to Article 119 of the Law of Agriculture 53/1966,

Decides,

Article 1

The following conditions have to be considered as violence against animals:

- Animals intended for riding and draught purposes should not be overloaded. The loading should be compatible to the age and condition of the animals. Using sick or injured animals for work is prohibited.

- Unjustified torture or imprisonment of animals as well as improper feeding, watering and ventilation of animals is prohibited.
- Using animals for fighting or entertainment is prohibited.
- Shooting of tied animals is prohibited.
- Compelling animals to perform specific acts and frightening or torturing them to do such acts is also prohibited.
- Enforcing animals to eat or drink beyond their capacity for fattening is prohibited.
- Using animals that are unfit for work by frightening or torturing them is prohibited.
- Beating the head, cutting the tendons or gouging out the eyes prior to slaughter is prohibited.

Article 2

This Decree has to be published in the Official Gazette and enters into force on 11 March 1967.

Issued on 9 March 1967, Minister of Agriculture 'Shafek Al Kheshine'

Decree number 45/1967 (Lawful) concerning slaughtering of animals and the meat trade

Minister of Agriculture,

Having regard to Articles 109, 136 and item (a) in Article 137 of the Law of Agriculture 53/1966,

Decides,

Article 1

(not quoted as it is not relevant to this paper)

Article 2

Necessary precautions should be taken when transporting animals to the abattoir or slaughtering point to avoid any accident to animals on the road or in the abattoir. The animals should be secured well so that the welfare of animals is ensured.

Articles 3–18

(not quoted as they are not relevant to this paper)

Article 19

This decree has to be published in the Official Gazette and enters into force on 11 March 1967.

Issued on 9 March 1967, Minister of Agriculture 'Shafek Al Kheshine'

NB: This decree includes 19 articles; the author makes reference only to relevant articles.

It can be seen that the Decree of the Minister of Agriculture, No 27 (1967) disregards the penalties for violators laid down in the Decree of the Khedawi of Egypt issued on 5 June 1902.

There are amendments or reviews since issuance of the decree in 1967.

The decree did not determine the authority responsible for the enforcement of the legislation.

Qatar Law No 9 1974 regarding neglect and abandonment of animals

Article 1

It is prohibited to leave animals in unsuitable shelter and to abandon animals in inhabited areas, roads, streets, squares, lanes or beaches. The municipal board is responsible for issuing certificates approving the housing of animals.

Article 2

The police and municipal officials are in charge of managing animals that are found under conditions that are not in compliance with this law.

Article 3

A report should be made dealing with the animal species, breed, appearance, site and time of catching and the date of receiving the animal(s) at a shelter.

Article 4

Diseased animals or those suspected of being diseased should be isolated with prompt notification to the veterinary department. The municipality has the right to condemn any animal due to public health concerns.

Article 5

The shelter manager should provide the necessary feed, water and care to animals in the shelter.

Article 6

Defines the fees to be paid by the owner when receiving the animals from the shelter.

Article 7

If the owner does not collect his animal(s) within seven days, the municipality has the right to sell the animal.

Article 8

One year after the sale of the animal, the owner has no right to claim the money received from the sale of the animal.

Article 9

The owner should pay compensation to the government for any damage to trees, monuments and landmarks caused by animals.

Article 10

The police and the municipalities are responsible for implementing this law.

Other examples of animal welfare legislation

There are some articles relevant to animal welfare in legislation dealing with animal health and veterinary or quarantine matters, as outlined below.

C.5 Yemen

Prime Minister's Decree 99/2001 regarding veterinary quarantine

Article 11

Livestock importers should contact the head of the veterinary quarantine service, prior to importation of livestock to arrange for suitable housing of the imported livestock.

C.6 Lebanon

Law Number 12301/ 1963, 20 March

Article 9

Livestock importers should contact the head of the veterinary quarantine service, prior to importation of livestock to arrange for suitable housing of the imported livestock.

Article 13

The unloading of ruminants, equines and pigs should be done during the daytime.

Article 37

The responsible person on the deck of the ship, train or truck transporting livestock, should notify the veterinary quarantine serv-

ice at the border and provide information on livestock mortalities during transportation.

Syria

Animals imported for slaughter should be transported in equipped trucks, which should be disinfected before and after transportation.

Oman

On arrival of livestock consignments from countries not infected with epidemic and infectious diseases according to OIE, and not accompanied with the original veterinary certificates, it is allowed to temporarily release the consignment, which should be quarantined in official quarantine or at the owner's farm. The veterinary authority should define the quarantine period to ensure the safety of the consignment.

The responsible person on the deck of a ship, train or truck transporting livestock should notify the veterinary quarantine service at the border on livestock mortalities during transportation.

Discussion

The majority of developing countries either have unenforced animal welfare legislation or have no animal welfare legislation at all. Some countries have a few legal requirements relevant to animal welfare in animal health legislation. However, the livestock and meat exporting countries have better practices and infrastructures for implementing animal welfare requirements with different levels of competence for different activities (e.g. killing for disease control purposes; on-farm, local transport to the slaughterhouse and export to international markets).

Generally, in developing countries, the view of animal welfare depends on the religious background and/or ethical norms rather than on legislation. It seems likely that many, if not all, developing countries need to adopt, or at least update, legislation on animal welfare to comply with the OIE standards.

Animal welfare legislation: What are the challenges?

Without legislation, there is no legal authority or defined responsibility for the enforce-

ment of standards and thereby the improvement of animal welfare. Legislation is also needed to secure the improvement in animal health and animal production, which can lead to improved animal welfare. For both animal health and animal welfare, the veterinary services need legal powers for funding, implementing and monitoring animal welfare activities.

Improvement in animal welfare requires funding to cover the activities of veterinary services and, depending on the type of activity, the expenses of producers. This issue must be considered at all levels of the value chain for local, regional and international trade, otherwise there will be unfair competition between producers who respect animal welfare and those who do not.

Animal welfare legislation is a very important part of the infrastructure. However, there are other important steps that can assist in improving animal welfare, such as agreements between the veterinary services of trading partners. For example, Egypt (a developing country) does not have extensive infrastructure or up-to-date legislation for animal welfare but has entered into a memorandum of understanding with Australia to help to address animal welfare requirements for the importation of live ruminants. In this way, a developing country was helped to build capacity in specified areas, allowing the resumption of trade. This should have benefits for the Egyptian authorities, providing a basis for closer attention to the development of needed animal welfare legislation.

There are many challenges for the veterinary services in developing countries to establish and implement animal welfare legislation, as listed below:

- lack of resources (financial and staff) and infrastructure for the enforcement and implementation of the legislation,
- lack of experience in the implementation of animal welfare standards during different activities, including culling for disease control, slaughtering for human consumption and transport,
- lack of experience in developing modern legislation,
- unsatisfactory partnership between the public and private sectors,
- unsatisfactory coordination with other relevant authorities like the police and municipalities,
- complicated and slow administrative procedures for developing and implementing legislation.

Current situation of animal welfare legislation

The social dimension of livestock ownership within a country has a significant bearing on the approach to animal welfare legislation. In some developing countries, especially in the Middle East and India, most livestock belongs to smallholders, while in other countries intensive production on modern farms is the dominant model of ownership. These different situations require different approaches when developing animal welfare legislation.

Factors affecting the implementation of animal welfare legislation

The OIE recommends that veterinary legislation, including for animal welfare, meets certain quality standards. This means that the veterinary legislation:

- complies with the OIE international standards for animal welfare in theory and practice,
- provides sensible penalties in the case of non-compliance,
- is flexible to meet national requirements while allowing for updating in line with the international standards,
- takes into consideration the religious, social and economic context of the country,
- defines the roles and responsibilities of authorities and responsible officials,
- under the authority granted by the legislation (which is usually drafted in general terms), subordinate statutes should be issued to deal with the specificities of enforcement.

Political level of the issuing authority

Since different institutions have to be involved in the implementation of animal

welfare legislations, it is important that the legislation is issued by the president/king or prime minister through the parliament, to ensure enforcement and sustainability within the whole country.

Efficiency of the veterinary services

The veterinary services should have the legal power to enter premises, make inspections and take action according to the legislation on animal welfare. It is important that appropriately trained staff, particularly veterinarians, are available to implement animal welfare legislation.

The veterinary services and other relevant authorities need to implement planning, including obtaining the necessary financial resources and training relevant staff so that they have the required technical ability to implement animal welfare programmes. To this end, improvements may be needed to the veterinary infrastructure, as well as undertaking public awareness campaigns and strengthening partnerships with NGOs, which can make a valuable contribution in supporting the activities of veterinary services.

Proposed actions to encourage countries to adopt and update animal welfare legislation

The OIE PVS Tool should clearly address animal welfare, according to the OIE standards:

- If animal welfare is considered in trade agreements, such as the WTO agreements (e.g. SPS and TBT Agreements) there will be increased pressure to improve animal welfare globally, including through the development, implementation and enforcement of animal welfare legislation.
- Provision of assistance to the veterinary services in developing countries is urgently needed. This particularly concerns the required infrastructure to enforce animal welfare legislation with the goal of improving compliance with the OIE animal welfare standards, as these apply to:

- slaughterhouses,
 - animal transport facilities,
 - humane animal killing facilities.
- Preliminary steps should be taken to strengthen the veterinary services, including their partnerships with stakeholders, as part of the approach to improving the situation with animal welfare legislation in developing countries. This includes:
 - training,
 - public awareness,
 - working with NGOs,
 - studies on the market cost-benefit implications of improved animal welfare.

Conclusions

We may conclude that, as the political systems of countries vary widely, so do their legislative instruments. The issuing authority may be the president, king, the prime minister, a minister for agriculture or the parliament. The form of the legislation also varies, including laws, ministerial decrees, and Acts of parliament. Animal welfare may be the subject of specific legislation or may be covered within other legislation, for example, on animal health or animal quarantine. All these models give rise to particular issues when considering models of enforcement.

For the legislation in developing countries examined in this paper, the main points of concern are:

- they do not comply to a satisfactory level with the OIE standards,
- most were issued many years ago and they have not been updated,
- there are no penalties or the provisions for penalties are unenforceable, and
- there are no subordinate legal instruments providing for the specificities of enforcement.

Animal welfare legislation in developing countries

Challenges and opportunities

Legislation in French-speaking countries

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Keywords: good treatment, veterinary legislation

The concept of ‘good treatment’ as part of the complex broader notion of animal welfare is identified. Its various characteristics, such as nutrition, breeding conditions and healthcare, transport, slaughtering and experimentation are presented by relating them to technical and ethical considerations and within the framework of OIE guidelines.

Although developing countries experience difficulty creating and implementing this

kind of veterinary legislation in the context where the populace may lack an appropriate environment for human welfare, there are strong arguments in support of these approaches. Some examples of legislation and regulations are discussed and compared with the reality on the ground to outline the challenges and opportunities facing the authorities. Several elements of strategy for developing animal welfare legislation are proposed.

Législation sur le bien-être animal dans les pays en voie de développement – défis et opportunités – législation en vigueur dans les pays francophones

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Mots-clés: bientraitance, législation vétérinaire

Dans la notion complexe de bien-être animal, le concept de bientraitance est d'abord identifié et ses différents aspects comme l'alimentation, les conditions d'élevage et les soins, le transport, l'abattage ou l'expérimentation sont présentés en les rattachant, d'une part, aux aspects techniques et éthiques et, d'autre part, aux lignes directrices de l'OIE.

Malgré la difficulté pour les pays en développement de créer et surtout de mettre en œuvre cette partie de la législation vétérinaire dans un contexte où l'homme ne dispose pas

toujours lui-même de l'environnement nécessaire à son bien-être, de telles démarches trouvent néanmoins des justifications qui sont rapidement évoquées.

Sur ces bases, quelques exemples de législation et de réglementation sont discutés et mis en perspective de la réalité du terrain afin d'exposer les défis qui doivent être relevés, mais aussi certaines opportunités.

Quelques éléments de stratégie pour le développement de législations en la matière sont proposés.

Legislación sobre bienestar animal en los países en desarrollo – Retos y oportunidades – Legislación en países de habla francesa

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Palabras clave: buen trato, legislación veterinaria

Dentro de la noción compleja y amplia de bienestar animal, se identifica el concepto de «buen trato» y se presentan sus características diversas como nutrición, condiciones de cría y cuidados, transporte, sacrificio y experimentación asociándolas con consideraciones técnicas y éticas dentro de las directrices de la Organización Mundial de Sanidad Animal (OIE).

Pese a que los países en desarrollo tienen dificultades para crear e implementar esta parte

de la legislación veterinaria en un contexto en el que la población no dispone siempre de un entorno adecuado para su propio bienestar, existen argumentos sólidos que justifican dicha legislación. Se discuten y comparan algunos ejemplos de legislaciones y reglamentaciones con la realidad del terreno con el fin de destacar los retos y oportunidades a los que se enfrentan las autoridades. Se proponen varios elementos estratégicos para desarrollar una legislación de bienestar animal.

Animal welfare legislation in developing countries

Challenges and opportunities

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Keywords: humane treatment, legislation, developing countries

Introduction

At first sight, the subject of animal welfare might seem far removed from developing countries' concerns, or at least their priorities, since they face other problems. However, 'animal welfare' and 'developing countries' are not mutually exclusive concepts, since the issues at stake are not standards of living and wealth but intelligence, society, and pragmatism. Animal welfare is neither in conflict nor in competition with human welfare; on the contrary, it is a component of it. A rapid analysis of the relationship between the two reveals the need to enact legislation on animal welfare and to demonstrate the benefits of this legislation to developing countries. Nonetheless, the implementation of such legislation is no easy matter and, as such, it represents a challenge.

In parallel, the emergence of international rules and the growing recognition of veterinary services under the impetus of the OIE represent an opportunity not to be missed because animal welfare legislation is becoming a condition for access to rich-country markets.

We are all aware that there are divergences regarding the subject of animal welfare but terminology should not act as a stumbling block. First and foremost, then, the concepts and objectives must be clearly defined.

Dimensions of the animal welfare concept

The concept of animal welfare can be addressed using a variety of approaches. While it is not for us to take a position here, it is essential to recognise the legitimacy of these approaches in order to allow a constructive debate and, most important of all, the

rational formalisation of a body of regulations.

Utilitarian dimension

Domestic animals have always played a key material role in the lives of humans for a host of reasons, including:

- war,
- farming (for traction, mills, manure),
- medicine (for physiology, testing),
- work (for transportation, towing, herding, police, services to the disabled, rescue, etc.),
- leisure (for companionship, racing, shows, etc.), and
- of course, to provide humans with food, either directly (meat) or indirectly (milk, eggs, etc.).

Although the relative proportions of these animal uses have naturally changed as human activities have evolved, the nature of these uses has not. The consumption of animal protein is increasing as living standards rise, and the use of animals for traction and manure is still the cornerstone of many farming systems.

From this standpoint, animals can be seen as an instrument for humans to use. Kant's view was that our duties towards them are 'indirect duties towards humanity'. This means that cruelty to animals is a breach of this duty towards humanity. A long time before Kant, the Old Testament laid down instructions for allowing animals times to rest: *Six days you shall do your work, but on the seventh day you shall rest; that your ox and your donkey may have rest [...]* (Exodus 23:12), and punishing cru-

elty: *He who strikes an animal mortally shall make it good, life for life* (Leviticus 24:18).

So, it is widely recognised that humans' primary interest is to procure as many products and as much labour from animals as possible. Now, experience has shown that, in most cases, livestock productivity is improved by good animal husbandry conditions and care. Without any emotional connotation, humane animal treatment (*bien-traitance*) is an instrument that livestock producers can use in much the same way as veterinary drugs, for example. It is sheer common sense to acknowledge that the humane treatment of animals is less costly to livestock producers than ill-treatment because it saves on animal care and facilitates their work. It is therefore a positive form of behaviour in itself.

As regards the standards for livestock production or the use of animals (for transportation, slaughter, etc.), the demonstration is more complex and it falls to economists and scientists to reach the best compromise on animal densities, lighting, etc.

Even in this case, technical standards must be reviewed in the light of the market, which is itself conditioned by the intellectual or emotional dimension. A decisive parameter for the sector concerned is the preference of consumers who choose to buy or not to buy products depending on the conditions of livestock production or of slaughter.

Economic dimension

Obviously a product's success depends on its market. Consumers in developing countries have their own demands and humane animal treatment is probably not a priority. However, the same is not true of export markets. Many western countries have introduced this concept into their legislation, especially the European Union: *In formulating and implementing the Community's agriculture, transport, internal market and research policies, the Community and the Member States shall pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage* (1).

It goes without saying that the protection of the Member States' interests implies in this case that the same rigorous requirements should be imposed on imported products.

Irrespective of the above, compliance with importers' standards is therefore a condition for developing countries to gain access to export markets.

The same applies to organic farming, which guarantees the certainty of farming and livestock production practices that respect the natural balance, are environmentally friendly and ensure animal welfare; 3 % of all organically farmed land and 20 % of organic farms are in Africa (2).

In Europe, we are also seeing a trend towards the development of the 'fair trade' concept, that is to say, consumer demand for products from developing countries that are subject to a fair return on added value and are of recognised quality, which includes humane treatment (3). It is an exciting opportunity. At a time when western consumers are becoming aware of the situation in developing countries, it would be a pity not to consider their expectations when these expectations represent a market opportunity.

A final factor that underlines the importance of considering humane treatment is that most investors seek to reduce their costs to a minimum. Whenever legislation, or the lack of legislation allows, they will choose minimum standards. From this point onwards, all progress is slowed or halted because it means that the regulatory framework cannot be altered without allowing operators a transitional period to bring themselves into compliance with the standards. In the meantime, markets shift to other trading partners that are already more in line with the standards; so what might have started out as an immediate economic advantage becomes a handicap in the long-term.

Moral dimension

Apart from the initial material concern, for a very long time, humans have also been interested in their relationship with nature and animals.

Even though Descartes (1596–1650) took a strictly mechanistic view of animals and dis-

missed any ethical problems with cruelty towards them, Pythagoras (569 BC –494 BC) condemned the sacrifice of animals apart from in life or death circumstances or for defence. Theophrastus (372 BC–288 BC) reasserted the kinship between living creatures and the duty of justice towards animals, and Plutarch (46 BC–125 BC), who showed that animals use reason and suffer, came to condemn outright the killing of animals for food: *We ought not to treat living creatures like shoes or household goods, which, when worn out with use, we throw away; and were it only to learn benevolence to Humankind, we should be merciful to other creatures ...*

Islam forbids using animals or birds for target practice. Al-Bukhari reports: *When Ibn Umar, one of the companions of Prophet Muhammad, saw some youths practising archery using a hen as a target, he said: The Prophet cursed anyone who made a living thing into a target (for practice)* (free translation from the French).

Animal welfare is, therefore, a universal concern, not only in the West (4).

As regards animal testing, the same philosophical considerations have accompanied the development of medicine. Claude Bernard said of experimental physiology: *Do we have the right to perform experiments and vivisections on animals? In my view, we have the full and absolute right to do so. Indeed, it would be very strange for it to be recognised that humans have the right to make use of animals for all our everyday needs, for domestic services, for food, yet that we should be prohibited from using animals to further our knowledge in one of the sciences most useful to humanity (...)* (5) (free translation from the French).

Questions about animal welfare have, therefore, featured in every period of history and everywhere in the world. Although individuals will each bring their own responses to these questions, behaviour is also influenced by cultural trends, especially the economic behaviour mentioned earlier.

Lastly, the concept of animal welfare brings together highly diverse (some might say opposing but, in any event, interdependent) components.

The Law would be unable to resolve the issue definitively because it can only set material standards. It would, therefore, seem judicious to decide on the role of animal welfare in veterinary legislation and the terminology relating thereto.

Role and terminology

Role in veterinary legislation

Based on the definition of veterinary public health as *all actions relating directly or indirectly to animals, animal products and by-products, which contribute to the protection, preservation and improvement of human health, that is to say, human physical, moral and social welfare* (6) (free translation from the French), it is natural to incorporate animal protection into the discipline of veterinary public health because it contributes not only to the physical welfare of humans but also to their moral welfare.

It contributes to physical welfare because, as we have already mentioned, animals are an essential resource not only for their draught power but also for food. Starting from the moment animal welfare becomes a factor of productivity, it contributes to wealth creation and to improving the material situation of human beings.

It contributes to the moral welfare of humans by adding the important and increasing function of companionship to the philosophical aspects mentioned above.

This is very important because human health is one of the responsibilities of national governments and, as animal protection is a component of human health, governments are justified in legislating on it.

The same rationale could be applied to the environmental protection provisions that some developing countries have already incorporated into their constitutions: a basic necessity of life, on the one hand, and moral necessity on the other, the only difference being that the basic necessity of life aspect is gaining the upper hand ...

Choice of terms

We have used the French terms *bien-être animal* (animal welfare), *bien-traitance* (humane

treatment) and *protection animale* (animal protection) but, when entering the legislative field, care needs to be taken about which terminology to use. We must therefore employ words that convey clearly defined concepts.

In every country and in every period in history, a general consensus is formed regarding the relationship between humans and animals. This consensus is based on a variety of factors, amongst which religious or philosophical beliefs, customs and the state of the art or the economy are decisive. The definition of animal welfare and that of the associated rules of behaviour follow from this.

Now, owing to the subjective and changeable nature of these factors, the definition of animal welfare varies widely from one region to another. From the moment animal welfare becomes a factor of quality or even a condition for trade, it seems highly desirable to agree on a definition to avoid distortion of competition, protectionism, and disputes.

It is, therefore, very important to make a distinction between matters of debate and matters of law.

In 2007, the Veterinary Academy of France (Académie Vétérinaire de France) published a report on terminology, which concluded that the English translation of the sensation, recognised as a state of well-being (*bien-être*), is 'well-being' and that the English word 'welfare' in the term 'animal welfare' can, depending on the context, express everything relating to an animal's state of well-being (*bien-être*):

- either the state itself,
- or the scientific and ethical concerns associated with it,
- or protection in the legal sense,
- or when envisaging measures to improve the animal condition.

The term welfare (*bien-être*) cannot, therefore, be used in legislation because it has a variety of meanings, and, as Voltaire said: *Let the laws be clear, uniform and precise; to interpret laws is almost always to corrupt them* (7).

In 1992, the United Kingdom Farm Animal Welfare Council adopted a definition for ideal states in animals, termed the 'Five Freedoms':

- Freedom from hunger, thirst, and malnutrition.
- Freedom from discomfort.
- Freedom from pain, injury and disease.
- Freedom to express normal behaviour.
- Freedom from fear and distress.

The Five Freedoms are listed in Chapter 7.1 of the Terrestrial Code.

Obviously, these are objectives of conduct and not physical or mental states experienced by an animal. Based on scientific data, common sense and experience, these rules, which ultimately aim to prevent a state of malaise (*mal-être*), can be embodied by actions.

This point is particularly important in our context.

The purpose of the law is not usually to state principles but to lay down standards. A definition that can be translated into objective measures takes on a new dimension and this is indeed the case in this instance, based on the Terrestrial Code.

For these reasons, we prefer to use the term humane treatment (*bien-traitance*) to translate one of the meanings of the English term animal 'welfare'. According to the Veterinary Academy of France, humane treatment consists of: *for a given society, of the moral or regulatory formalisation of a determination to satisfy the physiological and behavioural needs specific to each species and to each of their living environments, in order for animals to attain not merely a state of coping, but an imagined state comparable with the state of well-being in humans* (8) (free translation from the French).

Welfare (*bien-être*), that is to say what an animal feels, is a debateable objective, whereas humane treatment (*bien-traitance*) corresponds to the positive behaviour of humans and so is an instrument that lends itself to regulation.

In our context, to avoid confusing instrument with subject, we have replaced the abstract and emotive concept of welfare with the term humane treatment (*bien-traitance*), to embody the desire to adopt a form of behaviour towards the animal.

This distinction is perfectly clear in Article 7.1.1 of the Terrestrial Code.

What we have described concerning the French language doubtless applies to other languages too. Therefore, it is important to take care whenever legislation is developed, especially when adapting national legislation to an international environment or to a market.

Guidelines for legislation

Whatever the stage of the ethical debate, for the above mentioned utilitarian and economic reasons at least, developing-country legislation should consider humane animal treatment (*bien-traitance*) without delay, so as to avoid coming up against new barriers to trade in animals and animal products.

Legislation on humane treatment in the wider sense can be divided into two main categories. The first consists of defining general principles for humane treatment irrespective of the activity concerned and the second consists of setting technical standards for activities associated with animal use, with specific reference to animal testing.

To define general principles for humane treatment, legislation should, at the very least:

- State the general principles adopted by countries and clarify the legal status of animals.

Under Roman law, an animal is generally considered as a 'thing' and, hence, is subject to civil law governing personal property. However, as animal 'sentience' is often recognised, it warrants taking precautions with regard to animals.

- Classify the ill-treatment offence that is subject to criminal proceedings.

The law is meaningful only if it is accompanied by a determination to enforce it, so it is crucial to endow judges with the necessary means.

Let us recall that, under Roman law, the classification of an offence is subject to the principle of legality of offences and sentences, which means that only an offence covered by legislation may be considered wrong and that legal proceedings based on misclassified facts is illegal.

To a large extent, the power of the enacting instrument will depend on a precise definition of ill-treatment:

- Determine the authorities responsible for humane treatment in terms of formulating regulations and monitoring their enforcement.
- Provide for the possibility of reserving the performance of certain animal-related activities to appropriately qualified personnel.

Indeed, experience has shown that it is more effective to make the performance of certain activities conditional, in advance, on the provision of guarantees, notably training, than it is to seek and prosecute offences; this is particularly true for wild species and experimental animals.

These general provisions, translated into specific legislation, can then serve as the basis for all regulations on the matter. Such regulations should consider specific adaptations for each species:

- the conditions for animal husbandry and upkeep,
- the conditions for transportation,
- the conditions for slaughter (for both sanitary and production purposes).

We should point out that the latter two points are already covered by OIE guidelines.

When countries have research institutions or a pharmaceutical industry, or have wild populations of experimental animals, they can develop activities involving laboratory animals and animal testing. Added to the above mentioned constraints are monitoring the origin of animals and the conditions for animal testing.

Opportunities

Health crises periodically serve to remind us of the importance of surveillance, control and response structures. The changing definition of veterinary public health and the recognition of veterinary services as a global public good testify to the progress being made and reinforce the need to harmonise practices. Now the homogeneous objectives of the

world's veterinary administrations make it feasible to achieve fairly harmonised legislation. The OIE PVS programme for the evaluation of performance of veterinary services aptly illustrates the critical need for good legislation on the one hand and its enforcement on the other.

So, to improve the performance of veterinary services, first there needs to be continual evolution of the legislation supporting veterinary service activities.

Where a country has committed itself to an evaluation of its veterinary services and plans to update or improve its legislation, it would be highly appropriate to integrate the aspect of humane animal treatment, all the more so since it is something that can be certified.

The planned OIE guidelines for the development of veterinary legislation certainly provide a further opportunity (French, *opportunité*) to capitalise on member countries' experiences.

In French legal terminology, there is a second meaning for the word *opportunité* (appropriateness): Is it appropriate to legislate or should civil society be left to its own devices?

Without a doubt, legislation appears to be a necessity to provide a framework for humane treatment because no kind of certification can be envisaged without a frame of reference, nor can a human activity be limited without a law.

So, while legislation is strictly speaking appropriate, it is not the only way forward and we should not overlook the important role to be played by associations. Associations have contributed greatly to expanding the debate on humane animal treatment and to improving the situation. Associations deserve to be given a role in enacting national legislation whenever their action does not oppose another policy, notably in the area of animal disease control or veterinary administration organisation. This role should be reserved for them by legislation.

Challenges

In spite of all the arguments in favour of developing legislation on humane animal treatment, it remains a challenge for veterinary administrations in developing countries.

There would be no problem if a national consensus existed on welfare, but this is rarely the case. Legislating on a subject for which there is no strong internal demand cannot be made a priority because, in principle, the law should be an expression of the common will.

However, it has been known for legislators, who are better informed about needs and general contexts, to anticipate demand from society and to inject new impetus. When France's first law on animal protection (the Grammont Act) was passed in 1850 amid general derision, it nevertheless gave the country a point of departure.

The first challenge is, therefore, to successfully convince legislators that humane animal treatment is useful and necessary to the public interest.

The second challenge is to take the risk of enforcing this legislation. The receptiveness of rural populations to new constraints in the current difficult context is not necessarily guaranteed.

Coercion is certainly not to be recommended here and it is their allegiance that should be sought. It will be a long-term task to persuade rural populations of the usefulness of humane animal treatment and to demonstrate its benefits. There is no doubt that associations have a key role to play in this.

The third challenge is to release a minimum of resources to implement such a policy. Any legislative effort must be accompanied by an adequate enforcement function because to enact a law and not enforce it is to authorise the very thing that one wishes to prohibit (Cardinal de Retz, 1679) (free translation from the French).

To do this, veterinary services must be endowed with the minimum human, material and legal resources required.

Conclusions

It would appear necessary to consider the animal welfare concept outside of any controversy and to recognise the importance of each of its dimensions, especially the ethical and material dimensions.

By choosing clear terminology and specifying the principles to be applied, legislation can form part of a dynamic of progress that is acceptable to all and that ultimately enhances human welfare.

The creation, improvement or updating of animal welfare legislation represents an opportunity which will help to improve production and trade whilst at the same time supporting ethical considerations.

The challenge is to prevent time and resource constraints and all the other priorities of developing countries from causing tensions between advocates of opposing trends. It is crucial to involve all stakeholders in building the legislation.

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Cultural and religious issues in animal welfare

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Keywords: animal welfare, cultural practices, religious slaughter, kosher, halal

The purpose of this presentation is to highlight cultural and religious practices in the handling of animals from the farm to slaughter, in an effort to harmonise such practices with country regulations based on existing scientific information for the purpose of enhancing animal welfare.

This work involves the collection and compilation of information from all available sources written as well as visual, to present an objective picture of the relevant cultural and religious practices globally. Religious requirements are taken from the scriptures of those faiths with established animal agriculture requirements, namely, Muslim and Jewish. The existing practices are compiled from various countries through personal communications with knowledgeable individuals and authentic sources.

Over the past few decades, the issue of humane treatment of animals during slaugh-

ter by religious groups has received significant attention and has become a controversial focal point among various stakeholder groups, including governments, animal rights activists and religious communities. This paper describes in an objective, unbiased manner, the religious requirements and cultural practices. An analysis is offered as to which components of the religious requirements have or have not changed with time. Cultural practices in different countries are viewed and analysed according to the interplay of these practices with the religious requirements prevalent in each country or region. The information presented here will, we hope, help to decrease misunderstandings at all levels with respect to animal welfare. This will improve cooperation among all responsible parties, based on objective information.

Politiques et pratiques en matière de bien-être animal: problèmes culturels et religieux

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Mots-clés: bien-être animal, pratiques religieuses, abattage religieux, cacher, halal

L'objectif de cette présentation est de mettre en lumière les pratiques culturelles et religieuses dans la manipulation des animaux depuis l'exploitation jusqu'à l'abattoir, dans un effort visant à harmoniser ces pratiques avec les réglementations des divers pays sur la base de l'information scientifique existante, afin d'améliorer le bien-être des animaux.

Le présent travail implique de collecter et de compiler les informations de toutes les sources disponibles, écrites ou visuelles, afin de donner une image objective des pratiques culturelles et religieuses à l'échelle mondiale. Les prescriptions religieuses sont prises dans les livres saints de ces confessions, qu'il s'agisse de l'islam ou du judaïsme. Les pratiques existantes ont été enregistrées dans divers pays grâce à des communications personnelles de témoins informés et à des sources authentiques.

Depuis plusieurs décennies, la question du traitement des animaux sans cruauté au cours

de l'abattage par des groupes religieux a reçu une attention significative et est devenue un point focal sujet à controverse au sein de diverses entités intéressées, parmi lesquelles des gouvernements, des défenseurs des droits des animaux et des communautés religieuses. L'article décrit de manière objective et sans parti pris les prescriptions religieuses et les pratiques culturelles. Il propose une analyse des composantes de ces prescriptions religieuses selon qu'elles ont évolué, ou non, avec le temps. Les pratiques culturelles dans différents pays sont envisagées et analysées selon les interactions qu'elles ont avec les prescriptions religieuses qui prévalent dans chaque pays ou région. Il est à souhaiter que les informations présentées ici contribuent à faire disparaître les incompréhensions à tous les niveaux pour ce qui est du bien-être animal. Cela améliorera la coopération entre toutes les parties responsables, sur la base de faits objectifs.

Políticas y prácticas de bienestar animal: aspectos culturales y religiosos

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Palabras clave: bienestar animal, prácticas culturales, sacrificio según los ritos religiosos, kosher, halal

El objetivo de esta presentación es resaltar las prácticas culturales y religiosas en el cuidado de los animales desde la explotación hasta el sacrificio, con el fin de armonizarlas de conformidad con las legislaciones del país basándose en información científica existente y así contribuir a mejorar el bienestar animal.

Este trabajo ha implicado la recolección y compilación de información a partir de todas las fuentes escritas y visuales disponibles, con el fin de presentar de manera objetiva las prácticas religiosas y culturales relevantes. Los requisitos religiosos provienen de las escrituras de las creencias que siguen restricciones relacionadas con la agricultura animal, a saber, la religión musulmana y la religión judía. Las prácticas que existen provienen de distintos países, a través de la comunicación personal con sabios y fuentes fidedignas.

Durante los últimos años, la forma en que ciertos grupos religiosos tratan a los animales durante el sacrificio ha llamado la atención y se ha convertido en un verdadero punto focal controvertido entre algunos grupos del sector privado, incluyendo gobiernos, activistas de los derechos de los animales y comunidades religiosas. Con este trabajo, buscamos describir de manera objetiva e imparcial los requisitos religiosos y las prácticas culturales. Examinamos los elementos religiosos que han cambiado y los que no han sufrido cambios con el paso del tiempo. Analizamos las prácticas culturales de distintos países, teniendo en cuenta su interacción con los requisitos religiosos comunes en cada país o región. A través de la información objetiva que proporcionamos en este trabajo, esperamos que los malentendidos relacionados con el bienestar animal disminuyan y que la cooperación entre las partes responsables aumente.

Animal welfare policy and practice Cultural and religious issues

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Keywords: cultural, halal, kosher, religious, slaughter

Introduction

The slaughter of animals for human consumption has been practiced since before the beginning of animal domestication and goes back to prehistoric times. Domestication did, however, allow the killing to become more organised. Nevertheless, killing animals still remains the most brutal act in the relationship between human beings and domestic animals, although it is an inevitable stage in the life of an animal for food production. Recognition that higher animals are sentient, that they are capable of feeling and suffering, has led humans to work towards minimising their suffering during all stages of life, including slaughter. OIE with its very diverse membership, especially with respect to economical and cultural differences, has the difficult, but achievable, task of encouraging and assisting its members to understand and then incorporate animal welfare guidelines into national regulations, and then to manage the application of these regulations in their country and, when necessary, to enforce these regulations.

This paper is a limited attempt to discuss the cultural and religious variables that influence how animals are handled by diverse groups of people. Kosher and halal practices are presented here because they get the most attention in the West. The authors have also included three papers about the conditions of animal welfare from three culturally different countries, namely Kenya representing East Africa, Bangladesh representing South Asia, and China. Understanding various cultural practices around the world would facilitate the designing and subsequent implementation of country specific animal welfare guidelines.

Kosher policies and practices

Kosher laws are some of the oldest regulations influencing the commercial practice of producing meat for human consumption, and are derived from the Hebrew scriptures (Bible), often referred to in the western world as the Old Testament.

Deuteronomy XII:20-21 states: *When the Lord thy God shall enlarge thy border, as He hath promised thee, and thou shalt say: I will eat flesh, because thy soul desireth to eat flesh; thou mayest eat flesh, after all the desire of thy soul. If the place which the Lord thy God shall choose to put His name there be too far from thee, then thou shalt kill of thy herd and of thy flock, which the Lord hath given thee, as I have commanded thee, and thou shalt eat within thy gates, after all the desire of thy soul* (1).

Although the actual process of kosher slaughter is not presented in the Hebrew Scriptures, the discussion of the process in great detail is left to subsequent religious texts. The process used for cattle slaughter, depicted in Figure 1, is an actual historical rendering of one approach to kosher restraining and slaughtering of the animal with care and respect for the animal. A key part of kosher (and also for many halal slaughters) is that the slaughter is a horizontal cut across the neck of an unstunned animal to cut the jugulars, carotids, oesophagus, and trachea without cutting the vertebrae (2).

Rather than going into the philosophical discussion of the kosher laws, a set of 'dos and don'ts' of the process are presented here.

The slaughterman is trained in both the religious laws involved and the actual process of slaughtering:

- only a shochet, a specially trained religious slaughterman may slaughter an acceptable animal,
 - the shochet requires a certificate of training that includes demonstrating his ability to do the actual slaughter properly.
1. A special knife (chalef) appropriate for the size of the animal is used, that:
 - must have a straight blade,
 - must be at least twice the length of the animal's neck (different sizes of historical chalefs are shown in Figure 2),
 - must be extremely sharp (much of a shochet's training is focused on learning how to properly sharpen and then maintain the chalef); the use of a very sharp knife minimises pain and may lead to the release of endorphins, the opiates associated with such processes as 'runners high' (3),
 - must be checked frequently for sharpness and the absence of nicks.
 2. The following actions are mandatory for kosher slaughter:
 - the jugular veins, the carotid arteries, the oesophagus and the windpipe must be cut using a horizontal cut across the neck (technically only the oesophagus and the windpipe must be cut but, in practical slaughter, all four 'pipes' are cut),
 - the slaughterman has to cut the animal at the proper point along the neck; there is a permitted region for the cut across the neck and, according to Dr Temple Grandin, the closer the cut is towards the head end of the allowed region, the better the bleed-out and the quicker the time to insensibility (3).
 3. The following actions are not permitted under the rules of kosher slaughter:
 - pausing: a more aggressive cut actually leads to better bleed-out and a more rapid time to insensibility,
 - pressure: there is a concern that the head should not fall back on the knife and interfere with the cut,
 - burrowing,

- deviating,
- tearing: if the neck is too tight, tearing may occur before the cutting which may be painful to the animal.

Current issues in kosher slaughter from an animal welfare point of view may include the issue of slaughter without stunning, which is also an issue for halal slaughter. The current evidence is that when done right, as Dr Grandin emphasises, it results in a rapid loss of blood and a short time to unconsciousness and subsequent insensibility (3).

Other issues focus on the use of specific procedures for kosher slaughter. Many of these are an outcome of modern scientific and regulatory concerns; that is the prohibition of killing an animal on the ground. Given the equipment found in most slaughterhouses, this led to the hanging of large, unstunned animals while still alive by one or both legs. This is far from ideal and plants need to be strongly encouraged to move to more appropriate slaughter equipment when killing animals without stunning.

A recent undercover video suggested that, following the religious slaughter, further cuts were being made on the animals in one slaughterhouse prior to the animal actually becoming unconscious. In such cases, the animals may also be released from the restraining box too soon. These are practices that need to be dealt with both by the religious authorities and by the secular regulatory agencies to ensure proper animal welfare. A more detailed discussion on these issues is beyond the scope of this paper, but a number of these issues need further investigation and lower cost equipment to assist in optimising religious slaughter needs to be designed and then used by the slaughter industry for both kosher and halal slaughter (4).

Halal policies and practices

Muslim animal handling and welfare guidelines date back to the seventh century of the Common Era.

There are comprehensive rules for treating animals for both food animals and those for other uses. Traditional methods of slaughter are still practiced by Muslims around the

world, especially in Muslim-dominant regions. Commercial slaughterhouses often compromise their animal welfare requirements with the pretext of being exempt from the secular humane slaughter laws. Yet, God, the Creator of human beings and animals, has made animals subservient to us, but has also commanded us to treat them properly. We depend on animals for the food we eat and the milk we drink.

And the cattle, He has created them for you. You have in them warm clothing and (other) advantages, and of them you eat and therein is beauty for you, when you drive them back (home) and when you send them out (to pasture). And they carry your heavy loads to regions which you could not reach but with great distress to ourselves. Surely your Lord is Compassionate, Merciful. And (He made) horses and mules and asses that you might ride upon them and as an ornament. And He creates what you know not (5).

Treatment of animals in Islam

Fourteen hundred years ago, long before the modern animal rights movement began with the 1975 publication of Peter Singer's book, *Animal Liberation*, Islam required kindness to animals and cruelty to them was a sufficient reason for a person to be thrown into the fire of Hell!

Once, Prophet Muhammad told his companions the story of a man who got thirsty, went to a well and quenched his thirst. He noticed a dog panting out of extreme thirst. The man went back to the well and fetched some water for the dog. God rewarded this man. The companions asked: *O Prophet of God, do we get rewarded on humane treatment of animals?* He said: *There is a reward in (doing good to) every living being.*

On another occasion, Prophet Muhammad, described God's punishment of a woman who was sent to Hell because she kept her cat locked up, neither feeding it nor setting it free to feed itself.

Animal welfare requirements in Islam

- Islam requires that pets and farm animals be provided food, water and shelter.

- An animal should not be beaten or tortured.
- Animals and birds should not be used as shooting targets (except when hunting for food).
- Do not separate nestling birds from their mothers.
- It is forbidden to mutilate an animal by cutting its ears, tail or other parts without reason.
- A sick animal should be treated properly.

Methods of slaughtering in Islam

Animal slaughtering in Islam as part of the body of law leading to lawful (halal) food is a well-defined process incorporating many animal care and welfare considerations. The requirements for halal slaughtering include:

- animals must be of a halal species (i.e. essentially herbivorous mammals and non-hunting birds),
- animals must be slaughtered by a sane adult (post-puberty) Muslim,
- a very sharp knife must be used; however, the exact nature of such a knife is not specified and work to develop better knives may be beneficial,
- God's name must be invoked at the time of slaughter,
- the front of the neck must be cut to sever at least three passages: that is carotids, jugulars and trachea but not the spine,
- the blood must be permitted to flow freely to maximise removal from the carcass,
- no further action on the carcass is permitted until the animal is dead,
- ideally, the animals head should be facing Mecca,
- the knife may not be sharpened in front of the animal being slaughtered or any other animal,
- an animal should not be positioned so that it can see the slaughter of another animal.

The Muslim community is split with respect to the issue of pre-slaughter stunning. Some authorities permit a mild electrical stun,

which renders the animal unconscious long enough for the slaughter cut to be made. However, the stun must be mild enough for it to be reversible. The animal should regain consciousness and even be able to resume eating and drinking in a relatively short period of time.

Slaughter practices in other faiths

Different ways of handling animals including their care, transport and slaughter may be practiced throughout the world. Some of the alternative methods of slaughter are mentioned here.

- The Jhatka method of slaughtering animals for food may be practiced by the Sikh community in India. It involves decapitation or the cutting off of the head with a sharp knife or sword.
- An oral cut in poultry may be practiced in China to produce poultry with a blemish-free skin.
- Spearing the ribcage by Turkana tribesmen in Kenya may be part of their cultural practices.
- Clubbing to death by Masai Tribesmen in East Africa may be a part of their cultural practices.
- goats, sheep, cattle, donkeys, camel, and chicken are the common food animals,
- animals are used for multiple traditional purposes, besides food and, in many cases, they represent a 'bank' for savings and wealth accumulation,
- animals are often walked for several miles when they are being brought to the point of sale and/or slaughter,
- various methods of slaughtering may be used by different communities,
- of the total Kenyan population, 78 % is Christian and 10 % Muslim; slaughter in the urban abattoirs is usually done by Muslims as this allows everyone to use the meat,
- slaughter with a spear through the ribcage is practiced by the Turkana and Pokot communities,
- killing by clubbing is practiced by the Samburu and Masai tribes,
- Somali Muslims and Christians both use a Muslim-type slaughter,
- the cutting of the jugular veins with a kitchen knife is practiced by the Boran and many smaller tribes,
- the most modern practices of animal slaughter occur in Nairobi, where animals are first made unconscious and then a Muslim male cuts through the jugular veins,
- blood is saved and drunk fresh by some tribes and made into food by other tribes,
- during food scarcities in the arid lands, some tribes cut into the veins of live cattle to extract blood for drink or food.

Case studies from various countries

The authors contacted many scholars from around the world and requested that they submit a paper summarising their knowledge and experience with different cultural practices in their country. Three such papers were received and are summarised here. The full papers are included as attachments to this paper. The studies are from Kenya, Bangladesh and China.

Animal welfare in Kenya

Some of the facts learned about Kenya as a representative of East Africa include:

- in Kenya, 70 % of livestock are raised free-range by communal groups like the Boran, Somali, Turkana, Samburu, Masai, Pokot, Mijikenda, and Orma,

Animal welfare study from Bangladesh

Some of the facts learned about Bangladesh as a representative of South Asia include:

- the Bangladesh paper presents a typical picture of animal handling and slaughter in India, Pakistan and other South Asian countries,
- although a Muslim majority country, animal welfare concepts are a recent concern, the author of this paper has been active in bringing these concepts to the attention of

the veterinary community and the meat industry,

- farm animals used for food include cattle, buffalo, sheep, goats and chickens,
- the majority of the cattle are slaughtered on one day of the year, namely at Eidul Azha (the Feast of the Sacrifice), where each adult Muslim is expected to slaughter an animal to commemorate Prophet Ibrahim's (Abraham's) almost sacrifice of his first-born son Ishmael,
- Bangladesh has a large number of slaughterhouses that are owned by local municipalities, which are then operated by contractors,
- slaughterhouses are usually just a slab-type facility; there is a concrete floor on which the animals are slaughtered and contractors charge a fee per animal, so many butchers slaughter their animals away from the slaughterhouses, which leads to even poorer conditions at the time of slaughter,
- these contractors are economically motivated and do not pay attention to animal welfare,
- the most modern slaughterhouses in Bangladesh are in Dhaka, the capital, although even those facilities lack basic sanitation needs,
- the workers attitude towards the animals is quite negative in most cases,
- animals are walked, sometimes long distances, to the slaughterhouse and held (often without feed and water) until early morning when the slaughter starts; the animals rarely get any rest while in transit,
- cattle are cast with a rope, usually many animals are cast at one time and then left cast for up to two hours before their turn to be slaughtered,
- the knives that are used for slaughter are often very dull: hacking and sawing is very common,
- some animals are stabbed in the neck several times before the butcher hits the right spot for bleeding.

The animals show clear signs of struggle and stress during the casting and slaughter process. Some of these poor casting and slaughtering practices are shown in Figures 3–7. In the light of such practices, one wonders what happened to the traditional Muslim religious values while animals are being slaughtered in Bangladesh especially in the light of the following Islamic prohibitions.

It is prohibited to:

- slaughter an animal using a blunt knife,
- sharpen a knife while the animal is on the kill floor,
- drag the animal to the place of slaughter,
- skin a slaughtered animal before it is dead,
- slaughter an animal in front of another animal,
- completely separate the head from the body during slaughter,
- break the neck of the animal immediately after slaughter and before it is dead,
- slaughter without cutting all of the four passages (trachea, esophagus, jugular veins and carotid arteries).

A low-cost solution to slaughtering small animals humanely including the special needs of halal and kosher slaughter

For use in low volume slaughterhouses, a process and appropriate restraining equipment has been developed in the United States as described in Figures 8–10. The current equipment is designed for use on small animals. Similar equipment can be purchased locally. The equipment is meant to ship easily and be easy to assemble. Modifications of this equipment for larger animals are being developed.

Animal welfare study from China

The paper about animal welfare in China was primarily focused on the handling and slaughter of pigs. Figure 11 shows a small backyard farm in China and Figures 12–15 show traditional methods of pig transport in China. Salient points include:

- China is the world's largest producer and consumer of pork, accounting for 50 % of all pork produced globally,
- more than 60 % of the meat produced in China is pork,
- in 2006, pork production was 52 million metric tonnes,
- farm size varies greatly from < 9 to > 50 000 animals on one farm as seen in the following table:

Farm Size	No of Farms	% (2003) of total animals
1-9	101 964 000	94.4
10-49	4 815 000	4.5
50-2 999	1 134 000	1.1
3 000-50 000	+ 4 000	< 0.1

- most of the very small farms are backyard herds with only 2-3 pigs,
- small farms (< 50 pigs) account for 70 % of China's pigs,
- farming practices are actually quite organised, with backyard animals being treated like family,
- some of the animal welfare issues with pig farms include:
 - proper tooth clipping,
 - proper tail docking,
 - proper castration,
 - and the use of sow tying in gestation stalls,
- slaughter without stunning is the traditional way to kill pigs, detailed rules for such slaughter do not seem to exist,
- modern facilities use 80-90 % CO₂, with a gondola dip-lift type of system,
- head-only electric stunning was practiced in the mid 20th century, it caused too much PSE (pale, soft, exudative) meat and has been abandoned for the most part,
- historically, animals have played an important economic and social role in Chinese culture,
- in China, 16-21 % of the population are Buddhists: they believe that animals are sentient beings with feelings, capable of enlightenment and rebirth in the human form, hence universally related to humans,
- 10 out of the 56 recognised sub-nationalities in China are Muslim,
- these 10 sub-nationalities mainly inhabit the western regions of the country,
- pig farming is almost non-existent in the Muslim regions of China, as shown in Figure 16.

Observations and conclusions

- There may be major disconnects between the religious tenets of the faith of the people of an area and their actual cultural practices, especially when it comes to slaughter.
- Conventional practices are mostly guided by economic considerations.
- Food safety as well as animal welfare is important concerns that need to be addressed in less developed countries.
- Views about what constitutes good animal welfare and how important it is as a consideration will differ among various groups.
- The most rapid progress on improving animal welfare around the world will take into account religious and cultural practices and will be respectful of them.

Recommendations

- Make animal welfare guidelines truly science-based.
- Be sensitive to cultural and religious factors.
- Take into consideration the economic factors that exist in developing countries.
- Work with individual member countries to identify animal welfare issues and help them resolve them consistent with cultural expectations.
- Require member countries to enact and enforce culturally appropriate animal welfare regulations.

- It seems that the use of shackling and hoisting of an unstunned animal does not seem to be required by any religious laws and efforts to eliminate this practice should be addressed immediately.
- The use of animals for fighting purposes, for example bullfighting and cockfighting, is inconsistent with the tenet of all religions to the best of our knowledge, and the OIE should include the prohibition of these activities into its animal welfare guidelines.

Acknowledgments

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Teaching of animal welfare in the faculties of veterinary sciences in Chile

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Keywords: animal welfare, teaching, Chile, Latin America

Animal welfare is a recent topic in Latin American countries and is considered to be an important issue due to its implications for animal health and management, international trade, industry costs and consumer perceptions. Of the Latin American countries, only Colombia, Mexico, Paraguay, and Uruguay have based their legislation on the OIE animal welfare standards.

In Latin America, animal welfare has been mainly addressed by universities and non-governmental organisations (NGOs). However, veterinarians should be the main promoters of animal welfare. To achieve this, veterinarians need formal training to achieve competencies in ethics, ethology, research, and legislation. In Chile, only recently has animal welfare been incorporated into the veterinary medical curriculum. At the governmental level, animal welfare has been promoted through the implementation of bilateral trade agreements.

The lack of professors with specialised knowledge is an important limiting factor in the teaching of animal welfare. Specialised training of teachers in animal welfare is essential when aiming to satisfy students' needs and to encourage them to study the subject in depth, apply it to their professional practice, or to become involved in relevant research. There are differences between the schools of veterinary medicine with regard to animal welfare course content with some emphasising ethics

and ethology and others focusing on pets, wild or captive animals, or production animals. In Chile, relatively few schools have regularly offered courses on animal welfare in the last five years.

For animal welfare teaching to be sustainable, relevant research programmes need to be associated with programmes. This provides an opportunity for students to study practical examples and solutions to problems at local or national level. It is particularly important to encourage research into key aspects, such as the effect of certain practices in causing physiological and behavioural changes, pain, fear, etc. It may be necessary to seek financial support for animal welfare research activities from both the private and public sector.

In addition to basic training in animal welfare for undergraduates, the veterinary medicine curriculum should offer, on an optional basis, advanced courses at postgraduate level. As with undergraduate courses, the content should be standardised and associated with relevant animal welfare research programmes. Finally, it is important that countries adopt and implement legislation that progressively promotes animal welfare, as appropriate to the cultural and economic circumstances of each country, to provide a basis for trained veterinarians and other professionals to achieve sustainable improvements in animal welfare in their countries.

Enseignement du bien-être animal dans les facultés de sciences vétérinaires au Chili

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Mots-clés: bien-être animal, enseignement, Chili, Amérique latine

Le bien-être des animaux (BEA) est une question apparue récemment dans les pays d'Amérique latine et aujourd'hui considérée comme importante de par ses implications pour la santé animale ainsi que pour la gestion, le commerce international, les coûts de l'industrie et les perceptions des consommateurs. Parmi les pays d'Amérique latine, seuls le Mexique, le Paraguay, l'Uruguay et la Colombie ont fondé leur législation sur les normes de l'OIE en la matière.

En Amérique latine, la question du BEA est surtout traitée par les universités et par les organisations non gouvernementales (ONG). Cependant, les vétérinaires devraient être les principaux promoteurs du BEA. À cet effet, ils ont besoin d'une formation théorique pour acquérir une compétence en éthique, éthologie, recherche et questions juridiques. Au Chili, depuis cinq ans, le BEA est inclus dans le cursus de médecine vétérinaire. Au niveau des pouvoirs publics, le BEA est favorisé par l'application d'accords de commerce bilatéraux.

Le manque de professeurs compétents dans ce domaine limite fortement l'enseignement du BEA. Il est essentiel que les intervenants aient une formation spécialisée en BEA si l'on veut répondre aux besoins des étudiants et les encourager à étudier le sujet en profondeur, à l'appliquer à leur pratique professionnelle ou à se lancer dans des recherches sur la question. Il existe des différences entre les diverses écoles vétérinaires quant au contenu du cours de BEA, certaines mettant l'accent sur l'éthique et l'éthologie, d'autres s'occupant prioritairement des animaux de compa-

gnie, de la faune sauvage ou du cheptel de production. Au Chili, relativement peu d'écoles ont proposé des cours de BEA de façon régulière durant les cinq dernières années.

Pour que l'enseignement du BEA soit durable, il convient d'associer aux curriculums des programmes de recherches sur le sujet. On donne ainsi aux étudiants l'occasion d'étudier des exemples et des solutions pratiques pour des problèmes qui se posent au niveau local ou national. Il est particulièrement important d'encourager les travaux portant sur des aspects clés, tels que l'effet de certaines façons de faire qui peuvent provoquer des changements physiologiques et de comportement, la douleur, la crainte, etc. Il peut être nécessaire d'explorer auprès du secteur privé comme des organismes publics les possibilités de soutien financier aux activités de recherche en BEA.

Outre un enseignement de base en BEA pour les étudiants, le curriculum de médecine vétérinaire devrait offrir, sur une base facultative, une formation continue après le diplôme. Tout comme pour le cursus fondamental, sa teneur devrait être normalisée et associée à des programmes de recherche spécialisés en BEA. Enfin, il est important que les divers pays adoptent et appliquent une législation qui favorise progressivement le BEA, en fonction des facteurs culturels et économiques locaux, afin de donner aux vétérinaires diplômés et aux autres professionnels la possibilité d'obtenir des améliorations durables du BEA dans leurs pays respectifs.

Enseñanza del bienestar animal en las facultades de ciencias veterinarias de Chile

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Palabras clave: bienestar animal, enseñanza, Chile, América Latina

Aunque el bienestar animal es un tema reciente en los países de América Latina, se trata de una preocupación de gran importancia debido a sus repercusiones en la sanidad y la crianza de animales, el comercio internacional, los costos industriales y la percepción de los consumidores. México, Paraguay, Uruguay y Colombia son los únicos países latinoamericanos que han incluido las normas de bienestar animal de la OIE en su reglamentación.

El bienestar animal en América Latina ha sido tratado principalmente por universidades y organizaciones no gubernamentales (ONG). Sin embargo, los veterinarios deberían ser los principales promotores del bienestar animal, pero para hacerlo es necesario impartir una formación oficial que incluya asignaturas como ética, etología, investigación y legislación. En el caso de Chile, el currículum de medicina veterinaria incluye desde hace muy poco tiempo el bienestar animal. El gobierno, por su parte, lo ha fomentado a través de la implementación de acuerdos comerciales bilaterales.

Actualmente, no se cuenta con un número suficiente de profesores cualificados para la enseñanza del bienestar animal. Por esta razón, es necesario impartir a los profesores la formación especializada sobre el bienestar animal con el fin de satisfacer las necesidades de los estudiantes y despertar su interés para que lo estudien en detalle y lo apliquen cuando ejerzan la medicina veterinaria o incluso participen en investigaciones sobre el tema. Existen diferentes enfoques con respecto al contenido

de los cursos de bienestar animal; algunas facultades se concentran en la ética y la etología, y otras en las mascotas, los animales salvajes o en cautiverio, o la producción de animales. Durante los últimos cinco años, relativamente pocas facultades han impartido cursos sobre bienestar animal en Chile.

Para que la enseñanza del bienestar animal sea durable, las facultades deben asociarla a programas de investigación, para que los estudiantes tengan la oportunidad de estudiar experiencias prácticas, así como soluciones a problemas a nivel nacional y local. La investigación sobre algunos aspectos clave, como el impacto de algunas prácticas que ocasionan cambios fisiológicos o comportamentales, dolor, temor, etc. es crucial. Puede ser necesario solicitar el apoyo financiero del sector público y del sector privado con el fin de fomentar la investigación sobre el bienestar animal.

Además de la enseñanza básica del bienestar animal para los estudiantes de pregrado, el currículum veterinario debe ofrecer cursos opcionales para estudiantes de posgrado. El contenido de estos cursos debe ser normalizado y asociado a programas de investigación sobre bienestar animal, al igual que el de los cursos de pregrado. Por último, es esencial que los países adopten e implementen una reglamentación que promueva progresivamente el bienestar animal en función de su contexto económico y cultural, para que los veterinarios y otros profesionales cualificados dispongan de bases sólidas para mejorarlo de forma duradera.

Animal welfare education in schools of veterinary medicine in Chile and Latin America

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Keywords: education, animal welfare, Latin America

Introduction

Animal welfare emerged as a scientific discipline in the 1980s and since then has developed rapidly (1). Animal welfare is a recent concern in Latin American countries. A survey conducted by the OIE (2) revealed that few countries have animal welfare legislation and, where it does exist, it refers to production animals and, to a lesser extent, wildlife or zoo animals. In response to the survey, four countries (Colombia, Mexico, Paraguay, and Uruguay) stated that they based their legislation on OIE standards. In Chile, the government and a number of universities are promoting animal welfare from the regulatory standpoint, as well as in the education and training of professionals competent in animal welfare. As animal welfare is expected to be an increasingly important issue in developing countries, courses need to be introduced into the training curricula for veterinary medicine degrees to train veterinarians to rise to the challenges of a society concerned that animals should be treated humanely. In the countries surveyed (2), animal welfare is important in terms of its impact on animal health, humane handling of animals, foreign trade, losses for industry and consumer perceptions. Other issues about which communities are sensitive are stray dog control, the use of animals for work (horses) and the slaughter of animals during disease outbreaks.

Reflections on animal welfare education in some schools of veterinary medicine

Although the animal welfare issue has been addressed by universities and non-governmental organisations (such as animal protec-

tion societies), doctors of veterinary medicine ought to play the leading role in promoting animal welfare aspects in the various spheres in which they perform their professional duties. To do so, doctors of veterinary medicine must receive formal instruction by means of course subjects designed to provide them with core skills in animal welfare-related aspects of ethics, aetiology, research, and legislation, enabling them to subsequently apply these skills to other subjects or in their professional activities. In a survey of schools of veterinary medicine in Latin America, of the 22 schools that participated in the survey, 15 had animal welfare-related courses. In 11 of these schools, the courses were compulsory. Five schools had more than one course and 10 had only one. Most of these courses are taught in the second and fourth year of the degree, and some in the fifth year (3).

In Chile, animal welfare has come to figure as a subject in the curricula of schools of veterinary medicine especially in the last 10 years, mainly as a result of a number of professionals receiving training in this area and contacts between academics and groups specialising in animal welfare, especially in the United Kingdom. In Chile, other factors that have prompted government action to promote the development of animal welfare issues among livestock producers include free trade agreements, of which the welfare of production animals has been an integral part. Despite this, it has still not been possible to introduce animal welfare as a compulsory subject in the curricula of all university faculties of veterinary science.

One constraint on animal welfare education is the lack of professors with formal training. Even though some academics have attended

short courses, such as those held by the World Society for the Protection of Animals (WSPA) in conjunction with the University of Bristol in the United Kingdom (Concepts in Animal Welfare), this cannot be equated to in-service training or postgraduate training to qualify these academics to train other professionals in animal welfare or to develop lines of research. In-service training of teachers of animal welfare is essential to designing a course subject that meets the requirements of students and spurs them on to study the subject of animal welfare in greater depth, allowing them to subsequently apply what they have learned to their professional practice or research. The subjects should include ethical, scientific and legal aspects of animal welfare.

What is more, there is no agreement on which topics animal welfare courses should cover and in what depth, which explains the wide diversity among schools of veterinary medicine. Some schools emphasise the aspects of ethics and aetiology, whereas others focus on the welfare of pets, wildlife or animals in captivity, and yet others on production animals. In the survey mentioned earlier, 15 schools focused on the ethical aspects of animal welfare in their courses, 11 on scientific aspects and nine on legislation aspects (3). As animal welfare courses require knowledge of physiology, animal behaviour and basic functions of the immune system and the brain (1), the latter subjects must be taught prior to the animal welfare course or else the material must be incorporated into the animal welfare course. The same author (1) believes that the ethics component of any animal welfare course is better taught by means of directed reading of basic philosophical concepts accompanied by copious discussion of examples based on real-life situations. The most important part of the course should be the section on the scientific assessment of animal welfare (1).

In courses in Latin America (3), the emphasis is placed on the various topics associated with farm animals (10 schools), companion animals (8), wildlife (5), working animals (4), zoo animals (4) and laboratory animals (3). It is striking that greater emphasis is not placed on laboratory animals, which might be assumed to be of greater interest because of

possible ill-treatment or killing of laboratory animals. In most schools, the subject of analysis is farm animals, perhaps owing to the centre of interest of professors and with the training of doctors of veterinary medicine in Latin America, who tend to work mainly in the animal production field. Another explanation might be the role of farm animals in the food export industry, on which developed countries impose quality and animal welfare standards similar to those in their own countries.

Most of the schools that answered the questionnaire (19) said that the issue of animal welfare is important in their countries. Of the three that considered that animal welfare to be unimportant, one stated that it was important only in academic circles (3). It should be explained that interest in animal welfare is first aroused in academic circles, then gains acceptance at government level and later spills over into the commercial and legislative spheres. At least this is the case in Chile, where the government has helped to institutionalise the animal welfare issue. In 2004, the 'Seminar on the institutionalisation of animal welfare: a requirement for its regulatory, scientific and productive development' was held jointly by the Ministry of Agriculture, the European Commission, the industrial sector, the academic sector and the Veterinary Medicine College of Chile (COLMEVET) (4).

A major problem to be taken into consideration is the excessive number of schools of veterinary medicine on the continent. An interesting case is Brazil which, together with Argentina, pioneered the introduction of animal welfare education into veterinary curricula (1). Brazil has 160 schools of veterinary medicine. According to information received from 142 of these schools, 22 % offer separate courses on animal welfare and 35 % teach the subject as part of other courses (5).

In Chile, most faculties of veterinary science offer animal welfare-related subjects. However, only a few of them have taught these subjects on a regular basis for at least five years and some faculties have not yet started to teach the subject.

It is important for lines of research to be implemented together with animal welfare

education, in order to support the aspects taught subsequently as part of the curricula. This enables students to discuss concrete examples developed to resolve problems of local or national interest and to use the results to discover how some practices affect the welfare of animals, whether they be companion animals, wildlife or production animals, by causing physiological alterations, behavioural changes, pain, fear, etc. It is necessary to raise awareness of the need for funding from governments or the private sector for these lines of research, which may at first seem unlike the research normally conducted in universities. According to recent information (3), only seven of the 22 schools of veterinary medicine (32 %) had postgraduate programmes, most of them master's degrees. In fact, it is not necessary to have a postgraduate programme specifically on animal welfare in order to train postgraduate students in the matter. There could also be master's or doctoral theses on animal welfare. For instance, in Chile's Southern University (Universidad Austral de Chile), the general curricula of master's and doctoral programmes have included theses analysing the animal welfare situation of various species (horses, fish or cattle).

The most frequent research subjects are again farm animals, humane slaughter and the transport of animals, followed by wildlife, stray animals and working animals (3). In a sense, this reflects the particular concerns of academics, which they later carry over to undergraduate teaching. In all likelihood, they are concerns that academics believe to be of local or national interest.

Among the most important academic constraints on the faster development of animal welfare education is the lack of professors trained in animal welfare, together with curriculum overload. As Latin American veterinarians have to learn not only the medical aspects but also the animal production aspects of the profession, in many cases it is impossible to add new subjects to the curricula. In terms of research, there is a chronic lack of resources for supporting research in Latin American countries and, in some countries, animal welfare is seen as a fleeting concern, rather than as an important research subject. For this reason, it is very useful to introduce basic research on the

mechanisms causing the physiological and behavioural changes observed in animals when their welfare is threatened. Lastly, lack of resources for research has resulted in a paucity of postgraduate curricula that include animal welfare as a thesis subject.

The constraints that exist in Latin America against involving the community in developing the animal welfare issue include a number of cultural constraints associated with local traditions involving the use of animals. Some such cultural traditions, such as rodeos, bullfighting, cockfighting or ritual sacrifice, undermine animal welfare by causing pain, distress, or even death. Indeed, animal welfare is easier to discuss in developed countries, where the human population has already satisfied its basic needs. By contrast, in some Latin American countries, a large section of the human population still lives below the poverty line. Even though some authors stress that this is no valid excuse for failing to develop the issue of animal welfare, it does serve to slow down its development.

Legislation in Latin American countries tends not to consider animal welfare-related aspects in detail. This leads to a discrepancy between what is taught to students of veterinary medicine and the legislative reality that supports and assists in enforcing the requirements which veterinary professionals and animal owners must comply with. Examples are responsible pet ownership and the use of horses or other animals as draught or transport animals. In Chile, the Animal Protection Bill (Ley de Protección Animal) tabled in the 1990s and supported by the Veterinary Medicine College of Chile, has still not been approved by congress and there appears to be no political will to do so.

In addition, consumers, at least in Chile, have only a vague idea of what animal welfare actually is. Supermarket surveys indicate that consumers are unclear what animal welfare means and, even though they claim it is important, when questioned, they say they would be unwilling to pay more for a product that meets animal welfare requirements (6). Lastly, livestock producers and manufacturers are somewhat wary about the implications of animal welfare, as they associate animal welfare with radical groups of animal rights activists.

Conclusions

It is considered important to include a compulsory subject covering basic animal welfare aspects in the training curriculum of doctors of veterinary medicine. In addition, advanced course subjects could be offered on an optional basis, or at postgraduate level, for students wishing to study animal welfare in greater depth. An effort should be made, in line with the specific characteristics of each country, to harmonise the topics to be taught in these course subjects, to train teachers in animal welfare issues, to promote research in the various animal welfare-related disciplines and, lastly, to use faculties and vocational colleges to promote the development of legislation to gradually introduce animal welfare provisions, in line with each country's development level and cultural heritage.

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Implementation of distance-learning programmes on animal welfare

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Keywords: eLearning, animal welfare, training

The international organisations such as the World Organisation for Animal Health (OIE), the Food and Agriculture Organisation (FAO) and the European Commission (EC), consistently promote the adoption of science-based approaches to enhancing animal welfare. Training programmes that are characterised by accessible and quality content, relevance to stakeholders and beneficiaries, and flexibility, are crucial to improve animal welfare standards worldwide. The new information and computing technologies offer a real opportunity to promote animal welfare around the world, guaranteeing affordable access to training by veterinarians and other professionals involved in animal welfare. The impact of such training programmes, commonly called eLearning, is influenced by the assessment of learning needs, accessibility to technologies in the beneficiary countries, and the choices of methodology for the courses.

Different eLearning methodologies and environments applicable to training in animal welfare were considered with reference to course development and production, management of delivery, learning outcomes and cost. The use of virtual communities to enhance collaborative learning and their benefits and limits were evaluated to provide guidance and an understanding of the resources needed to access affordable training over relatively short timescales. The application of animal welfare standards during transport and at stunning and slaughter were used as examples to assess the effectiveness of different eLearning approaches. The two case studies, based on the training of public sector veterinarians in scientific principles and in the application of animal welfare norms, were conducted in the environment of self-directed learning and used widely available web tools. The impact of the adopted

strategies on learning processes and outcomes will be assessed through questionnaires and personal interviews.

Animal welfare training programmes are not yet generally available, since products are still being tested. However, eLearning courses produced by Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale", which is an OIE Collaborating Centre for veterinary training, epidemiology, food safety and animal welfare, are accessible through its learning environment (<http://www.fad.izs.it/exact>). User identification and passwords for accessing test exercises on animal welfare can be requested via e-mail (adminfad@izs.it). The production and delivery costs vary according to the different methodologies adopted. Blended methodology, which combines the study of specifically produced learning materials with collaborative learning and tutor support is the most effective but is the most expensive in terms of production and delivery. Self-learning products that are based on studies of existing literature and legislation presented as specific assignments carried out individually may be produced and delivered at lower cost. However, in the context of lifelong education programmes for professionals, they may result less effective in terms of learning outcomes.

Access to information and computing technologies and the costs associated with the production of high quality courses strongly influence the choice of learning strategies and appropriate solutions. Budget constraints and technological limits can be overcome if needs are foreseen in advance and appropriate planning undertaken.

International organisations should explore the use of technology to provide readily accessible training for a range of stakeholders

on welfare topics. The benefits are manifold and are distributed across all stakeholders. The international organisations are encouraged to support these developments by making their expertise available and providing

resources in the form of documentation, video and image resources, case studies and assignments. The use of a common web portal including all the resources available is strongly advised.

Mise en œuvre de programmes d'enseignement à distance sur le bien-être animal

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Mots-clés: téléenseignement, bien-être animal, formation

Les organisations internationales telles que l'Organisation mondiale de la santé animale, l'Organisation des Nations unies pour l'alimentation et l'agriculture et la Commission européenne cherchent constamment à favoriser l'adoption d'approches scientifiquement fondées pour améliorer le bien-être des animaux. Il est crucial de disposer de programmes de formation qui soient caractérisés par des contenus accessibles et de qualité ainsi que par une pertinence pour les intervenants et les bénéficiaires si l'on veut améliorer les normes en la matière à l'échelle mondiale. Les nouvelles technologies de l'information et de la communication offrent une réelle possibilité de promouvoir le bien-être animal dans le monde entier, car elles garantissent aux bénéficiaires un accès abordable à la formation. Leur impact est fonction de l'évaluation des besoins correspondants, de ce que l'on sait de l'état d'accessibilité des technologies dans les pays bénéficiaires, et des choix méthodologiques adoptés pour la réalisation des cours.

Différents environnements et méthodologies d'apprentissage à distance applicables à la formation au bien-être animal ont été envisagés en considérant leur impact sur l'élaboration et la réalisation des cours, l'organisation de leur distribution, les résultats obtenus et les coûts. Des communautés virtuelles ont été créées pour faciliter l'apprentissage de groupe et leurs avantages et leurs limites ont été évalués dans le but de donner des conseils et des ressources afin de faciliter l'accès à une formation abordable dans des périodes relativement courtes. L'application de normes de bien-être animal au cours du transport ainsi que lorsque les animaux sont assommés ou lors de leur abattage a servi d'exemples pour évaluer l'efficacité de différentes méthodes de téléenseignement. Les

deux études de cas, concernant la formation de vétérinaires du service public sur les principes scientifiques et sur l'application des normes de bien-être animal, ont été menées dans un environnement d'autoapprentissage en utilisant les outils internet largement répandus. Une étude d'impact des stratégies adoptées sur les processus d'apprentissage et les résultats sera réalisée au moyen de questionnaires et d'entretiens personnels.

On ne dispose pas encore de programmes de formation au bien-être animal, car divers éléments font encore l'objet de tests. Des cours de téléenseignement produits par l'Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale", centre collaborateur de l'OIE pour la formation des vétérinaires, l'épidémiologie, la sécurité alimentaire et le bien-être animal, sont accessibles grâce à son environnement d'apprentissage (<http://www.fad.izs.it/exact>), tandis que l'identifiant et le mot de passe donnant accès aux exercices sur le bien-être animal peuvent être demandés à l'adresse suivante: (adminfad@izs.it). Les coûts de production et de diffusion varient selon les différentes méthodologies adoptées: les méthodologies mixtes qui associent l'étude de matériaux d'enseignement élaborés à cet effet à un apprentissage de groupe et au soutien d'un moniteur sont les plus efficaces mais aussi les plus coûteuses, tant pour leur production que pour leur diffusion. Les matériels d'autoenseignement basés sur l'étude de la documentation existante et les textes législatifs, associés à des devoirs spécifiques qui sont faits individuellement, peuvent être réalisés à moindre coût. Mais, dans le cadre de programmes de formation professionnelle continue destinés à des professionnels, ils peuvent se révéler moins efficaces quant aux résultats obtenus.

L'accès aux technologies de l'information et de la communication ainsi que l'importance des coûts à prévoir pour la production de cours de qualité ont une grande influence sur le choix des stratégies d'apprentissage et l'utilisation de solutions différentes. Il est cependant possible de surmonter les contraintes budgétaires et les limites technologiques si des mesures appropriées sont planifiées à l'avance.

Les organisations internationales doivent exploiter les techniques disponibles pour dis-

penser une formation facilement accessible à toute une série de personnes intéressées à des questions touchant le bien-être. Les avantages en sont multiples et se font sentir pour tous les participants. Ces derniers doivent être encouragés à apporter leur soutien à ces projets en faisant part de leur expérience, en fournissant des documents écrits, des vidéos et des images, des cas pratiques et des plans de discussion. L'utilisation d'un portail internet commun incluant toutes les ressources disponibles est fortement recommandée.

Puesta en práctica de programas de formación a distancia sobre bienestar animal

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Palabras clave: eLearning, bienestar animal, formación

Las organizaciones internacionales, como la Organización Mundial de Sanidad Animal (OIE), la Organización de las Naciones Unidas para la Agricultura y la Alimentación (FAO) y la Comisión Europea (CE), promueven sistemáticamente la adopción de un enfoque con bases científicas para mejorar el bienestar animal. Los programas de formación con contenido accesible y de calidad, flexibles y relacionados con todas las partes interesadas, son esenciales para mejorar las normas de bienestar animal en todo el mundo. Las nuevas tecnologías de información y comunicación permiten promover el bienestar animal en todo el mundo, garantizando a los veterinarios y otros profesionales en relación con el bienestar animal un acceso asequible a la formación. El impacto de estos programas, conocidos como «eLearning», también depende de la evaluación de las necesidades de aprendizaje, de la capacidad de acceso a las tecnologías en los países beneficiarios y del tipo de metodología que han elegido para sus cursos.

Fueron considerados diferentes entornos y métodos de eLearning aplicables a la formación en bienestar animal teniendo en cuenta el desarrollo del curso, así como la producción, la gestión de la entrega, los resultados y el costo del aprendizaje. También se estudió la utilización de comunidades virtuales que permitieran mejorar el aprendizaje colaborativo, sus ventajas y limitaciones, con el fin de brindar la orientación y la comprensión de los recursos necesarios para acceder a la formación en períodos de tiempo relativamente cortos. Para llevar a cabo la evaluación de los diferentes enfoques del eLearning, se aplicaron las normas de bienestar animal durante el transporte, el aturdimiento y el sacrificio de los animales. Se efec-

tuaron dos estudios de caso, basados en la enseñanza a los veterinarios del sector público de los principios científicos y en la aplicación de las normas de bienestar animal, en un entorno de autoformación utilizando las herramientas web disponibles. El impacto de las estrategias de aprendizaje adoptadas y sus resultados será evaluado a través de cuestionarios y entrevistas personales.

Aunque los programas de formación de bienestar animal no están disponibles para todos todavía, puesto que los productos se encuentran actualmente en etapa de prueba, los cursos eLearning del Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale", uno de los Centros colaboradores de la OIE en formación veterinaria, epidemiología, seguridad de los alimentos de origen animal y bienestar animal, están disponibles en su entorno de aprendizaje (www.fad.izs.it/exact). El nombre de usuario y la contraseña para acceder a los ejercicios sobre bienestar animal pueden solicitarse escribiendo a la dirección electrónica admin-fad@izs.it. Los costos de producción y entrega dependen de la o las metodologías que se adopten. La metodología combinada, que asocia el estudio de un tipo de material específico y el apoyo de un tutor es la más eficaz, pero también es la más costosa en términos de producción y entrega. Por su parte, el material para el autoaprendizaje, que consiste en ejercicios individuales basados en la literatura y la legislación existentes, pueden producirse y entregarse a un costo reducido. Sin embargo, sus resultados pueden ser menos satisfactorios en el caso de los programas de educación continua para profesionales.

La estrategia de aprendizaje y las soluciones adoptadas dependen en gran medida del

acceso a las tecnologías de información y comunicación y del costo relacionado con la producción de cursos de alta calidad. Con el fin de superar posibles limitaciones financieras y tecnológicas, lo mejor es prever las necesidades con anticipación y realizar una planificación apropiada.

Las organizaciones internacionales deben explorar la utilización de la tecnología con el fin de brindar una formación accesible a las

partes interesadas en los temas de bienestar animal. Esto ofrecería múltiples beneficios para todas las partes. Se invita a las organizaciones internacionales a apoyar el desarrollo de este tipo de formación poniendo a disposición su pericia y ofreciendo recursos a través de documentación, vídeos e imágenes, estudios de caso y deberes. Se recomienda utilizar un portal web común que incluya todos los recursos disponibles.

Implementation of distance-learning programmes on animal welfare

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Keywords: animal welfare, training, eLearning

Introduction

The international organisations such as the World Organisation for Animal Health, the Food and Agriculture Organisation of the United Nations, and the European Commission, consistently promote the adoption of science-based approaches to enhancing animal welfare. Training programmes that are characterised by accessible and quality contents, relevancy to stakeholders and beneficiaries, and flexibility, are crucial to improve animal welfare standards worldwide.

A wider approach to the enhancement of animal welfare standards should use the capacity building process to reinforce the leadership of official veterinarians of national competent authorities in dealing with animal welfare issues and promoting the application of standards in their countries. Capacity building often refers to assistance provided to entities which have a need to develop a certain skill or competence, or for the general upgrading of performance ability. Many international organisations have provided capacity building as a part of their programmes of technical cooperation with their member countries. More recently, capacity building is being used by governments to transform their approaches to social and environmental problems. Applied to the management of animal welfare issues, the capacity building process should lead to an enabling environment with appropriate policy and legal frameworks, institutional development, including community participation, human resources' development and the strengthening of managerial systems, and recognise that capacity building is a long-term, continuing process, in which all stakeholders participate.

In this framework, training represents a critical tool to achieve, at the same time, human resource development, the process of equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively; organisational development, the elaboration of management structures, processes and procedures, not only within organisations but also the management of relationships between the different organisations and sectors; institutional and legal framework development, making legal and regulatory changes to enable organisations, institutions and entities at all levels.

The OIE welcomes each initiative which can strengthen the implementation of its standards in member countries and has always supported training initiatives aimed at achieving this goal through residential programmes such as courses, seminars, workshops, etc.

Training, therefore, has assumed a strategic role and the aim should be to develop human resources fully aware of the importance of management based on scientifically defined animal welfare standards. Training, furthermore, is the most efficient means of assuring the development of both harmonised specialist competences and skills as well as harmonised interpretation of the legislation. Team leaders and veterinarians, moreover, require a training and evaluation programme that is explicit to the operation of the team and their defined roles. Formal training and assessment of competences are also considered necessary for animal handlers, transporters, slaughterers, etc.

At world level, then, there is a considerable need for learning quickly and effectively how to manage animal welfare and traditional

training appears to be insufficient to satisfy this demand. The new information and computing technologies (ICT), however, offer the opportunity to use new interactive methods, which obtain good results, in a relatively short time, and at affordable prices.

The availability of specific eLearning tools on animal welfare usable by distance-learners is not the only means to support the growth of a science-based international community working to increase awareness on animal welfare: collaborative learning, in fact, is the new challenge offered by good practices virtual communities. Teaching materials are not the only source of learning; learning is more enhanced if a collaborative problem-based approach is used. Through virtual communities, professionals with common backgrounds may exchange information, discuss common problems, and share their expertise thus enhancing their own learning. Informal virtual meetings managed by specific learning content management systems, remove the limits of time, distance and place usually affecting traditional meetings and allow a free exchange of resources as well as opinions, interpretations, discussions, thus supporting the capacity building process.

Multi-language virtual communities may be easily implemented only if scientists wish to share their expertise with their colleagues and if international organisations, as well as national competent authorities, enhance this web-based process.

ICT is a real opportunity to promote animal welfare around the world, guaranteeing affordable access to training by the final beneficiaries. The impact is influenced by the assessment of learning needs, the knowledge of accessibility to technologies in the beneficiary countries, and the methodological choices adopted for the course implementation.

Materials and methods

Different eLearning methodologies and environments applicable to training in animal welfare were considered with reference to their impact on course development and production, delivery management, learning outcomes and costs. The use of virtual communities to enhance collaborative learning and

their benefits and limits were evaluated in order to provide guidance and resources to access affordable training over relatively short timescales. The application of animal welfare standards during land transport was used as example to assess the effectiveness of different eLearning approaches.

A case study based on realistic information and data, was developed under the framework of the EU-Chile bilateral agreement on trade of animals and products of animal origin, which includes animal welfare standards as part of the agreement itself. The case study consists of an introductory issue on the welfare of cattle during land transport, the development of a case history with the description of possible scenarios, and solutions, as well as norms, regulations, standards, and scientific and web-based literature.

The application was designed as part of a wider project to provide a web-based programme on animal welfare for official veterinarians, totally developed in eLearning, using the so-called blended methodology. It foresees the implementation of tutor supported self-learning, virtual class, and collaborative learning activities, using a web learning environment.

The case starts with an introduction broadly describing the main concerns referable to animal welfare during transport, such as the weight it has in the production chain, the effectiveness of inspection procedures, the pressure of the public and the associations for the protection of animals. It also provides the student with appropriate information on the transport process, the variables affecting animals during transport, the basis for an objective assessment of animal conditions. Finally, it describes the effect of poor standards on animals and on meat quality.

Aiming to strengthen the skills of the official veterinarian in assessing the conditions of transport, the exercise also defines a procedure easily transformable into a checklist (Figure 1).

The story is based on the situation of an official veterinarian working in a Chilean slaughterhouse, regularly licensed to export bovine meat towards the EU, who receives a truckload of cattle to be slaughtered and processed

for export towards the EU. The outcomes of the pre-slaughter visit and the carcasses' conditions are described. The official veterinarian proceeds to ascertain any non-compliance with welfare standards and, ultimately, any economical losses. At this stage, students are requested to solve the problems, first of all ascertaining the relevant information and then providing appropriate solutions.

This exercise can be delivered individually, when its purpose is to assess the quality of the learning process and its efficacy, as well as when it is intended to measure the student learning outcomes. It can also be used for collaborative learning activities, with the purpose of facilitating knowledge sharing, common skills enhancing, and agreed solutions.

Results

This exercise was used as demonstration exercise during the EC SANCO training course on animal welfare during transport and related operations, organised by the Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise – OIE Collaborating Centre for veterinary training, epidemiology, food safety and animal welfare – being itself a provider of training courses to the European Commission on animal welfare issues, in the framework of the 'Better Training For Safer Food' strategy, for the years 2007–10. The case study was tested by 90 veterinary officers belonging to the national competent authorities of 44 European and non-European Countries, who attended the SANCO course on animal welfare during transport held in Teramo (Italy), 26 to 30 January 2009. Among the assessors, 91 % declared to be satisfied by the case study effectiveness (Figure 2).

Most of them experienced web-based training for the first time and they showed no difficulties in accessing the learning environment and the learning tools. This may be considered a confirmation of the accessibility of eLearning even in case of a lack of confidence with technological tools. An appropriate design is fundamental to avoid difficulties in approaching the means and to facilitate a friendly relationship with technologies.

The case study was delivered to small groups, so that collaborative learning activities were

developed in the framework of the exercise. Discussions and comparisons of the proposed and adopted solutions arose among the students, who could find common solutions to the proposed problems.

This exercise is part of a comprehensive programme on animal welfare not yet available. eLearning courses produced by the Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise are accessible through its learning environment (<http://www.fad.izs.it/exact>), while ID and passwords for accessing test exercises on animal welfare can be requested via e-mail (adminfad@izs.it).

Discussion

The difficulties in implementing a complete eLearning programme on animal welfare issues for official veterinarians are still to be overcome.

The production and delivery costs vary according to the different methodologies adopted: blended methodology which associates the study of specifically produced learning materials with collaborative learning and tutor support are the most effective but also the most expensive both in terms of production and delivery. Self-learning products based on the study of existing literature and legislation associated to specific assignments carried out individually, may be produced and delivered at lower costs but in the framework of lifelong education programmes devoted to professionals, they may result less effective in terms of learning outcomes.

Access to information and computing technologies as well as the high costs to be sustained for the production of quality courses strongly influence the choice of learning strategies and the use of the different solutions. Budget constraints and technological limits, anyway, can be overcome if appropriate actions are foreseen in advance.

Conclusions

International organisations should exploit the use of technology to provide readily accessible training for a range of stakeholders on welfare topics. The benefits are manifold and are distributed across all stakeholders who

should be encouraged to support these developments by making their expertise available, providing documental, video and image resources, case studies and discussion assignments. The use of a common web portal including all the resources available is strongly advised.

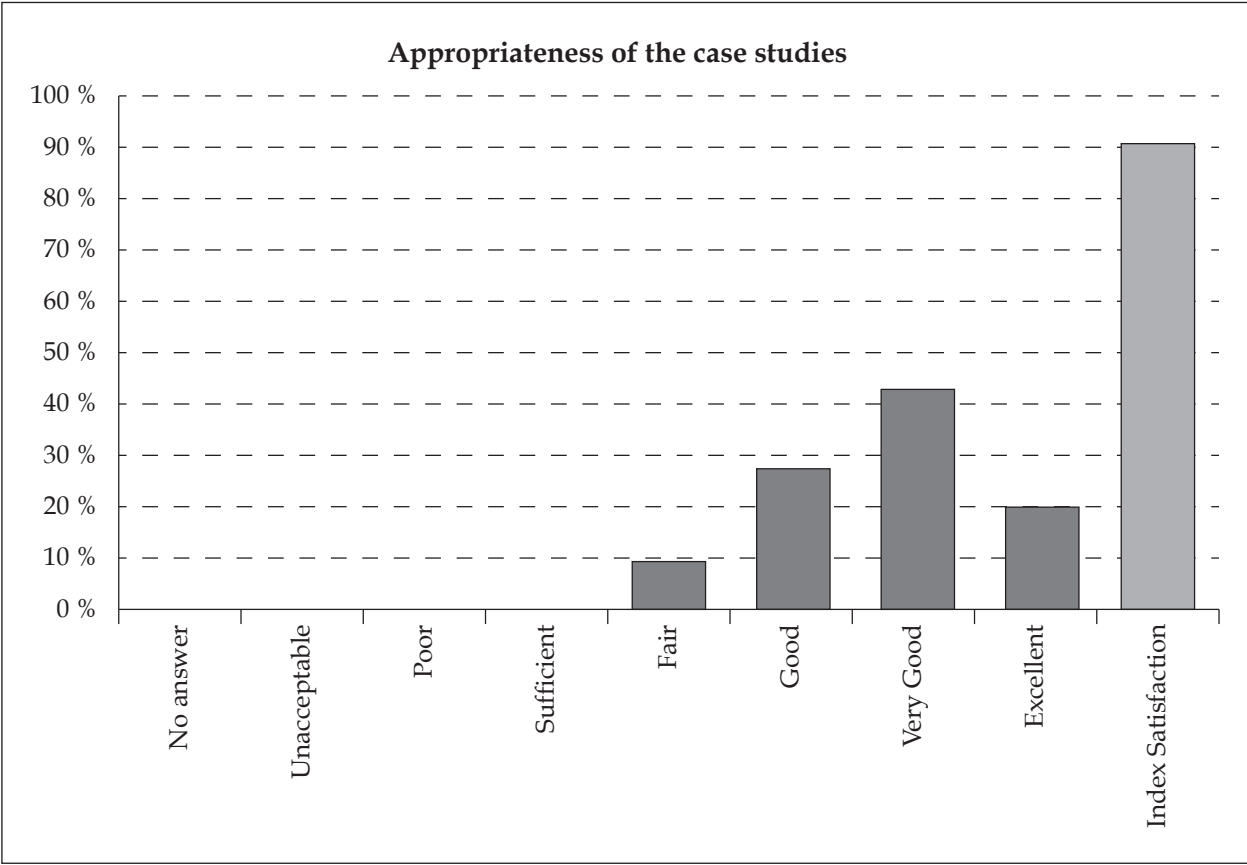
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Figure 1:
eLearning case study on animal transport



Figure 2:
Evaluation of the case study effectiveness



The veterinary profession's role in the implementation of OIE standards

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Keywords: veterinarians, animal welfare standards, animal welfare assurance, education, OIE

Veterinarians take an oath to provide for their animal patients, while ensuring that the interests of society are met through responsible animal use. Veterinarians are thereby uniquely positioned to assist in the implementation of animal welfare standards having performance goals consistent with their oath.

Effective veterinary guidance on the implementation and assurance of animal care practices begins with education. During their studies, veterinary students must be schooled in objective approaches to animal welfare assessment, be provided with information about the philosophy and content of relevant standards, and be encouraged to explore, with their mentors, practice improvements and procedural changes likely to help move animal care towards meeting the standards.

Once graduate veterinarians enter practice, they have multiple opportunities to educate animal owners, caretakers, and the public in appropriate animal care practices. Veterinari-

ans in private clinical or corporate practices often provide direct-to-owner/caretaker assistance, and focus on ensuring animal welfare by providing hands-on training and monitoring of animal care practices. Veterinarians in consulting practices or who serve on animal care advisory bodies may assist in developing written standards and corresponding assurance schemes that are consistent with the OIE standards. To date, in the United States, assurance schemes for animal welfare are primarily voluntary and market-driven. For this reason, veterinarians engaged in such activities also have a responsibility to pursue public education that can help build market support for animal welfare-friendly animal care systems. Veterinarians also can serve as highly qualified auditors for related certification programmes. Finally, veterinarians serving in public capacities may be tasked with creating and certifying OIE-responsive animal care standards to be implemented through legislative/regulatory processes.

Le rôle de la profession vétérinaire dans l'application des normes de l'OIE

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Mots-clés: vétérinaires, normes de bien-être animal, démarche d'assurance en matière de bien-être, formation, OIE

Les vétérinaires doivent prêter serment de pourvoir aux besoins des animaux qu'ils soignent, tout en s'assurant que les intérêts de la société sont pris en compte au travers d'une utilisation responsable des animaux. Les vétérinaires sont donc dans une position irremplaçable pour aider à appliquer les normes en matière de bien-être animal, en conservant des objectifs compatibles avec leur serment.

Pour que les vétérinaires puissent bien jouer leur rôle de conseil quant à l'application et aux garanties de bonnes pratiques pour ce qui est du soin aux animaux, ils doivent d'abord être formés à cet effet. Pendant leur cursus, les étudiants vétérinaires doivent recevoir un enseignement portant sur les approches par objectifs de l'évaluation du bien-être animal, être informés de la philosophie et du contenu des normes pertinentes et être encouragés à expérimenter, avec leurs enseignants, des améliorations pratiques et des modifications de procédure susceptibles de faire évoluer de façon continue les soins donnés aux animaux jusqu'à atteindre le niveau des normes.

Une fois que les vétérinaires diplômés commencent à mettre leurs connaissances en pratique, ils ont de multiples occasions de sensibiliser les propriétaires d'animaux, les personnels qui sont chargés de leur garde,

ainsi que le public, aux pratiques de soins appropriées. Les vétérinaires exerçant en clinique privée ou salariés apportent souvent une assistance directe aux propriétaires et éleveurs, et s'appliquent à assurer le bien-être des animaux en dispensant une formation sur le terrain et en s'efforçant d'influer sur les habitudes d'élevage. Qu'ils exercent pour leur propre compte ou qu'ils jouent un rôle de conseil, ils peuvent aider à élaborer des normes écrites et des démarches d'assurance qualité correspondantes compatibles avec les normes de l'OIE. À l'heure actuelle, aux États-Unis, la prise d'un régime d'assurance qualité pour le bien-être animal est principalement volontaire et soumise aux forces du marché. C'est pourquoi les vétérinaires engagés dans de telles activités doivent également approfondir l'éducation du public, afin de favoriser une évolution de la demande vers des systèmes d'élevage qui tiennent compte de cet aspect des choses. Les vétérinaires peuvent également jouer le rôle de vérificateurs hautement qualifiés pour les programmes de certification dans ce domaine. Enfin, les vétérinaires servant dans l'administration peuvent se voir chargés de créer et de certifier des normes de soins des animaux réceptives aux préoccupations de l'OIE et dont l'application relèverait de procédures législatives et réglementaires.

Rol de la profesión veterinaria en la implementación de las normas de bienestar animal de la OIE

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Palabras clave: veterinarios, normas de bienestar animal, sistemas de aseguramiento de calidad, educación, OIE

Los veterinarios juran proteger a los animales garantizando los intereses de la sociedad a través del uso responsable de animales. De este modo, ocupan una posición única para apoyar la aplicación de las normas de bienestar animal cuyas metas son coherentes con su juramento.

Las orientaciones veterinarias eficaces en cuanto a la implementación y la garantía de prácticas de cuidado animal empiezan en la educación. En el currículum, se debe instruir a los estudiantes en enfoques objetivos de evaluación de bienestar animal, brindar información sobre la filosofía y el contenido de normas pertinentes y alentarlos a explorar, con sus mentores, mejoras en las prácticas y posibles cambios en los procedimientos que puedan contribuir a que la sanidad animal sea conforme con las normas.

Una vez que se gradúan y empiezan a ejercer tienen muchas oportunidades de transmitir conocimientos a los propietarios de animales y al público acerca de las prácticas de cuidado apropiadas. Los veterinarios de clínicas privadas o de entidades a menudo brindan asis-

tencia directa al propietario/operario y se centran en garantizar el bienestar animal mediante la formación y el monitoreo de hábitos de cuidado animal. Los veterinarios que trabajan en consultoría o en instituciones de asesoría pueden ayudar a desarrollar normas escritas y sistemas de aseguramiento de calidad que estén en concordancia con las normas de la OIE. Hasta la fecha, en Estados Unidos los sistemas de aseguramiento de calidad para el bienestar animal son básicamente voluntarios y orientados hacia el mercado. Por esta razón, los veterinarios comprometidos con tales actividades también tienen la responsabilidad de proseguir una formación pública que pueda ayudar a forjar apoyo del mercado para sistemas de cuidado y de bienestar animal. Asimismo, los veterinarios pueden servir de auditores altamente calificados de programas de certificación relacionados. Finalmente, a los veterinarios al servicio de entidades públicas se les debe confiar la tarea de crear y certificar las normas válidas de cuidado animal que emanan de la OIE para implementarlas a través de procesos legislativos/reguladores.

The veterinary profession's role in the implementation of OIE standards

Veterinary implementation of standards

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In the United States, veterinarians take an oath to provide for their animal patients, while ensuring that the interests of society are met through responsible animal use:

Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health, the relief of animal suffering, the conservation of animal resources, the promotion of public health, and the advancement of medical knowledge.

I will practice my profession conscientiously, with dignity, and in keeping with the principles of veterinary medical ethics.

I accept as a lifelong obligation the continual improvement of my professional knowledge and competence (1).

Similar obligations exist and similar promises are made by veterinarians around the world. Fulfilling the oath regularly involves contact with animals, animal owners, researchers in animal care, governmental and non-governmental agencies, and the public. Veterinarians are thereby uniquely positioned to assist in both the development and implementation of animal welfare standards having performance goals consistent with their oath.

Attitudes and skill sets that assist with the development and implementation of standards

In serving both animals and society, veterinarians bring a unique skill set to the table. Firstly, most veterinarians enter the profession because of their empathy for animals and their desire to ensure they are cared for properly (2, 3). Empathy serves as a starting point in the examination of animal care and use practices. It leads to fundamental questions such as whether specific uses of animals are necessary and appropriate, and whether related animal care practices (e.g. genetic selection and manipulations, housing, handling, physical alterations) are important to facilitating that use and, if so, are being performed with due regard for the health and welfare needs of individual animals and animal populations.

Secondly, during their training, veterinarians are provided with strong science-based knowledge about animal health and husbandry, and are schooled in the technical and practical application of that information. This combined skill set helps ensure that recommended approaches to animal care practices are likely to improve animal health and welfare and can realistically be implemented.

Thirdly, direct practitioner access to animals, the environments in which they are housed, and the people who own and care for them allows for the observation of what is actually occurring and provides a mechanism whereby veterinarians can actively encourage and demonstrate appropriate animal care practices.

Finally, veterinarians have tremendous credibility and regular stakeholder contact. A 2006 Gallop poll conducted in the United States on professional honesty and ethics ranked veterinarians third among 23 types of professionals (4). Degree of credibility may vary by society, over time, and be affected by animal-related events; however, in general, veterinarians appear to be well respected. Veterinarians also interact regularly with multiple stakeholders including animal owners and caretakers, other scientists, governmental agencies (local, state/territory, national, international), non-governmental organisations, and the public. Credibility means that recommendations made by veterinarians are likely to be taken seriously. Frequent interaction with stakeholders who are critical to the implementation process leads to multiple opportunities for reinforcement of the importance of adopting and adhering to animal welfare standards. Taken together, these attributes make veterinarians valuable advocates in the development and implementation of OIE standards.

Ensuring good welfare

There is general agreement that good welfare means satisfying an animal's needs. Animal needs can be classified into physiological needs (e.g. adequate nutrition, health, suitable environment), safety needs (e.g. protection from injury, freedom from abuse, a safe environment), and psychological needs (e.g. exercise of normal behaviours; ability to engage in normal social relationships; freedom from stress, frustration, and deprivation) (5).

A person's efforts to satisfy an animal's physiological and safety needs generally results in a tangible return on investment for both the animal and the person. For example, improving access to potable water and high quality food benefits the animal by ensuring the availability of energy and nutrients for

normal physiologic processes and may result in benefits for the person by generating a higher yield of a better quality product (e.g. eggs or meat) or improving an animal's fitness for work (e.g. carriage horses, service animals). Similarly, protecting animals from disease and injury, whether by administration of preventatives (in the case of the former) or through innovations in housing and management (for both), will reduce morbidity and death (a benefit for both animal and human and important for all animal uses) and is likely to result in a product that is safer for human consumption. Return on investment is thereby an important driver for efforts to satisfy these needs.

Efforts to satisfy an animal's psychological needs, particularly those that are more complex, may result in a less obvious return on investment for the person. For example, allowing animals to perform species-typical behaviours, such as nest-building for hens and rooting for sows, helps meet psychological needs and thereby improves the welfare of the animal; however, quantifying tangible benefits for the person (e.g. improved product yield or work performed) may be more difficult. In this case, the primary driver for satisfying these animal needs is that it is ethically and morally 'right' as opposed to a solid return on investment.

These concepts have been proposed by Burkhart and are represented graphically as an 'animal welfare curve' in Figure 1 (6). Animal welfare improves as one moves along the x-axis (i.e. satisfying animal needs), whereas the y-axis represents return on investment for the person. In general, the 'moral minimum' for meeting animal needs has been described as residing at the point where tangible return on investment for the person is significantly reduced (i.e. where the slope of the curve plateaus). Accordingly, when animal care standards are established, the initial focus tends to be on meeting physiological and safety needs, and, perhaps, some basic psychological needs. In general, such standards represent minimum standards. Higher level standards are those that also incorporate appropriate attention toward satisfying an animal's more complex psychological needs. The degree to which higher standards are pursued depends

in large part on cultural attitudes and what resources are available to devote to meeting these more complex animal needs.

Readers are cautioned that the borders between physiological, safety, and psychological needs are not always as distinct as portrayed in Figure 1. There are some situations where psychological needs will be sufficiently fundamental so as to result in a tangible return on investment if they are satisfied. This should be taken into account when developing and implementing animal care standards.

Implementation in developing countries

In developing countries, improvements in animal care generally focus on first satisfying an animal's physiological and safety needs. The reason for this is twofold. Firstly, failure to satisfy physiological and safety needs results in significant animal morbidity and death, which negatively impacts both the animal and the benefits derived from the use for which it was intended. Secondly, meeting physiological and safety needs generally leads to a readily demonstrable return on investment (e.g. improved yield, improved food safety), which is an important consideration for developing countries whose need for wholesome animal products is often increasing (e.g. animal products as a critical source of protein for maintaining a growing population) and whose resources for meeting animal needs are often limited.

Sometimes developing countries may see tangible benefits from the sale of market value-added products obtained from animals raised in accord with care standards that also address more complex psychological needs (7). Niche market access can provide an important source of income and an impetus for developing countries to significantly improve their welfare standards.

In either case, tangible payback is an impetus for the adoption of animal care standards by developing countries. Efforts to implement animal welfare standards in developing countries, however, may compete with efforts directed toward other pressing concerns that similarly demand attention and resources. Examples of such concerns include ensuring

public security and resolving non-animal-related public health problems. Education of public officials, industry, and the populace as to the benefits to be derived from quality animal care is always important for the recognition of the value of implementing animal welfare standards; however, it becomes even more important in the face of competing concerns.

Implementation in developed countries

In developed countries, resources tend to be more available and more expendable and, as a result, most of the physiological and safety needs of animals used for human purposes are already likely to be being met. The emphasis in developing and implementing standards in these countries has, in many cases, moved beyond efforts to meet physiological and safety needs to addressing animals' more complex psychological needs. Examples include increased attention to enrichment for laboratory animals and those housed in zoos, communal housing and play areas for dogs and cats in shelters that better accommodate normal social interactions and permit expression of play behaviours, and deep-bedded housing for swine that accommodates foraging and nesting behaviours.

Efforts addressing animals' complex psychological needs are considered by some to be 'beyond the call of duty' (i.e. they exceed the moral minimum) and this may serve as an impediment to implementing related standards, particularly when doing so has the potential to result in negative animal health, public health, or economic consequences.

In addition, the more complex psychological needs of animals are often more difficult to identify and the degree to which they are satisfied harder to assess; therefore, developing reasonable and defensible standards that accommodate these needs can present challenges. Support of research that assists in clarifying the relative importance of psychological needs, and identifies practical strategies to address them, can help developed countries create standards that are both reasonable and defensible. Once again, the education of public officials, industry, and the populace as to the value of such standards is critical to buy-in.

Obligations of veterinarians in developing and developed countries

The obligations of veterinarians in developing and developed countries are similar – to help individuals responsible for animal care in those countries move forward along the animal welfare curve (Figure 1). Veterinarians have a moral duty to help those in developing countries ensure that at least the physiological and safety needs of animals are met (i.e. move from point A to point B) because doing so results in benefits for both animals and society. In developed countries, veterinarians have a professional obligation to use their expertise and influence to maximise the welfare of animals (i.e. begin to move from point B to point C) and to minimise any unintended consequences of efforts to meet the animal's more complex psychological needs (see related comments in the section of this paper under Veterinary science and responsibility).

Developing the effective veterinary advocate

Veterinarians wishing to be effective in developing and assisting in the implementation of animal care standards designed to improve animal well-being must first be schooled in approaches to animal welfare assessment (8). Their education must include not only information about what is assessed (e.g. measures of stress and homeostasis, health/disease status, reproductive success, production measures, aspects of normal and abnormal behaviours, animal preferences), but also about challenges that may be encountered when attempting to obtain reliable data (e.g. species idiosyncrasies, seasonal changes, costs of measurement (e.g. impact of the observer on behaviour)).

In addition to understanding scientific principles associated with animal welfare evaluations, veterinarians helping to implement specific animal care standards (e.g. the OIE standards) must be familiar with the content of those standards, the philosophical underpinnings of their development, and expectations and assurance schemes for compliance. An understanding of content is obviously important for what must be done, but an appreciation of underlying animal care and use philosophies contributes to understand-

ing why something must be done. Animal care and use philosophies are substantially impacted by cultural and social norms and an appreciation of these is helpful in rationalising why adopting particular standards may, or may not, be appropriate in a particular region or culture, or even why some societies, groups, or individuals may appear to over-emphasise certain aspects of animal welfare (e.g. physical health over behavioural health or vice versa) (9). Once the basis of the standards is understood, familiarity with expectations and assurance schemes for compliance is, of course, critical if veterinarians are to assist animal owners in meeting the standards and help governmental agencies and those in the marketplace retain public confidence that the standards have been met.

Contributions of various types of practitioners to the implementation of standards

Veterinarians in all types of practice have the opportunity and obligation to help animal owners, caretakers, handlers, and policymakers improve animal welfare.

Those in private clinical practices often provide direct-to-owner/caretaker assistance in implementing animal care standards. In addition to hands-on animal evaluations and care, they may raise awareness of animal welfare concerns, deliver training in best animal care practices and help animal owners and caretakers complete self-assessments of compliance (e.g. first-party audits).

Consulting veterinarians may contribute to the implementation of animal care standards by completing in-depth evaluations of facilities and using the results of those evaluations to recommend standard operating procedures and best practices (e.g. second-party audits). In so doing, they provide education for animal owners and caretakers as well as compliance assurance.

Some veterinary educators play a critical role in schooling future generations of veterinarians in the scientific and ethical bases behind the development and adoption of animal care standards, as well as voluntary or regulatory structures related to compliance. Others contribute to the training of paraprofessionals,

who may include members of the veterinary healthcare team in private practices, as well as other technicians and caretakers, who fulfil veterinary roles and perform veterinary tasks when the number of veterinarians available to do so is insufficient.

Veterinary researchers play a critical role in resolving welfare challenges associated with existing animal care systems and practices and proposing alternatives that may better accommodate animal needs. Basic researchers can help identify animal needs and possible approaches to meeting them in the laboratory. Applied researchers then take those proposed innovations into the field to evaluate their practical application.

Veterinarians employed in governmental and non-governmental organisations are those most likely to help individual countries, territories or regions develop and certify OIE-responsive animal care standards. Often they are assisted by multidisciplinary advisory bodies that may include veterinarians engaged in private or consulting practices. Such standards can then be embraced via market-driven (voluntary) or legislative/regulatory processes.

All veterinarians have an opportunity to provide education that can build public, market, and governmental support for welfare-friendly animal care practices. This is particularly important in developing countries and in countries where animal welfare assurance schemes are primarily voluntary and market driven. In addition, veterinarians with specific animal welfare and species expertise can serve as highly qualified, independent auditors for assurance schemes.

Veterinarians must not only work to implement existing standards, but must also contribute to ensuring continual improvement of those standards. Improvement typically comes through identification of gaps in maintaining good animal welfare and exploration of procedural changes and practice improvements that may help close those gaps. If such changes lead to demonstrable improvements in animal welfare, and are able to be practically implemented, they are likely to make their way into standards that will gain wide acceptance.

Veterinary science and responsibility

Animal welfare issues can be highly emotive and related recommendations run the risk of being driven more by attitudes than by science. Among the most important responsibilities that veterinarians have in the development and implementation of animal welfare standards is to ensure those standards are science-based and that consideration has been given to the interactions between the various components of animal care systems.

Choosing among animal care practices involves trade-offs (10). For example, extensive housing systems allow animals more freedom to engage in species-typical behaviours; however, these same systems often present more challenges when it comes to control of injury and disease. Intensive systems, although greatly facilitating control of injury and disease, often are less effective at promoting an animal's psychological health. Similarly, some standard animal management practices (e.g. dehorning cattle) may cause the animal some pain or discomfort, but also convey benefits for both animals and people (e.g. prevention of non-specific or human injury, less carcass waste).

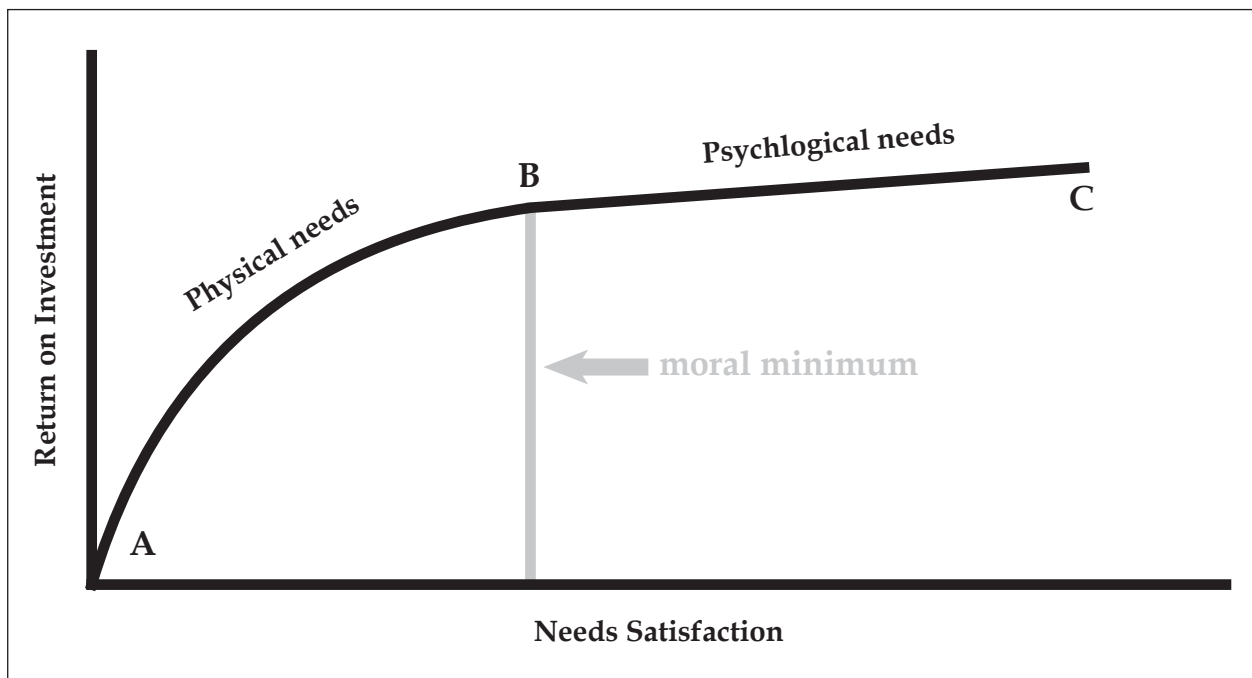
Veterinarians are well-positioned and have an inherent responsibility to mitigate negative impacts of animal care systems and practices on the animal (e.g. providing pain control when dehorning), while helping animal owners, the public and other stakeholders understand the complexity and ramifications of animal care decisions. In addition to weighing effects on the animals involved, establishing and implementing animal care standards is a balancing act involving human needs (including occupational health and safety), environmental concerns, and economics.

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Figure 1:
Animal welfare curve, adapted from Burkhardt (6)



Implementation of the OIE standards for animal transportation

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Keywords: animals, welfare, transport, standards, OIE, implementation, risk, management, plan

The OIE has provided global leadership in the development of animal welfare standards for the land and sea transportation of animals. This has raised the profile of animal transportation as an important animal welfare issue and assisted member countries to develop implementation strategies to manage risks and to meet the OIE standards.

Australia's approach to implementation involves the regulation of standards by government officials, supported by co-regulation by livestock industries through industry-based quality assurance programmes. Although Australia is a federation, the Commonwealth, State and Territory Ministers have agreed on the need for a nationally consistent approach to the development, implementation and enforcement of animal welfare standards.

Transportation of animals requires a 'whole of chain' risk management approach, with shared responsibility between livestock producers, agents, transport drivers, shipping owners and masters of ships. Livestock must be adequately prepared before transportation, be transported on well-designed vehicles or vessels by competent drivers and

receive adequate feed, water and rest at the end of the journey. There is a growing requirement for animal handlers to demonstrate competency in animal handling and transportation. Therefore, education and training is an important component.

There is also a need to promote the fact that good transportation of animals will have resultant commercial benefits to livestock producers. Non-governmental organisations and the community need to be part of the consultation process to take account of public expectations. Government administrations also need to communicate the consequences of non-compliance and to ensure that there are appropriate penalties for not meeting agreed standards.

Australia has also been working with trading partners and the OIE in the Middle East and in Asia and Oceania to assist countries to improve animal handling, transportation and welfare outcomes. The approach has been to assist with the development of regional plans and to provide technical cooperation to assist OIE Member Countries to implement the OIE Welfare Guidelines.

Application des normes de l'OIE sur le transport des animaux

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Mots-clés: animaux, bien-être, transport, normes, OIE, application, risques, gestion, plan

L'OIE a joué un rôle de pionnier à l'échelle mondiale dans l'élaboration de normes de bien-être animal en vue du transport terrestre et maritime des animaux. Cette initiative a attiré l'attention sur les problèmes du transport des animaux et aidé les pays membres à mettre au point des stratégies d'application permettant de gérer les risques et de répondre aux normes de l'OIE.

L'approche adoptée par l'Australie en cette matière comporte une réglementation sur les normes due aux pouvoirs publics, et renforcée par une coréglementation élaborée par les professionnels du bétail par le biais de programmes d'assurance qualité adoptés par l'industrie du bétail. Bien que l'Australie soit une fédération, les ministres du Commonwealth et des divers États et territoires se sont mis d'accord sur le caractère indispensable d'une méthode nationale commune visant à la mise au point, à l'application et à l'imposition de normes de bien-être animal.

Le transport des animaux nécessite une approche de la gestion des risques «tout au long de la chaîne», la responsabilité étant partagée entre les producteurs de bétail, les agents, les conducteurs, les armateurs et les commandants de navires. Le bétail doit être convenablement préparé auparavant, être ensuite transporté sur des véhicules ou navires bien conçus par des personnes compétentes, être

convenablement alimenté en fourrage et en eau et pouvoir se reposer à la fin du voyage. On demande de plus en plus aux professionnels de donner la preuve de leur aptitude à la manipulation et au transport des animaux. L'éducation et la formation constituent donc un aspect important de cet ensemble.

Il convient également de faire valoir le fait qu'un transport des animaux réalisé dans de bonnes conditions représente un avantage commercial pour les éleveurs. Les organisations non gouvernementales et la société civile doivent être intégrées dans le processus de consultation afin de tenir compte de l'attente du public. Les administrations doivent également faire une communication sur les conséquences d'une non-conformité et s'assurer que des pénalités appropriées sont mises en place en cas de violation des normes admises.

L'Australie coopère également avec ses partenaires commerciaux et l'OIE au Moyen-Orient ainsi qu'en Asie et en Océanie pour aider les divers pays à améliorer leurs résultats en matière de manipulation, de transport et de bien-être. L'approche suivie consiste à travailler à la mise au point de plans régionaux et à fournir une coopération technique pour faciliter l'application par les pays membres de l'OIE des lignes directrices de cette organisation sur le bien-être des animaux.

Implementación de las normas de la OIE sobre transporte de animales

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Palabras clave: animales, bienestar, transporte, normas, OIE, implementación, riesgo, gestión, plan

La Organización Mundial de Sanidad Animal (OIE) ha confirmado su liderazgo global en el desarrollo de normas de bienestar animal para el transporte de animales por vía terrestre y por vía marítima. Por esta razón, el transporte de animales se ha convertido en un aspecto esencial del bienestar animal y los países miembros que reciben ayudas han desarrollado estrategias de implementación que les permitan gestionar los riesgos y cumplir las normas de la OIE.

En su enfoque para llevar a cabo la implementación, Australia incluye la regulación de las normas por parte de funcionarios del gobierno, así como una corregulación por parte de las industrias pecuarias a través de programas de garantía de calidad basados en su propia actividad. A pesar de que Australia es un Estado federado, los ministros de Estado de la Commonwealth han llegado a un acuerdo sobre la necesidad de establecer un enfoque nacional coherente para el desarrollo, la implementación y la aplicación de las normas de bienestar animal.

El transporte de animales exige un enfoque global de la gestión de los riesgos, que incluya la responsabilidad compartida de productores ganaderos, funcionarios, transportistas, armadores y capitanes de barco. El ganado debe ser preparado correctamente antes del transporte,

el cual debe llevarse a cabo en embarcaciones y vehículos adaptados, bajo la responsabilidad de capitanes y conductores competentes; durante el trayecto debe recibir agua y alimento, y después del trayecto debe descansar. Cada vez se siente más la necesidad de que los operarios cuidadores de animales demuestran su aptitud para cuidar y transportar animales. La educación y la formación constituyen, por consiguiente, un elemento importante.

También es necesario recordar que las condiciones adecuadas de transporte de animales representan ventajas comerciales para los productores ganaderos. El proceso de consulta debe contar con la participación de las organizaciones no gubernamentales y la comunidad con el fin de tomar en cuenta las demandas del público. Además, las administraciones públicas deben notificar las consecuencias del incumplimiento y garantizar la aplicación de las sanciones adecuadas.

Australia ha estado trabajando con sus socios comerciales y la OIE en Oriente Medio, Asia y Oceanía con el fin de ayudar a los países a mejorar el cuidado, transporte y bienestar de los animales. Nuestro enfoque ha sido ayudar en el desarrollo de planes regionales y ofrecer cooperación técnica para ayudar a los países miembros de la OIE a implementar las normas de bienestar animal de la OIE.

Implementation of the OIE standards for animal transportation Australia's approach

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Summary

Animals have been transported within and across countries and continents for thousands of years, often as draught animals transporting humans. These movements have been associated with wars and the expansion of empires, human migration, colonial expansion, trade and selection of particular breeds for animal production. There are risks and stresses on animals associated with transportation, but these can be identified and mitigated with appropriate planning and management.

Australia's approach to the implementation of the OIE standards on land and sea transport of animals involves regulation of standards by government officials, supported by co-regulation by livestock industries through industry-based quality assurance programmes. Although Australia is a federation, the Commonwealth, State and Territory Ministers have agreed on the need for a nationally consistent path to the development, implementation and enforcement of animal welfare standards.

Transportation of animals requires a 'whole of chain' risk management approach, with shared responsibility between livestock producers, agents, saleyard operators, transport drivers, shipping owners and masters of ships. Livestock must be adequately prepared before transportation, be transported on well-designed vehicles or vessels by competent drivers and receive adequate feed, water and rest at the end of the journey. There is a growing requirement for animal handlers to demonstrate competency in animal handling and transportation. Therefore, education and training is an important component to improve animal welfare outcomes.

There is also a need to promote that good transportation of animals will have resultant commercial benefits to livestock producers. Non-governmental organisations and the community need to be part of the consultation process to take account of public expectations. Government administrations also need to communicate the consequences of non-compliance and to ensure that there are appropriate penalties for not meeting agreed standards.

The OIE has provided global leadership in the development of animal welfare standards for the land, sea and air transportation of animals. This has raised the profile of animal transportation as an important animal welfare issue and assisted member countries to develop implementation strategies to manage risks and to meet these OIE standards.

Australia has also been working with trading partners and the OIE in the Middle East and in Asia and Oceania to assist countries to improve animal handling, transportation and welfare outcomes. The approach has been to assist with the development of regional plans and to provide technical cooperation to assist OIE Member Countries to implement the OIE welfare guidelines.

Keywords: Australia, animal welfare, animal transport, long-distance, public policy, science, international capacity building

Introduction

Most livestock are transported at some stage in their lives for a variety of reasons. These include for production management to meet market specifications such as to feedlots or grazing facilities between calving, for sale or slaughter, for agricultural shows and in times of drought or natural disasters such as fire and floods. The inherent risks in the transportation of any animal must be managed.

There are a number of clear challenges and factors that farmers, transporters and administrators need to consider when transporting animals. These include the general geography, the quality of the road and rail systems, the design of vehicles and handling facilities, loading and offloading facilities, the competency and experience of drivers and livestock handlers, and the pre- and post-journey management of animals.

There are shared responsibilities by owners and service providers along the transport chain. Governments work closely with livestock industries, transporters, stock agents, saleyard operators, abattoir owners, feedlot owners and animal welfare organisations to develop and then apply sustainable animal welfare standards and appropriate regulations.

Once the decision to transport the animals has been made, the welfare of the animals during their journey is the paramount consideration and is the joint responsibility of all people involved.

Australia's approach

Australia's history since European colonisation records the challenges of producing and marketing livestock on an island continent. The common types of farm livestock were initially introduced into Australia after long sea journeys and mainly from Europe (1).

Australia is a federation and the division of powers between its Commonwealth and State governments is specified in the Australian constitution. In short, the duties of the Commonwealth Government lie in matters such as foreign policy and defence, whereas those of the States and Territories lie in matters such as justice, education, health and internal

transport. Accordingly, animal welfare is a responsibility of State and Territory governments. Cohesion and harmony among Australia's governments is sought through the Council of Australian Governments and its system of State-Commonwealth Ministerial Councils and expert committees.

Large numbers of animals of all types are moved over long distances to and from Australia by sea and air and also within Australia by road, rail, and air and on foot, by droving. In 2007, 3 768 953 sheep, 712 320 cattle, 24 307 goats and 3 473 buffalo were exported from Australia (2) mainly by sea, as illustrated by the photograph in Figure 1.

Regardless of the method of transport, owners, agents and service providers have always had a duty of care over the animals in their charge. However, the welfare of animals has increased as an important public issue within Australia in recent times and heightened concern has resulted in the clearer definition and implementation of these shared responsibilities.

Australia's land transport system recognises the need for a risk-based approach that covers the whole of the transport chain from farm to final destination. Journeys must be planned and contingencies considered. The experience and competence of animal handlers and vehicle drivers is paramount to successful outcomes.

Animal welfare during long-distance transport is protected in Australia by addressing

Figure 1:
Feeder cattle destined for a port in south-east Asia being transferred from a road train to a specialised livestock ship at Port Darwin in northern Australia.



key components of the transport sequence; namely, the selection and preparation of animals and their fitness to travel, the handling and management of animals undergoing transport, and the infrastructure for transport.

Beginning in the 1980s, Australia developed a series of model codes of practice for the welfare of animals intended as a model to enable Australia's States and Territories to develop their own codes to meet their own particular circumstances.

These model codes can be regarded as a significant advance in public policy on animal welfare in Australia because they went beyond what could be achieved with anti-cruelty laws alone.

Model codes outlined what could reasonably be expected for the delivery of good welfare from the design of the physical, nutritional and social environment of animals and the competency and knowledge of animal carers. In doing so, they limited the opportunity for pleas of ignorance and provided courts of law with benchmarks.

Model codes were also important because they laid out a framework for the application of advances in science to animal care. There was an implicit rather than demonstrable link between what was written in model codes and the body of scientific knowledge represented either in the scientific literature or through reliably recorded field experience.

Initial model codes included road and rail transport in 1983 (3, 4), air transport in 1986, and sea transport in 1987 (5, 6). There are also model codes for the transport of horses (7), pigs (8), cattle (9), and poultry (10). The transport of sheep is covered in the model code for the general care of that species (11).

Since 2006, the Australian Animal Welfare Strategy (AAWS) (12) has provided a national umbrella framework for making sustainable improvements to animal welfare outcomes.

AAWS has the potential to exert strong pressure for good welfare outcomes from all animal interest groups and the Australian community. It sets out a working partnership between government and civil society and can be regarded as central to a contemporary model of public policy.

AAWS establishes a framework for sustainable animal welfare outcomes based on scientific evidence, in order to meet the expectations of the whole Australian community with a focus on achieving a balance between education, extension and regulation. It will also provide for greater consistency across jurisdictions.

A key objective under the AAWS is the conversion of model codes of practice for the welfare of animals to new Australian Animal Welfare Standards and Guidelines. The model codes for land transport of livestock transport are currently being converted and are expected to be considered by agricultural ministers in 2009.

Managing the welfare of animals being transported over long distances

Within Australia, several policy instruments are used to protect the welfare of animals during long-distance transportation.

A 'whole of chain' approach is used to integrate national and international standards and guidelines and their delivery (Figure 3) (13). Also recognised are the different stages of the transport chain; the selection and preparation of animals for transport; the quality of animal care; the quality of transport infrastructure (transport vehicles, loading and unloading facilities, etc.); and the competencies and knowledge of the people involved.

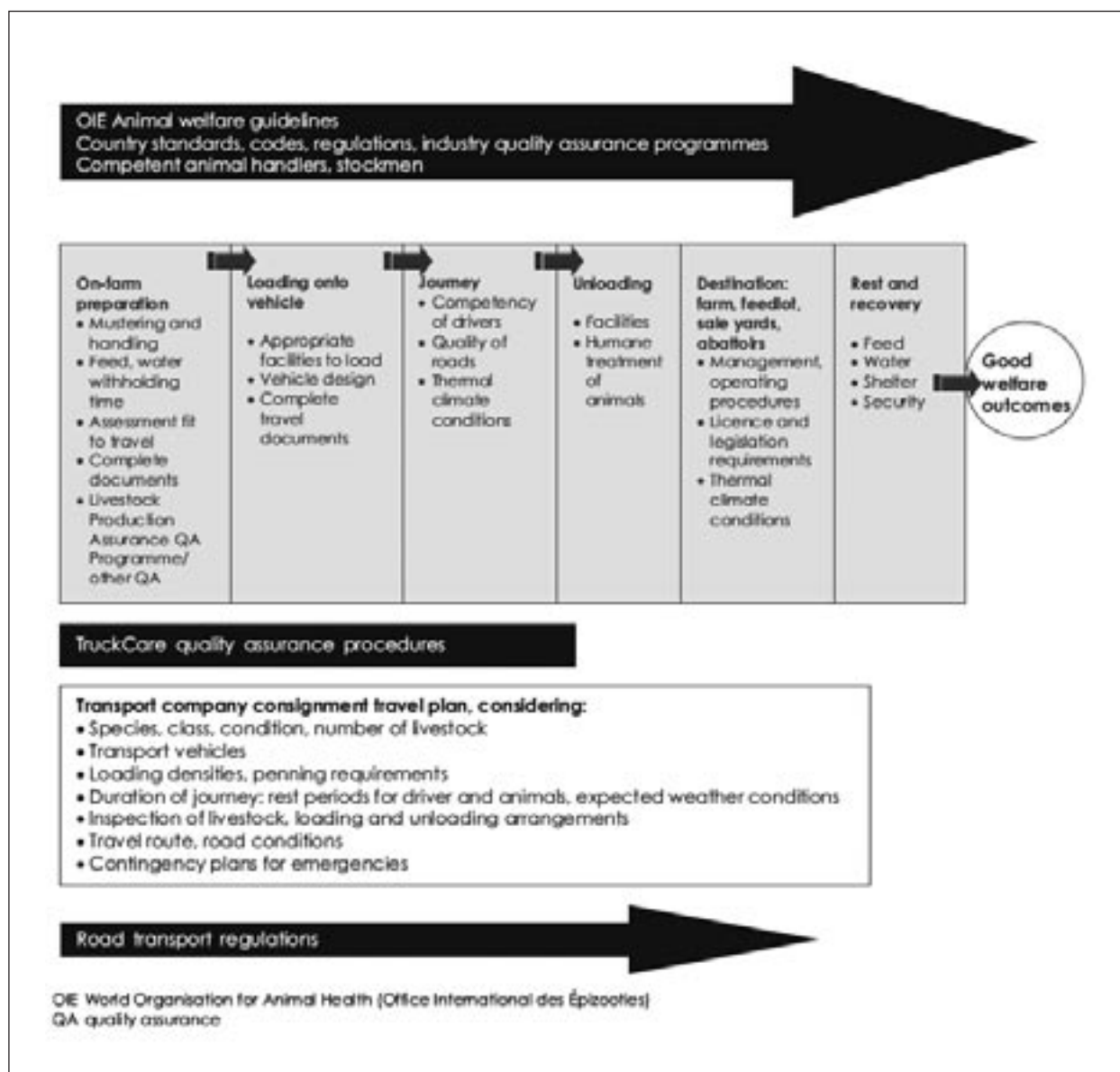
Responsibilities and obligations are central to the management of animal welfare during transport. The OIE sets the scene with its clear and unequivocal statement that 'once the decision to transport the animals (by sea, land, etc.) has been made, the welfare of the animals during their journey is the paramount consideration and is the joint responsibility of all people involved' (14). The OIE *Terrestrial Animal Health Code* provides detail about individual responsibilities.

Scientific research providing evidence to assist standard setting

Australian examples of specific research studies into land transport of animals include mechanisms for maintaining water balance in

Figure 3:

Concept diagram showing how various policy instruments contribute to the management of animal welfare during long-distance transport and apply at different parts of the transport chain within Australia.



cattle (15, 16). Other published examples in applied research relate to the health of calves during road transport (17) and the impact of road and sea transport on cattle (18, 19, 20) and sheep (21, 22, 23, 24, 25, 26, 27, 28).

Applied research projects commissioned by Meat and Livestock Australia are publicly available on the Internet (29). At least 17 reports were identified with relevance to long-distance transport of livestock. They include reports on the management of heat stress and the exploration of innovative methods for assessing welfare.

Long-distance transportation within Australia

Within Australia, the ownership of livestock during transport changes at the destination (e.g. another farm, saleyard, feedlot or abattoir) and not at the farm gate. Owners or managers are responsible for animal welfare until animals are loaded onto a transport vehicle. Animals then become the responsibility of transporters until unloading. This occurs under guidance from the model codes of practice and the Australian Standards for the Export of Livestock, Standard 2 – Land

transport of livestock (30). The National Livestock Identification System (NLIS), National Vendor Declarations (NVDs) and the Livestock Producer Assurance (LPA) programme create an information network that is used to protect animals during transport. All livestock exported from Australia must be identified to property of source.

The NLIS Australian system for identifying and tracking beef and dairy cattle, sheep and goats (31) has an important application to animal welfare during long-distance transport. NLIS (mandatory for cattle and sheep) is a permanent whole-of-life identification system, which uses machine-readable radio frequency identification devices (RFID) in the form of an ear tag or rumen bolus or both to identify cattle and ear tags to identify sheep. There is a central NLIS database for maintaining lifetime traceability of animals based on PICS (property identification codes).

The National Vendor Declarations (NVDs) (32) are a key tool for ensuring safe food from Australian livestock. They are supported by so-called waybills, which are travel documents or 'animal passports' that contain information about animal movements. NVDs and waybills function to protect the welfare of animals during long-distance transport. Their overarching management occurs through SAFEMEAT, an industry and government partnership responsible for managing meat safety and hygiene issues. Livestock producers use NVDs and waybills to transmit information about the food safety status of their livestock and buyers and food processors rely on NVDs and waybills for accurate information about their livestock purchases. NVDs and waybills are supported by fair-trading and consumer protection laws in Australia's states and false or misleading information in them attracts heavy penalties.

The Livestock Production Assurance (LPA) programme is the final component of the information network for livestock during long-distance land transport. It operates in the grass-fed sector of the red meat industry as an on-farm integrity system to verify and assure the food safety status and other quality attributes of livestock. The LPA programme was developed in accordance with ISO 9002:1994 (33) and is inspired by the principles of Hazard Analysis Critical Control

Points (HACCP). Random and targeted independent audits are conducted to maintain the programme's integrity. Other livestock industries have developed similar quality assurance programmes.

Figure 3 shows that quality management programmes and driver training and competencies transport are part of the package for protecting the welfare of animals during long-distance transport. Australia's National Training Information Service (34) provides access to the training packages and training providers for industries.

The predominant quality assurance programme is Truckcare, which was developed by the Australian Livestock Transport Association (35) and the LPA programme mentioned earlier. The programme seeks to maximise the welfare of animals, the quality of meat and the safety of food 36. Truckcare was launched in June 2007 and the Livestock Production Assurance programme mentioned earlier will stimulate its uptake.

A final important point concerns road safety for animals, transport personnel and other road users during long-distance transport of animals. A major factor in road accidents is driver fatigue, which increases with the time and distance of transport. A new regulatory regime was adopted throughout Australia early in 2007. Successful prosecutions have been mounted under work safety and health laws for breaches against fatigue guidelines.

Long-distance transportation from Australia

The Australian Government introduced mandatory standards for the long-distance transport of animals to overseas markets in 2004. These Australian Standards for the Export of Livestock (ASEL) (30) are referenced in Commonwealth law and the livestock export industry must comply with the standards as a condition of a licence to export.

The ASEL reflect the OIE welfare guidelines for land and sea transport and cover a 'whole of chain' approach from the sourcing and preparation of livestock on-farm to their unloading in the overseas destination country. They were developed using expert working

groups and were subject to extensive consultation, including formal public consultation. Five standards relate to sea transportation of animals and a sixth standard is specific to the air transportation:

- Sourcing and on-farm preparation of livestock.
- Land transport of livestock.
- Management of livestock in registered premises.
- Vessel preparation and loading.
- Onboard management of livestock.
- Air transport of livestock.

The Australian Position Statement on the Export of Livestock (37) describes the export chain and provides an Australian Government statement of guiding principles. It outlines roles and responsibilities, reporting and monitoring requirements and international cooperation arrangements.

It provides a framework for the development and further review of ASEL and sets out the:

- roles and responsibilities in the export chain,
- Australian animal health and welfare requirements,
- operating environment,
- guiding principles and expected outcomes throughout the live export chain,
- responsibilities of the three layers of government (Australian, state and territory, and local governments).

Accountability for the good welfare of animals during export from Australia starts with the Australian Standards for the Export of Livestock. Then follows licensing, a system of export permits, the regulation of ships for their safety, and industry quality assurance schemes and operation plans along the live export chain. Finally, there is formal training for stockpersons and veterinarians who accompany live animals during export (38).

All exporters of live animals from Australia must be licensed under legislation administered by the Australian Quarantine and Inspection Service (AQIS). In addition, all con-

signments of live animals must have an export permit from AQIS, which is granted when animal welfare requirements and the requirements of the importing country are met. A notice of intention to export and a consignment risk management plan are prerequisites for this step. The consignment risk management plan is part of a formal risk management system for the live export of animals. Risk management has been a valuable innovation that has resulted in reduced mortality rates from southern Australian ports (39).

Transportation approaches in other countries

Globally, each country has different livestock production and marketing systems and transport infrastructure. Increasingly, with the freeing-up of international trade we are seeing regional and bilateral trading arrangements that pose a variety of risks for long-distance animal transportation.

Details of some of these issues, challenges and policy approaches are presented in detail in the 2008 Volume 44(1) of *Veterinaria Italiana*, entitled 'Welfare aspects of the long-distance transportation of animals'. Contributing countries and regions include:

- the European Union
- South America
- Canada
- United States.

In this publication, different global perspectives on long-distance transportation are presented from civil society organisations, policy approaches by governments, quality management issues, design and engineering of infrastructures for transportation, transport and driver safety and training and education.

Working with Middle East and Asian partners to assist in the implementation of the OIE welfare guidelines

Middle East

Australian commercial companies and livestock industries have worked with commercial partners in the Middle East for many years to improve infrastructure, animal hand-

ling and transportation of exported Australian sheep and cattle. Since 2004, Australia has also been working at the government-to-government level to achieve improved animal

welfare outcomes. Australia has signed a memorandum of understanding (MOU) with Egypt, Eritrea, Jordan, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates.

A number of examples are presented:

OIE Standard/Guideline	Indicators of acceptable welfare
<p>Article 3</p> <p><i>Vehicles and containers used for the transport of animals should be designed, constructed and fitted as appropriate to the species, size and weight of the animals to be transported; special attention should be paid to the avoidance of injury to animals through the use of secure smooth fittings free from sharp protrusions. The avoidance of injury to drivers and animal handlers while carrying out their responsibilities should be emphasised.</i></p>	<p>Animals arrive at destination in good condition with no visible injuries</p> <p>Post-slaughter, no evidence of carcass bruising (<i>noting that other factors such as driver competence may also influence carcass bruising</i>)</p>
<p>Article 6</p> <p>The facilities for <i>loading</i> including the collecting area, races and loading ramps should be designed and constructed to take into account the needs and abilities of the animals with regard to dimensions, slopes, surfaces, absence of sharp projections, flooring, etc.</p>	<p>Animals walk up the loading ramp with minimal intervention, and are not seen to slip or fall</p>
<p>Article 5</p> <p>Each animal should be inspected by a veterinarian or an <i>animal handler</i> to assess fitness to travel. Animals found unfit to travel should not be loaded onto a vehicle, except for transport to receive veterinary treatment.</p> <p>Animals that are unfit to travel include:</p> <ul style="list-style-type: none"> • those that are sick, injured, weak, disabled or fatigued, • those that are unable to stand unaided and bear weight on each leg, • those that are blind in both eyes, • those that cannot be moved without causing them additional suffering, • pregnant animals which are likely to give birth during the <i>journey</i>, • those whose body condition would result in poor welfare because of the expected climatic conditions. 	<p>Animals inspected and unfit animals not loaded</p> <p>Animals arrive in good condition, can walk off the vehicle unaided, no sign of lameness or injury</p>

Under the MOUs, there is agreement that, in the case of suspicion of disease, the importing country would immediately offload the Australian animals into a quarantine facility to ensure the welfare of the animals while the disease investigation is completed. This meets the OIE welfare guidelines, Article 9, relating to actions to be taken in the event of a refusal to allow the completion of a journey, in relation to live animal exports from Australia.

Australia worked with the OIE and the Middle East Gulf Cooperation Council (comprising Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates) and sponsored a number of workshops during 2005–06 to develop a regional animal welfare strategy to improve animal handling and transportation. Recently, Australia has also assisted the United Arab Emirates to write by laws for their 2007 Federal Animal Welfare Law. Further assistance will be provided in training animal welfare inspectors.

Training programmes are aimed at low stress stock handling, competent driving of transport vehicles and improved management in feedlots. Australia has also funded some infrastructure improvements such as improved loading ramps and control boxes for slaughter.

Asia

Australia has also assisted cattle export trading partners in Indonesia, Malaysia and the Philippines for many years to improve animal handling and slaughter. Based on the AAWS and the Middle East GCC Strategy, Australia sponsored a meeting of member countries of the OIE Regional Commission for Asia, the Far East and Oceania in November 2007 to discuss the development of a broad-based strategic plan to implement the OIE guidelines for animal welfare in the region. The strategy was drafted by a writing group and the final Regional Animal Welfare Strategy was endorsed by OIE's International Committee as a model at the 76th OIE General Session in May 2008. A further workshop was to be held in November 2008 to develop a plan to implement the Strategy.

OIE welfare guidelines – a sound basis for training and development

The OIE welfare guidelines are outcomes-based and, therefore, suited to different global

livestock production and transportation systems. They assist regulators set transportation standards and develop indicators of acceptable welfare in transported animals. Such indicators provide the basis for observation and measurement for training programmes and evaluation of systems and processes.

Conclusions

The OIE welfare guidelines for the land and sea transport of animals have been an important contribution to improving animal welfare outcomes.

The guidelines provide a global platform for capacity building to improve animal transportation outcomes through government multilateral and bilateral arrangements and programmes conducted by non-governmental organisations. Australia has used these guidelines to assist trading partners in the Middle East and Asia in developing animal welfare strategies to assist countries in those regions to meet the OIE welfare guidelines.

Animal transportation involves shared responsibilities and requires a whole of chain risk management approach. OIE has developed guidelines for each of these phases in the transport chain and they can be used as a basis for practical training and development programmes.

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International Finance Corporation (IFC)/World Bank work to support implementation of animal welfare standards

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Keywords: IFC, World Bank, animal welfare, project appraisal, technical assistance

The International Finance Corporation (IFC), a member of the World Bank Group (WBG), is the largest private sector investor in emerging markets today. With a portfolio of USD 25.4 billion in 127 countries at 30 June 2007, the IFC promotes sustainable private sector development in emerging countries to help reduce poverty and improve people's lives.

The IFC decided to align with the OIE animal welfare initiative and contracted International Animal Welfare Consultants (IAWC) to assist them in developing a road map. The scope and outcome of that work is discussed.

The IFC invests in livestock and aquaculture projects worldwide. Currently 12 livestock and aquaculture projects are part of the IFC portfolio. The IFC has experience on animal welfare under different environmental and cultural conditions and has recently developed a Good Practice Note on Animal Welfare which is available online (http://www.ifc.org/ifcext/enviro.nsf/Content/Publications_GoodPractice_AnimalWelfare).

The IFC is committed to developing good welfare practices among our clients and to

promote the adoption of good welfare standards to entire markets. Using production performance and production ratios, all projects are appraised to assess animal welfare practices in the following areas:

- Feed and water
- Housing
- Animal health and husbandry
- Transport and slaughter
- Staff and management.

A decision on any livestock investment also requires assessment of the social and environmental impacts. This knowledge and experience has led to the raising of productivity and efficiency levels in organisations through the application of animal welfare principles.

This paper discusses the importance of understanding animal welfare principles within the WBG and then using WBG resources to impart them to our clients. It also discusses project appraisal steps and the technical assistance available to support this approach.

Action de la Société financière internationale (institution du Groupe de la Banque mondiale) en appui aux normes de l'OIE sur le bien-être animal

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Mots-clés: SFI-IFC, Banque mondiale, bien-être animal, évaluation des projets, assistance technique

La Société financière internationale (SFI), qui fait partie du Groupe de la Banque mondiale (GBM), est aujourd'hui le plus important investisseur du secteur privé dans les marchés émergents. Avec un portefeuille de 25,4 milliards de dollars des États-Unis dans 127 pays au 30 juin 2007, la SFI soutient le développement d'un secteur privé durable dans les pays émergents, dans le but d'aider à réduire la pauvreté et d'améliorer le niveau de vie des populations.

La SFI a décidé de s'associer à l'initiative de l'OIE en matière de bien-être animal et a passé un accord avec «International Animal Welfare Consultants» (IAWC) afin d'aider cet organisme à mettre au point une feuille de route. Il sera ici question de la portée et des résultats possibles de ces travaux.

La SFI investit dans des projets concernant le bétail et l'aquaculture à l'échelle mondiale. À l'heure actuelle, la SFI possède en portefeuille une douzaine de projets dans ces deux domaines. La SFI a déjà une expérience en matière de bien-être animal dans diverses conditions environnementales et culturelles, et a récemment élaboré une «Note de bonne pratique sur le bien-être animal» (disponible sur http://www.ifc.org/ifcext/enviro.nsf/Content/Publications_GoodPractice_AnimalWelfare). La SFI est engagée dans le développement de bonnes pratiques de bien-être

parmi ses clients et agit également pour promouvoir l'adoption de normes de bien-être à l'échelle de marchés entiers. Elle utilise des ratios de performance et de production. Tous les projets font l'objet d'une évaluation pour déterminer les pratiques en matière de bien-être animal dans les domaines suivants:

- Alimentation et eau
- Logement
- Santé animale et élevage
- Transport et abattage
- Personnel et gestion

Toute décision portant sur un investissement dans le domaine du bétail nécessite également une étude d'impact social et environnemental. Les connaissances et l'expérience acquises ont permis une élévation des niveaux de productivité et d'efficacité dans diverses organisations par l'application de principes de bien-être animal.

Le présent article examine l'importance de la bonne compréhension des principes de bien-être animal au sein du Groupe de la Banque mondiale et de l'utilisation des ressources de ce dernier à l'adresse de ses clients. Il étudie également quelles peuvent être les différentes étapes d'évaluation du projet et l'assistance technique disponible pour promouvoir cette approche.

Labor del Banco Mundial/Corporación Internacional Financiera en apoyo de las normas de bienestar animal de la OIE

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Palabras clave: CIF, Banco Mundial, bienestar animal, evaluación de proyectos, asistencia técnica

La Corporación Internacional Financiera (CIF), una institución afiliada al Grupo Banco Mundial (GBM), es el principal inversionista privado en los mercados emergentes actualmente. Con un portafolio de 25,4 billones de dólares en 127 países, a 30 de junio de 2007 la CIF fomenta la inversión sostenible del sector privado en los países en desarrollo, con el fin de ayudar a reducir la pobreza y mejorar la calidad de vida de la población.

La CIF ha decidido asociarse a la iniciativa de la OIE sobre bienestar animal y ha contratado consultores internacionales de bienestar animal (IAWC, International Animal Welfare Consultants) para que le ayuden a elaborar una guía. Actualmente, se está discutiendo el alcance y el resultado de este trabajo.

La CIF invierte en proyectos de ganadería y agricultura alrededor del mundo. El portafolio de la CIF incluye 12 proyectos de ganadería y agricultura actualmente. Basada en su amplia experiencia sobre bienestar animal en diferentes entornos y culturas, la CIF ha publicado sus Buenas prácticas sobre bienestar animal (Good Practice Note on Animal Welfare), disponible en inglés en: (http://www.ifc.org/ifcext/enviro.nsf/Content/Publications_GoodPractice_AnimalWelfare).

La CIF se ha comprometido con el desarrollo de buenas prácticas de bienestar entre nues-

tros clientes y con la promoción de la adopción de las normas de bienestar animal en todos los mercados. Para ello, utiliza índices de producción y de rendimiento de la producción. La totalidad de los proyectos es analizada con el fin de evaluar las prácticas de bienestar animal en las siguientes áreas:

- Alimentación y agua
- Vivienda
- Sanidad animal y ganadería
- Transporte y sacrificio
- Personal y gestión

Para la toma de decisiones relacionada con la inversión en proyectos de ganadería también es necesario analizar su impacto social y medioambiental. El resultado de estos análisis ha permitido aumentar los niveles de productividad y eficiencia de las organizaciones a través de la aplicación de los principios de bienestar animal.

El presente trabajo muestra la importancia que representa el conocimiento de los principios de bienestar animal para el GBM y la utilización de los recursos del GBM para transmitirlos a nuestros clientes. También describe las etapas de la evaluación de proyectos, así como la asistencia técnica disponible para este enfoque.

International Finance Corporation (IFC)/World Bank to support implementation of animal welfare standards

Method of operation

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Introduction to IFC

The International Finance Corporation (IFC) is a member of the World Bank Group. It was established in 1956 to promote private sector development. It was established to complement the role of other World Bank organisations including the International Bank for Reconstruction and Development (IBRD), which was established in 1945 after the Second World War, and the International Development Association (IDA), established in 1960 to assist the poorest of countries especially in Africa, to promote institutional legal and regulatory reform. A fourth organisation, the Multinational Investment and Guarantee Organisation (MIGA), was established in 1988 to reduce political and investment risk by providing risk insurance.

The IFC is owned by member countries – 179 at the last count – and reports to the World Bank Board with selected representatives from these countries.

The IFC has a number of departments including oil and gas, general manufacturing, health and education, global finance – all participating in poor and developing-country growth. The department the author represents, Agribusiness, has a USD 2.2 billion portfolio and this year is expected to provide financing for over USD 1 billion.

Agribusiness invests in a number of sectors including:

- beverages,
- grains and milling,
- fruits and vegetables,
- vegetable fats and oils,
- sugar,

- other food,
- and the author's areas of interest:
 - aquaculture,
 - egg products,
 - dairy products,
 - animal processing.

The livestock and processing portfolio – including poultry and dairy – today is just over USD 500 million, scattered around the globe from the Americas (Brazil, Mexico) – Eastern Europe (Croatia, Russia, Turkey, Ukraine) – Asia (China, India) – the Middle East (Egypt) and supports many small projects in Africa mainly financed through local banks.

Most of the projects we fund are larger industrial units who are normally the top performing players in the country. The funding can be from as low as USD 5 million up to USD 200 million. The focus of these investments is to increase the development impact of client projects and to provide benefits beyond financing that could be provided by other commercial lenders. This mandate means the IFC provides expertise and technical assistance to assist clients to grow profitably always with the eye on the triple bottom line – environmental, social and financial results.

The Bank has detailed guidelines and policies to ascertain the environmental and social commitments from our investments. Animal welfare is not part of the policy guidelines within the Bank as are some of the more readily agreed and less contentious environmental regulations. However, as a condition of disbursement, we are able to insist that certain welfare needs must be met. In my work with the Bank, this has not been necessary but it is

certainly a consideration as reputational risk is a very important issue with the bank.

The livestock industry is a vital part of the sustainability of poor people in the world. Livestock are capable of grazing in difficult terrain under extreme conditions and, on that basis, are seen as a form of life insurance in good and difficult times. But livestock in an agribusiness context typically entails scale production.

The industry is large, using 670 million tonnes of cereals from 211 million ha of land in 2002, plus 350 million tonnes of protein rich by products (oil seed meal, fish meal) or over a trillion tonnes in total. It employs 1.3 billion people of which 1 billion are the world's poorest. Global production of meat is greater than 229 million tonnes per year and milk 580 million tonnes in 2001, 'Directly and indirectly, through grazing and feed crop production, the livestock sector occupies 30 % of the ice-free terrestrial surface of the planet' (1).

IFC investment approach

The IFC stipulates parameters for assessing a project or corporate loan. This includes the usual financial requirements but, in addition, also social, environmental and animal welfare considerations. While most of the investments are large industrial facilities, the approach is similar for most species – whether cattle, goats, sheep, pigs, or poultry. The identification of a potential investment or loan tends to follow a series of steps. The investment life cycle will be explained in terms of the animal welfare considerations to give an idea of the evaluation process.

The investment cycle falls into a logical sequence of events including:

- *Pre-appraisal*: initial review of the market, financial performance and outline major risks of the project.
- *Appraisal (or Site visit)*: to understand in more depth the critical business factors and see first-hand how risks are managed.
- *Decision meeting and board approval*: internal management discussion of the project, including development outcome, financial terms, and steps required to address any risks.
- *Disbursement of funds*: the client's favourite part – receiving the money, after all the conditions are met.
- *Supervision*: monitoring of the project to mitigate risks, improve performance, and manage client relationship and the repayment of IFC loans.

Pre-appraisal

This phase is when an investment officer investigates a prospect company and reports on the project and rationale, evaluating general market conditions, financial performance and highlighting major risks of the project. On many occasions, a qualified industry expert also makes an assessment either as a desk review or a short visit to assess whether or not to proceed. Part of that assessment includes reviewing the business model and how animals are tended, housed, fed, transported and processed.

As part of this process, the industry specialist is mindful of the following guidelines. These guidelines were developed using the United Kingdom's Royal Society for the Prevention of Cruelty to Animals (RSPCA) model – based on the Five Freedoms (2, 3):

- Freedom from hunger, thirst, and malnutrition.
- Freedom from discomfort.
- Freedom from pain, injury and disease.
- Freedom to express normal behaviour.
- Freedom from fear and distress.

Some examples of the use of these standards will be given in the next section but suffice it to say that this approach separates the IFC from most other banks in assessing loans. Not only do we have the expertise to make the initial assessment, but also the ability to provide technical assistance to improve the situation. For example, if nutrition, animal health or housing was an issue, we have industry specialists on hand to provide internationally recognised support.

Appraisal (also called Site visit)

This phase includes a full assessment of the company and evaluates the existing business and projected new growth areas. The business is modelled financially but the industry

expert is also required to provide a full report on the business organisation and operations.

To put this report together and maintain a consistent approach to assessment, the author uses the MEGAN system not only to assess animal welfare but all of the performance issues in a herd:

- M = Management Practices
- E = Environment
- G = Genetics
- A = Animal Health
- N = Nutrition.

Management

As Winston Churchill said: *Courage is the first of human qualities because it guarantees all others.*

In business: *Management capability and integrity is the greatest function as it guarantees all others.*

Although management is first, because it is the most important, it will be discussed last for reasons you will see in the outline of the other parts of the appraisal assessment.

Environment

The environment in which an animal lives determines many of the animal welfare outcomes evident today. Whether it is housing space, ventilation, hot or cold weather, odour, moisture, humidity, cleanliness, sanitation – it all plays a part. IFC animal welfare practice notes – specifically prepared in several languages – outline that animal accommodation should be designed, constructed and maintained to allow all animals space to stand, sit, lie, and stretch comfortably. Animals should be allowed to interact with other animals unless isolated for veterinary reasons. Stocking densities should be low enough to prevent excessive temperatures and humidity, and to mitigate against aggression or competition. Surfaces and flooring should be non-slip without sharp projections. Housing should be fire resistant with sufficient exits for forced evacuations.

Air quality is important, especially to control dust, humidity, and odour. With modern industrial units today, much of this is auto-

mated but the monitoring and control still needs to be in place.

Often one of the problems we encounter is the loading and unloading facilities for animals and the associated transport. It is stressed to our clients that any stress of transport should be minimised and proper handling should be in place to prevent injury. This is not only a welfare consideration but also a financial one, as losses during transport impact the bottom line and reflect on the company's reputation in the public domain.

During appraisal the logistical considerations are assessed including transport distances, travel time, weather conditions and trucking. Interestingly, it is the change in environment that causes many of the welfare issues to emerge whether it is moving young animals from one pen to another or introducing new stock or transporting to slaughter. This is often the precursor to the introduction of disease – often due to stress, or dietary changes or the confusion with transport, new confinement, vibrations, noise, etc. – all adding to stress and mortality. Just like us, animals are creatures of habit.

This is where the IFC adds value as our experts recognise these stress points and provide advice. On occasions, we work full-time with companies to improve their systems and ultimately their welfare. Injured animals should not be transported, and if injured on the journey, then should receive immediate treatment – either veterinary care or euthanasia. Travel distances are noted in reports and assessed as to likely impacts on welfare and cost.

Genetics

The genetic potential for all species to grow using phenotypic selection has been nothing short of spectacular, especially for those species with short maturities and gestation periods. Chickens grow twice as fast as they did 30 years ago. For example, in 1975 it took one of our previous international clients 59.3 days to grow a 1.7 kg chicken at a Feed Conversion Ratio (FCR) of 2.4. That is, it took 2.4 kg of feed to produce 1 kg of live-weight chicken. Compare that with today when it takes 34 days to produce a heavier 2 kg bird with a feed conversion ratio of 1.7.

While pig development has not advanced at the same rate, it too has been significant. Since 1975, the FCR has improved from 3.6 to 2.5 – a 25 % improvement. The lean meat percentage has moved from 46 to 60 % and the days needed to attain 100 kg has dropped from 179 days to 144 days. In other species, farmed Atlantic Salmon, for example, massively outperform their wild cousins (5), and dairy cows continue to give increasing yields of milk.

However, as always, there are checks and balances. The IFC takes the view that improvement in animal performance should not be at the detriment of welfare considerations. Breeding objectives should not only consider production characteristics but also rates of injury, disease propensity, and mortality. Lameness in chickens is not accepted as a consequence of competitive growth requirements.

Where will this genetic development lead? This topic is probably the most difficult to ascertain as genetic manipulation – use of DNA markers for productive traits for example, milk production and growth rate – is probably still in its infancy.

Animal Health

Maintaining a bio-secure disease status is an unending battle – especially defending attacks external to the normal farm environment. This is even more difficult in developing countries where for endemic illnesses may include avian influenza; Newcastle disease in poultry; foot- and-mouth disease in cattle; and classical swine fever in pigs. Bio-security is assessed in great detail and in these changing times it involves the welfare of both humans and animals.

Vaccination and the use of drugs are also on the front line but ultimately it is often not the disease but the terrain. Clean, well-managed facilities where the animals are relaxed in their environment can prevent the eruption of disease. This is especially evident in the outbreaks of Porcine Respiratory and Reproductive Disease (PRRS) in pigs where the disease is often the outcome of poor hygiene practices.

All of the industrial units we assess have full-time or contracted veterinarians to supervise the health status. Naturally, they too, are our guardians against poor animal welfare practices. In fact, the input of the veterinarian leads to the introduction of other professional services, including nutritionists and animal husbandry specialists. Early intervention is often vital to a favourable outcome and the veterinarian will often head off any events that lead to welfare concerns. Any sick or injured animals should be isolated, treated or humanely destroyed as soon as possible. During appraisal an assessment is always made of the animal health disease prevention programme used by the company.

Nutrition

Nutrition in most industrial farms – an exception being open grazing systems where supplementation is normally available – has one major advantage over small household operations. The animals eat what we give them to eat, rather than foraging in uncertain environments – in times of drought or floods for example. This means that we need to have a process that delivers the nutrition requirements for the animal. The complexity of this process should not be forgotten. Expertise in the formulation and manufacture of these feeds is vital to maintaining performance, health and welfare. Many of the feeding and watering systems are automated, and if so, attention should be paid to the opportunity for animals to access the feed and water without undue competition from rivals. Poor nutrition very rapidly leads to disease in high performance animals so this is obviously a welfare concern.

Management revisited

Dr Jim Reynolds, Chair of the American Veterinary Medical Association's Animal Welfare Committee noted recently in *Feedstuffs* – an agribusiness magazine – *that Owners' values and attitudes influence welfare more than the size of the farm* (4). This principle is very evident in the developing world and in some cases it is an education process for the IFC to make welfare a priority. Most owners are very conscious of their responsibilities – including reputational risk.

In fact, over the years, with education, updated government legislation, improved housing, etc., there is no doubt that progress has been made. Without an educated workforce using sustainable systems, animal welfare as well as other functions will fail.

This assessment of management capability and integrity, in the author's view, is the most important in any appraisal of an organisation.

Animal welfare is not always a consideration for those not trained to its reality. Whether it is the lack of education or differences in cultural background or the view of the role of animal or even the consideration of whether animals are, in fact, sentient beings, it is important for our clients to understand the Five Freedoms and the impact on their businesses.

The IFC asks for international and country legislative requirements to be met, or preferably exceeded. We are conscious of the ongoing training required for handlers of livestock; especially and unfortunately, this form of work often has a large turnover of staff. But management is more than this: we need excellent recording and reporting systems including ongoing appraisal of welfare issues. A high mortality in a herd raises the red flag. IFC portfolio management makes this assessment quarterly. External consultants are asked to report on welfare issues as part of their ongoing assessments of the company.

Decision meeting and board approval

This process lays out the requirements under which the IFC will participate in a loan or equity structure. If animal welfare was an issue, one of the preconditions for the deal may be to fix the problem, or prepare a corrective action plan (CAP) to find a solution over time.

Disbursement of funds

Disbursement may be subject to a specific animal welfare issue being addressed. It has not been an issue within the author's limited time at the Bank, but previous specialists were concerned enough to develop mandated guidelines and to follow internationally acceptable standards such as the OIE folio.

Portfolio supervision

Ongoing assessment as to the financial, social environment and animal welfare responsibilities are carried out. This includes monitoring production metrics and the performance ratios in the herd — a sign of poor husbandry or in some cases welfare. During all of these processes, questions are asked about the animal welfare standards maintained by the company and whether country and IFC standards are being met.

Discussion

It is often argued that a well-managed industrial facility is very focused on welfare, otherwise the productive performance declines and with it the financial performance. To an extent this is true, but the IFC must be vigilant that *pushing* for progress in the system does not lead to animal welfare problems.

One scenario for this situation is stocking density. It is financially feasible to stock heavily in some species, especially when the cost of construction of modern facilities is high and over-optimising throughput is a temptation to reduce the payback period. During appraisal this topic has to be addressed.

Recently, as a case in point, a portfolio client was requested to reduce stocking density to improve the animal health and welfare as part of the technical support provided to the company. This undertaking improved both survivability and profitability. To support our view, often industry specialists are employed to change practices including using better shed design, ventilation changes, etc. Companies in developing countries are sometimes not aware of the dramatic effect on welfare — and ultimately production — that these changes can make.

Additionally, the silo mentality, where operational functions perform independently from each other, is not supported by the IFC's approach. It does not work for animal welfare and it does not work for the business. Often a veterinarian, a nutritionist and a farm manager are engaged to work in teams to solve problems and take the business forward.

The IFC in and of itself is not an authority on animal welfare and so relies on the expertise

of governments industry organisations like the OIE. We rely on these organisations for advice and updates of changes in legislation within countries, and also for recommendations from qualified third parties. From there, we ensure that current legislation is complied with on review.

The IFC continues to interact with key international organisations on the animal welfare issue. Firstly, it recognises the leadership of the OIE and monitors the standards set by the OIE and ensures its lending is consistent with these standards. The IFC also has contact with other organisations including our fellow World Bank associates, the Food and Agricultural Organisation (FAO) and specialised NGOs who make representations on welfare issues.

With a professional background as a veterinarian — having worked on animal welfare legislation in Australia, representing the export meat processing industry — the IFC encourages the author to attend veterinary conferences each year and monitor the cur-

rent developments. Our continued participation in this important area is assured.

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II Putting the standards to work

Stakeholder perspective and experience in the public sector



Practical experience

Killing animals for disease control purposes in Europe

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Keywords: humane killing, disease control, animal welfare, contingency planning, containerised gassing units

All veterinary services need to ensure animal welfare is properly protected when animals are killed to control epizootic diseases. A priority is the preparation of robust contingency plans which have political agreement and are backed up with adequate resources. These plans need to lay out priorities for field operations, whilst balancing the need to protect human health with the requirement for effective disease control whilst maintaining animal welfare.

The OIE guidelines provide valuable information and guidance on general principles, organisational structures, roles and responsibilities and competences required in the specialist teams. They also outline the key considerations for contingency planning the humane killing of animals.

In the last decade, the United Kingdom and other European countries have successfully responded to outbreaks of classical swine fever (CSF), foot-and-mouth disease (FMD) and bluetongue involving the humane culling of cattle, sheep, goats and pigs as well as sporadic incidents of anthrax and outbreaks of

avian influenza involving chickens, turkeys, ducks, geese, partridges and pheasants. Movement restrictions implemented as disease control measures can also produce significant welfare problems and may need arrangements for the culling and disposal of affected livestock. Again, a key feature is effective handling, restraint and systems for humane killing. In all cases, effective training and planning are essential to prevent pain, suffering, ineffective stunning or regaining of consciousness before death and deal with the variety of facilities and class and age of stock. All the arrangements need effective communication of risks, planning with stakeholders and full evaluation of lessons learned to enable constant improvement in the OIE guidelines.

Research has delivered new percussion guns for poultry and small farmed animals, improved systems of killing poultry using containerised gassing units (CGUs) and understanding of the humaneness of whole-house gassing to kill poultry by use of telemetry. The paper will outline practical experiences and technical cooperation in Europe.

Expérience pratique – Mise à mort d'animaux à des fins prophylactiques en Europe

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Mots-clés: abattage sans cruauté, lutte contre la maladie, bien-être animal, planification d'urgence, caissons de gazage

Tous les services vétérinaires doivent s'assurer que le bien-être des animaux est convenablement protégé lorsqu'il s'agit de procéder à un abattage dans le cadre de la lutte contre les épizooties. Le plus important est la préparation de plans d'urgence solides ayant reçu l'agrément des autorités politiques et disposant de ressources adéquates. Ces plans doivent établir des priorités pour les opérations sur le terrain, tout en équilibrant la nécessité de protéger la santé humaine avec le besoin d'éradiquer les maladies, et en sauvegardant le bien-être des animaux.

Les lignes directrices de l'OIE fournissent des informations et des conseils précieux portant sur les principes généraux, les structures organisationnelles, les rôles et responsabilités ainsi que les compétences requises dans les équipes spécialisées. Elles énumèrent également les considérations clés pour planifier un abattage sans cruauté des animaux en cas d'urgence.

Depuis une dizaine d'années, le Royaume-Uni et les autres pays européens ont éradiqué avec succès des foyers de peste porcine classique (PPC), de fièvre aphteuse et de fièvre catarrhale du mouton, ce qui a impliqué de réduire sans cruauté le nombre de têtes de bétail, de moutons, de chèvres et de porcs; ils ont aussi lutté avec succès contre des incidents sporadiques de fièvre charbonneuse et des foyers d'influenza aviaire touchant les poulets, les dindons, les canards, les oies, les

perdrix et les faisans. Des restrictions de déplacement appliquées en tant que mesures de lutte contre la maladie peuvent également faire apparaître des problèmes de bien-être significatifs et peuvent nécessiter des dispositions permettant de réduire le nombre de têtes de bétail affectées et de s'en débarrasser. Là encore, un des facteurs clés est l'efficacité des techniques de manipulation, de restriction et des systèmes d'abattage sans cruauté. Dans tous les cas, une formation adéquate et une planification efficace sont essentielles pour prévenir la douleur, la souffrance, pour assommer les animaux à coup sûr et pour les empêcher de reprendre conscience avant la mort, ainsi que pour adopter une conduite appropriée face à la diversité des installations, des types de bétail et de leur âge. Toutes ces dispositions nécessitent une information sur les risques encourus, une planification avec les parties prenantes et une évaluation exhaustive des leçons apprises, afin de permettre une amélioration constante des lignes directrices de l'OIE.

La recherche fournit de nouveaux pistolets à percussion pour la volaille et les petits animaux de ferme, des systèmes améliorés d'élimination de la volaille faisant appel à des caissons de gazage, et une amélioration des possibilités d'éliminer sans cruauté la volaille d'un élevage entier en utilisant la télémetrie. L'article exposera l'état des expériences pratiques et de la coopération technique en Europe.

Experiencia práctica – Matanza de animales con fines profilácticos en Europa

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Palabras clave: matanza de los animales en condiciones decentes, control profiláctico, bienestar animal, elaboración de planes de emergencia, contenedores para la gasificación

Los servicios veterinarios deben velar por la protección del bienestar animal cuando sea necesario matar a los animales con fines profilácticos. Para hacerlo, es necesario organizar planes de emergencia sólidos que cuenten con apoyo político y que dispongan de los recursos necesarios. Dichos planes deben definir las prioridades para las operaciones en el terreno, al tiempo que protegen la salud humana, cumpliendo con el control eficaz de enfermedades y manteniendo el bienestar animal.

Las directrices de la OIE brindan información y orientaciones esenciales sobre los principios generales, las estructuras, las funciones, responsabilidades y competencias de los equipos especializados. Además, trazan las consideraciones clave para la elaboración de planes de emergencia para la matanza de los animales en condiciones decentes.

Durante los últimos diez años, el Reino Unido y otros países europeos han logrado combatir de forma satisfactoria focos de peste porcina, fiebre aftosa y lengua azul utilizando la matanza en condiciones decentes de ganado vacuno, ovejas, cabras y cerdos, así como algunos incidentes esporádicos con ántrax y focos de influenza aviar en pollos, pavos, patos, gansos, perdices y faisanes. Las restricciones de movimiento impuestas como parte de las medidas de control profiláctico,

por su parte, pueden provocar serios problemas de bienestar animal, por lo que puede ser necesario efectuar ajustes a las medidas de sacrificio y eliminación del ganado afectado. En este caso, el cuidado efectivo, la sujeción y los sistemas para efectuar la matanza en condiciones decentes también son elementos clave. En todas las circunstancias, la organización y la formación del personal encargado de la matanza son esenciales para prevenir el dolor, el sufrimiento, el aturdimiento ineficaz o la recuperación del conocimiento antes del sacrificio, así como manejar las instalaciones, la clase y la edad de los animales. Todas las medidas requieren la comunicación efectiva de los riesgos, la planificación de las partes interesadas y la evaluación completa de las lecciones impartidas con el fin de mejorar constantemente las directrices de la OIE.

Gracias a la investigación científica, se han desarrollado nuevos fusiles de percusión para aves de corral y animales de granja pequeños, así como sistemas mejorados para el sacrificio de aves de corral utilizando contenedores para la gasificación, y además la comunidad ha comprendido que la gasificación, utilizando la telemetría, constituye un método decente para la matanza de aves de corral. Este trabajo describe las experiencias prácticas y la cooperación técnica en Europa.

Implementing OIE animal welfare standards

Practical experience

Killing animals for disease control purposes in the United Kingdom

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Summary

All veterinary services need to ensure that animal welfare is properly protected when animals are killed to control epizootic diseases. A key priority is to prepare robust contingency plans which have political agreement and are backed up with adequate resources. These plans need to lay out the priorities for field operations, whilst balancing the need to protect human health with the requirement for effective disease control whilst maintaining animal welfare and minimising the environmental impact.

The OIE guidelines provide valuable information and guidance on the general principles, organisational structures, roles and responsibilities and competences of the specialist teams required. They also outline the key considerations required for planning the humane killing of animals.

In the last decade, the United Kingdom and other European countries have successfully responded to a wide range of animal disease situations both during the preparation and subsequent to, the adoption of the OIE Guidelines in 2005. The United Kingdom alone, since 2000, has successfully responded to outbreaks of classical swine fever (CSF) and foot-and-mouth disease (FMD) involving the humane culling of cattle, sheep, goats and pigs. Outbreaks of both low and highly pathogenic avian influenza and Newcastle disease have required the humane culling of chickens, turkeys, ducks, geese, partridges and pheasants.

Movement restrictions implemented as disease control measures can also result in significant welfare problems and may need arrangements for the culling and disposal of affected livestock. A key feature of any on-farm killing is effective handling and restraint and systems for humane killing. In all cases, effective training and planning are essential to prevent pain, suffering, ineffective stunning or regaining of consciousness before death.

Each disease outbreak is different, as are the affected premises, and therefore plans need to be flexible and based on the concept that a variety of killing methods are often needed for differing classes of stock and differing facilities. Killing plans need to be tailored to each holding and need to take account of the type and age of livestock present as well as local community needs.

Effective animal welfare during killing also requires detailed contingency plans, adequate resources and an awareness of logistics. In addition, a clear system of command and control, and effective auditing is needed during field operations. All the arrangements need effective communication of risks, planning and engagement with stakeholders and full evaluation of lessons learned to ensure constant improvement in the guidelines.

Following the 2001 outbreak of FMD, the United Kingdom reviewed its contingency plans for epizootic disease outbreaks and set up a dedicated unit responsible for contingency planning. The review of procedures revealed gaps in our knowledge and highlighted requirements for new equipment. As a result, a research programme was implemented to improve the scientific evidence base. This research programme has delivered new percussion guns for killing poultry and small farmed ani-

mals; detailed physiological studies of responses to gas mixtures has directly led to improved systems of killing a wide range of poultry using containerised gassing units (CGUs). This research programme has also included research into the humaneness of whole-house gassing using telemetry to monitor the physiological responses of birds and has recently included international cooperation (with the Netherlands and USA) on killing poultry using gas-filled foam.

A key consideration of an effective emergency response is to, where possible, utilise existing skills and equipment, and to ramp them up during outbreaks. This was the idea behind the development of the CGUs, which utilise the existing industry catching skills and are designed around standard industry transport modules. This equipment has been successfully used during several of the recent outbreaks.

Other lessons learned include the ability to be able to quickly train large numbers of people. This need has resulted in the development of flexible training packages such as 'Getting it right first time – every time' using a variety of media including leaflets, booklets, video, DVD and pre-prepared presentations as well as interactive modules.

This paper outlines the practical experiences of veterinary authorities in the United Kingdom when responding to outbreaks of disease and reviews the development and use of the CGUs.

Keywords: humane killing, disease control, animal welfare, depopulation, contingency planning, containerised gassing units

Introduction

Since 2000, the United Kingdom has successfully responded to one outbreak of classical swine fever (CSF) involving 16 cases and 75 000 pigs, and foot-and-mouth disease (FMD) with 2 026 cases and 8.25 million animals on 11 000 premises in 2001 involving the humane culling of cattle, sheep, goats, deer and pigs with a further eight cases of FMD in 2007. The United Kingdom has also dealt with seven outbreaks or incidents of both low and highly pathogenic avian influenza and two outbreaks of Newcastle disease. These diseases of poultry have required the humane culling of 345 000 chickens, turkeys, ducks, geese, partridges and pheasants. The Avian influenza H5N1 virus has infected 387 people worldwide in 15 countries, killing 245 according to the World Health Organisation, 10 August 2008, figures. Indonesia has the highest toll of any nation. Although bird flu remains an animal disease, fears remain that the virus might mutate into a form easily passed from human to human. In Europe, the need to kill pigs to control CSF and poultry to control avian influenza has led to further research in EU countries, including the Netherlands (Gerritzen et al., 2006) and Germany (Gerdes, 2004), and has resulted in the devel-

opment of much valuable knowledge. The approach taken has been to put animal welfare and humane killing at the centre of the disease control response.

Principles and challenges of animal welfare and killing

General principles on killing animals for disease control may be found in Chapter 7.6 of the OIE guidelines in the *Terrestrial Animal Health Code*. These guidelines provide valuable information and guidance on general principles, organisational structures, roles and responsibilities and competences of the specialist teams required. They also outline the key considerations required for planning the humane killing of animals. In the last decade, the United Kingdom and other European countries have successfully responded to a wide range of animal disease situations both during the preparation and subsequent to, the adoption of the OIE guidelines in 2005. Killing, or *depopulation*, as it is increasingly being referred to, is just one aspect. Movement restrictions implemented as disease control measures can also result in significant welfare problems and may need arrangements for the culling and disposal of affected livestock. A key feature of any killing process

is effective handling and restraint and systems to ensure humane killing and this is particularly important when killing on-farm. In all cases, effective training and planning are essential to prevent pain, suffering, ineffective stunning or regaining of consciousness before death. Substantial challenges remain, even with the OIE standards, in putting these guidelines into effect.

Justification of the policy need for disease control by depopulation

Fundamental questions will be asked, such as whether or not the control of an infectious disease can justify killing large numbers of wild or domestic animals. Subsidiary questions include whether or not it matters ethically if the disease is an animal disease or a zoonosis. And does food supply, risk of human disease or poor animal welfare justify the policy of killing? However necessary it may be, this policy will need a good evidence base and strong communication to succeed.

Control by killing generates a duty of care to balance risk, costs and benefits. There is a hierarchy of justification of benefits from killing part of the population to reduce the risk of exposure for the rest. At one extreme, benefit exceeds cost for infected cases which have clinical signs and are positive in laboratory tests. The same applies to suspect cases where killing will help reduce the potential for spread and to dangerous contacts, provided tracing information is accurate and epidemiologic analysis is risk-based. There is weaker scientific justification for contiguous killing, preventive culls or firebreak cull, which may only be justified when the disease is out of control or has the potential to spread into a highly intensive or dense livestock area. There may also be a case for vaccination to kill as a control strategy to 'buy time' to ensure that animals are culled humanely and disposed of safely in a controlled manner, perhaps through dedicated slaughterhouses. However, to reduce the impact of disease control measures, including the costs to animal welfare, it is essential to minimise the impact of humane killing by using effective techniques and well-planned logistics. Care must be taken in disease surveillance veterinary inspection, handling and sampling. Restrictions on movement,

which may compromise welfare, must be proportionate and give confidence to stakeholders through the full description of their purpose, scope, scale and duration of impact. Licensed movement for welfare and economic reasons should be allowed, based on risk.

The practical response and effective preparation

The second challenge is a practical one, to make a practical reality of the OIE standards and achieve a humane death quickly. Successful translation of OIE guidelines requires the creation of an effective legal base for implementation, training plans and people who can deploy humane killing quickly, thus achieving effective disease control. Each disease outbreak is different, as are the affected premises, and therefore plans need to be flexible and based on the knowledge that a variety of killing methods is often needed for differing classes of stock and differing facilities and husbandry systems. Depopulation plans need to be tailored to each holding and need to take account of the type and age of livestock present as well as local community needs. This will require comprehensive contingency planning, operations, training and people.

Contingency plans

The key priority for all veterinary services is to ensure that animal welfare is properly protected when animals are killed to control epizootic diseases. To achieve this, authorities need to prepare robust contingency plans which have political agreement and are backed up with adequate resources. In the United Kingdom, the contingency plans for control of major epizootic diseases are revised annually subject to public consultation and laid before Parliament (Anon. 2007). These plans need to lay out the priorities for field operations, whilst balancing the need to protect human health with the requirement for effective disease control whilst maintaining animal welfare and minimising the impact on the environment. Fundamental principles of contingency planning are set out in Figure 1; this is a useful model approach which gives logic to the preparations. All stages are important, however it will always be of value to

review lessons learned as disease control by killing animals is always unpleasant and traumatic for the people concerned, especially animal owners and the local teams.

Levels of response

Clear lines of communication, command and control are essential with clarity on roles, responsibilities and a well established 'battle rhythm'. Ministers lead the Civil Contingencies Committee at strategic level in the United Kingdom with the Chief Veterinary Officer, other government departments, and use expert science advice. Tactical leadership falls to the National Disease Control Centre, comprising operational and policy staff, operational partners and stakeholders. Industry (farmers' unions) and welfare groups (RSPCA) at national and local level are part of the response. The operational level or Local Disease Control Centre is based in the outbreak area, delivers the response and requires strong local networks which have rehearsed and are well supported and funded. All engagement with stakeholders should start in advance and cover objectives for disease control, methods of killing, and logistics of operations and humaneness of killing.

'Getting it right first time – every time'

Other lessons learned include the ability to be able to quickly train large numbers of people. This need has resulted in the development of flexible training packages such as 'Getting it right first time – every time' using a variety of media including leaflets, booklets, video/DVD and pre-prepared presentations as well as interactive modules. Training needs to be dynamic, be readily and easily deliverable at the outset and during an outbreak. 'Getting it right first time – every time' is for induction training for the field veterinarian, case officer, and local veterinary and technical staff including incomers. It is supported by detailed standard operating procedures and field procedures which set out how activities should be undertaken. These operating procedures include reference to illustrated guidance notes produced by the Humane Slaughter Association, for example, Humane killing of livestock using firearms (HSA 2005).

Humaneness

As animals are sentient beings, there is an ethical duty to ensure they are killed humanely and to ensure their welfare is protected by the procedures used before and during killing. Frameworks have been developed for evaluating methods of euthanasia and humane killing such as the Council of Europe Convention for the protection of animals for slaughter, 1979 (CoE 1979), the AVMA Panel on euthanasia (AVMA 1993), and FAWC Report on the welfare of farmed animals at slaughter and killing (2003) and the EFSA (2004) Report on stunning and killing of farmed animals. Humane killing is the process of killing an animal with minimum pain and distress.

Assessing welfare costs in terms of scale, severity, and duration can highlight differences in circumstances when different types of animals are killed. The methods to assess the humaneness of different procedures are largely subjective and include physiological – and behavioural data – consciousness, emotion, pain, stress suffering, mode of action and pathology.

Key people, knowledge, competences and skills

Leadership roles come to the fore in killing animals for disease control. A few key people will be needed in each country to develop the plan. It is not possible to simply pick up the plan for a country and to use it successfully in another country. Although underlying principles will be the same, the details must reflect the individual circumstances. A few senior experienced people are needed in each country and they will need trained, confident colleagues who have practical exposure to methods and situations. Everyone needs to be flexible and they will all need strong support during the operations and afterwards. Thus investment in advance (in research, planning, skills, training, and other resources) is all important. As the exact details cannot be predicted in advance, it will be wise to put in place a multi-purpose capability. The team leader or incident commander is a key leadership role. Everyone needs clarity of purpose, some previous experience, and the

authority to be confident in the job. Stress on the front line is a real issue and someone dedicated to look after staff welfare is a great investment.

A good knowledge of animal behaviour is needed in the team, including some basic aspects of husbandry involved, applicable to each country, species, facilities, farming and terrain.

Communication to deal effectively with media coverage is a further challenge and media spokespeople will have to handle the media on matters of public interest throughout. This is always challenging, none more so than when covering killing animals on infected premises. Getting the wrong TV image happens all too easily. Historic negative images are often produced and veterinary services need to have the right messages and factual material ready. It is right to acknowledge that killing is unpleasant, but assert it is essential to control disease in certain situations. The public interest in permitted methods of killing and humane handling of animals requires ready access to the latest research on validated, humane, methods of killing and a whole system overview with independent auditing to demonstrate effect. All the arrangements need effective communication of risks, planning with stakeholders, and the full evaluation of lessons learned to ensure constant improvement in the guidelines.

Methods and systems to kill poultry – UK experience and recent developments with avian influenza

Practical methods for killing birds on-farm are limited. A great deal of field development and research is underway to increase the range of methods and improve the effect on welfare concerns. Lethal injection of suitable barbiturates such as pentobarbitone sodium requires minimal equipment and is humane. However, it requires veterinarians to administer the injection and they can only deal with small numbers of birds which need to be handled individually. Dislocation of the neck requires no special equipment, some field expertise is needed and the technique is humane in birds up to weights of 3 kg. Again, only relatively small numbers can be handled

by an individual, and there is an occupational risk of causing repetitive strain for the operator who needs to handle individual birds. Both cartridge-driven and compressed air-driven percussive stunning for chicken were developed by Gregory and S. B. Wotton (1990) and applied to chickens (Hewitt 2000) and ducks and geese (Hewitt 2004). Although primarily aimed at casualty slaughter the techniques are useful for depopulation of small numbers of all types of poultry (EFSA 2006).

Use of carbon dioxide gas in small containers or bags is an effective upscale with modest cost and is a proven technique. Again individual birds need to be handled and there are risks to the operators and some welfare issues for the birds from the use of gas. Although low throughput, these bags have been used successfully in small units. All three methods have been used for immediate killing for disease or welfare purposes in small or hobby flocks with good results.

In order to evaluate and improve the potential methods for the use of various gas mixtures for humane killing, studies have been made on the underlying physiological olfactory mechanisms by which chickens detect gases (McKeegan et al., 2005, 2006). There have been many recent studies on the behavioural responses of chickens and the electrophysiological response of birds to gas mixtures in the United Kingdom (McKeegan et al., 2006a, 2006b, 2006c, 2007a; Raj Gregory and Wotton, 1992; Raj et al., 1993, 1995, 2006), in the Netherlands (Lambooji et al., 1999; Van Luitjelaar, Zhonghua, and Coenen, 1999; Coenen et al., 2000; Gerritzen et al., 2004), in Denmark (Barton Glade, Von Holleben and Von Wenlawowicz, M., 2000), and in the United States (Webster and Fletcher, 2004a and 2004b).

The development of novel telemetric logging devices by Lowe and colleagues (2007) has enabled the actual neurophysiological responses of birds to be monitored during commercial controlled atmosphere stunning and killing (Abeyesinghe et al., 2007, McKeegan et al., 2007b) and also during whole-house killing (McKeegan and Wathes, personal communication, 2008). These studies indicate that differing gas mixtures have differing effects with different welfare implica-

tions (McKeegan et al., 2006b). For example, carbon dioxide has the benefit of anaesthetic properties but can be detected by chickens at low concentrations resulting in modest respiratory responses. High concentrations of carbon dioxide may be aversive to some birds but result in very rapid loss of consciousness. Anoxic gases such as argon and nitrogen are not detected but in some birds may result in convulsions when some birds may be conscious. Combination of argon and 20 % carbon dioxide appear to be optimal for welfare and in the United Kingdom are widely available and economic (Raj et al., 2008).

Research on Whole-House Gassing (WHG) is well developed (Gerritzen et al., 2004 and 2006) although foam delivery of gas is still at the development stage (Dawson et al., 2006; Benson et al., 2007; Raj Smith and Hickman, 2008) WHG removes the need to handle live birds, thus it is quick and humane to kill large numbers. However, a great deal of preparation of the buildings is needed and a limited range of houses are suitable. The supply arrangements need gas engineers and significant attention to health and safety issues. The evaluation must take note of cost and quantity of gas required. Recent studies in the United Kingdom indicate the potential application of this technique in large broiler units, deep-pit caged units and large layer barns.

Gas-filled foam delivery is at the development stage. Low density foam is produced using a standard firefighting foam generator from surfactant and water with a lethal gas mixture being used to create bubbles (Raj et al., 2008b). The specification and quantity of surfactant is critical as fragile, dry foam is needed to hold the gas which is then pumped in to fill the building. Bird movement breaks the bubble and releases the gas mixture. In this system, death results from exposure to the gas mixture, *not* by physical obstruction of the trachea or lungs. Birds don't run away suggesting acceptance by birds and further development is underway.

Containerised Gassing Units (CGUs) have been used in the United Kingdom to deal successfully with poultry disease outbreaks and have been developed adopting the principle of ramping up usual procedures for flock depopulation (Raj et al., 2008a). Development

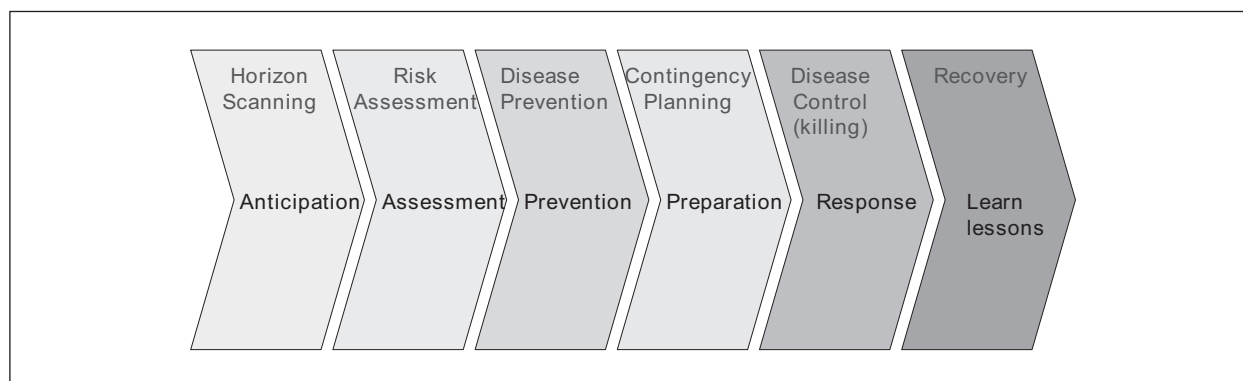
of CGUs utilised existing industry skilled catching teams and standard industry poultry transport modules and crates. Simple robust systems include gas-tight containers, a supply of an 80 % argon and 20 % carbon dioxide gas mix, monitoring equipment and an oxygen meter. The containerised gassing units consist of a gas-tight steel (3 mm thick) container (1.5 m W x 3.0 m L x 1.5 m H = 6.75 m³) and standard poultry transport modules. The container is pre-fitted with gas pipework. Diffusers to disperse gas and reduce noise are secured to the inside of the metal container. The door is shut and secured. The gas supply is turned on and maintained at 3 bar delivery pressure for up to three minutes or until a residual oxygen of less than 5 % by volume (< 2 % for waterfowl) at the top of the container, is registered in the oxygen analyser. The birds are held in the gas mixture for up to five minutes from the moment of turning the gas on or until wing flapping has stopped (as determined from listening to the sound). A forklift is used to remove the module full of birds and it is placed in atmospheric air. Each draw is pulled out and examined to check that there are no survivors. None have been found in disease control operations to date.

CGUs can be used at modest cost, are now a proven humane technique which is flexible to use. There is, however, a need to handle birds and to protect operators from risk associated with use of gas. Moderate throughput can be achieved in medium-sized units of both free-range and caged units (10–20 000 birds) and, under ideal conditions, will achieve killing rates of up to 6 000 birds per hour. This is recommended for detailed description and in addition to OIE standards. The technique is usable now.

Conclusions

Animal welfare and killing for disease control is a multifaceted challenge which can elicit strong reactions from those involved and thus preparation is of vital importance. Effective contingency planning has been achieved and shown to deliver an effective operational response in all species of farmed livestock and for a range of exotic and zoonotic pathogens. Key people are essential to success, they require proper training and support through-

Figure 1:
Approach to contingency planning and emergency response



out as killing animal is never pleasant; however, operations can be humane and timely. Substantial progress has been made to develop techniques which are appropriate in UK situations and are applicable to other countries with appropriate adaptation. Nonetheless, there is an ongoing implementation challenge and it is always preferable to prevent disease wherever possible.

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Practical experience

Killing animals for disease control purposes in China

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Keywords: humane killing, disease control, animal welfare, contingency planning, avian influenza

Culling is a crucial measure for preventing, controlling and eradicating animal diseases.

Since the killing of animals for disease control purposes may result in fear, distress and pain in animals, the animal welfare issues need to be addressed. The Chinese Government attaches great importance to animal welfare and adopts a series of effective measures to ensure and improve the welfare of animals.

This presentation gives a description of killing practices in the avian influenza emer-

gency response, including the methods chosen for killing animals.

This paper presents the Chinese experience in ensuring that animal welfare is maximised, including the provision of formal training to animal killing personnel and the implementation of strong supervision etc., in the face of constraints on the humane killing of animals for disease control purposes such as a large poultry population and a high proportion of free-range and backyard poultry.

Expérience pratique

Mise à mort d'animaux à des fins prophylactiques en Chine

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Mots-clés: abattage sans cruauté, lutte contre les maladies, bien-être animal, planification d'urgence, influenza aviaire

L'abattage est une mesure cruciale pour prévenir, maîtriser et éradiquer les zoonoses.

Du fait que le sacrifice d'animaux dans des buts de lutte contre des maladies peut produire des réactions de crainte, de détresse et de douleur chez ces animaux, il convient de prendre en compte le problème du bien-être animal. Le gouvernement chinois attache une grande importance à cette question et a adopté une série de mesures efficaces pour assurer et améliorer le bien-être des animaux.

La présentation qui est faite ici donne une description des pratiques d'abattage en cas de réaction d'urgence face à l'influenza

aviaire, y compris les méthodes choisies pour détruire les animaux.

L'article présente des expériences réalisées en Chine pour assurer la maximisation du bien-être animal dans le pays, comprenant la délivrance d'une formation théorique aux personnels chargés de l'abattage ainsi que la mise en œuvre d'une inspection sévère, etc., face aux contraintes qu'impose la destruction sans cruauté d'animaux dans des buts de lutte contre des maladies, comme c'est le cas dans les populations importantes de volailles avec une forte proportion de volatiles élevés en plein air et en basse-cour.

Experiencia práctica

Matanza de animales con fines profilácticos en China

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Palabras clave: matanza en condiciones decentes, fines profilácticos, bienestar animal, plan de emergencia, influenza aviar

La matanza constituye una medida decisiva para prevenir, controlar y erradicar las enfermedades animales.

En vista de que la matanza de animales con fines profilácticos puede causar temor, estrés y dolor en los animales, es necesario tratar los problemas de bienestar animal. Para el gobierno chino el bienestar animal es muy importante, por lo que ha adoptado una serie de medidas con el fin de garantizar y mejorar el bienestar animal.

A través de esta presentación se busca describir la práctica de la matanza de animales como

respuesta a la crisis de influenza aviar, incluyendo los métodos seleccionados para hacerlo.

El presente trabajo presenta el caso de China, que garantiza el cumplimiento del bienestar animal, incluyendo la formación oficial del personal encargado de la matanza de los animales y la implementación de una supervisión reforzada, etc., teniendo en cuenta las exigencias de la matanza de animales en condiciones decentes con fines profilácticos, por ejemplo en una población considerable de aves y en una amplia proporción de aves de corral en libertad.

Efficacious animal welfare safeguards in the process of killing animals for disease control in China

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Keywords: killing, disease control, animal welfare

Introduction

Killing is one key technical measure for animal disease control and eradication. The Chinese Government attaches great importance to animal welfare and takes a series of effective measures to safeguard animal welfare even under the unfavourable conditions of extensive animal feeding and a high proportion of free-ranging animals. This paper focuses on such measures in the process of killing animals for animal disease control in China.

Principal laws on Animal Welfare

The Chinese Government attaches great importance to animal welfare. Based on OIE guidance on animal welfare, the Ministry of Agriculture (MOA) and other relevant departments have taken effective measures to enhance animal welfare continuously, and have gone to great lengths to guarantee animals: Freedom from hunger, thirst, and malnutrition; Freedom from discomfort; Freedom from pain, injury and disease; Freedom to express normal behaviour; Freedom from fear and distress. These measures apply under the specific conditions of extensive animal feeding and a high proportion of free-ranging animals in China.

In order to guarantee animal welfare, the 'Animal Husbandry Law of the People's Republic of China' (hereinafter referred to as the Animal Husbandry Law) the 'Regulation on Rapid Response to a Major Animal Epidemic' (hereinafter referred to as the Rapid Response Regulation) and other related regulations provide a detailed stipulation on animal welfare in animal rearing, transportation,

slaughtering, etc. Article 39 of the Animal Husbandry Law stipulates the following requisites for livestock and poultry farms: (a) the production premises and supporting facilities should be commensurate with the farming scales; (b) animal husbandry and veterinary technicians on call; (c) conditions for epidemic prevention, as stipulated by laws and regulations or prescribed by the Ministry of Agriculture; (d) there must be facilities like methane-generating pits for bio-safety disposal of animal faeces, wastewater and other solid wastes. It is required in Article 42 that these are the necessary conditions for animal rearing on a livestock and poultry farm. Article 53 makes a stipulation that the requirements for animal epidemic prevention must be met; measures must be taken to ensure the safety of animals; and sufficient space, feed, and drinking water must be provided to animals in transportation. These stipulations have laid the legal foundation for good animal farming and sanitary measures so as to safeguard animal welfare.

Approaches to safeguard Animal Welfare in the process of killing animals

Killing is a key technical measure for the control and eradication of animal disease, especially contagious animal diseases. As killing operations might lead to fear, pain, or other reactions, the Chinese Government has taken such measures for animal welfare as perfecting the laws and regulations, intensifying the management of personnel involved, optimising animal disease control strategies and standardising killing methods.

Rapid Response Regulation and contingency plans for animal diseases at different levels make stringent stipulations on animal welfare

Good animal welfare requires effective measures for animal disease prevention and veterinary treatment, proper husbandry management, and humane killing. The Rapid Response Regulation and contingency plans for animal diseases at different levels outline major provisions on animal welfare. Firstly, express provisions are made on animal disease prevention and handling. The following requirements have to be fulfilled: to cull and destroy all infected animals and cohort animals; to dispose of the carcasses, animal excretions, contaminated feeds, litter and sewage in bio-safe way; to strictly disinfect the contaminated facilities; to conduct surveillance of susceptible animals and practice emergent vaccination when necessary. Secondly, the movement and rearing of animals should be under stringent management. It is required that, in the epidemic zone, susceptible animals be isolated within pens or appointed places, and markets of animals and animal products be closed. Prohibition is implemented on animals being moved into and out of the zone, and on animal products being moved out of the zone. Thirdly, the personnel involved in animal disposal for disease control should be under strict supervision. This requires that local governments, above county level, organise reserve teams composed of veterinary administrators, veterinarians, veterinary practitioners and relevant specialists. When necessary, persons with expertise can be organised to join the reserve teams. Technical guidance should be provided to people who participate in the emergency response to animal diseases.

Measures for animal welfare safeguard

To formulate the principles and specify the killing methods

The Ministry of Agriculture of the People's Republic of China, has worked on technical guidelines for animal disease response on the basis of China's actual conditions, in compliance with OIE guidelines and the experiences of developed countries. Firstly, the principles for killing are set as: young animals should be killed before older animals; infected ani-

mals should be killed first, followed by in-contact animals; killing should be carried out at the nearest location; methods leading to quick death should be used. Secondly, killing methods are specified with free bullets fired to the large animals such as cattle, sheep, goats and pigs, and neck distortion or controlled atmosphere killing applied to poultry.

To improve the operational skill of animal killing personnel

In order to standardise killing operations and improve the awareness of animal welfare, veterinary departments at all levels systematically train veterinarians and relevant personnel for a timely response to an animal disease emergency. Veterinary departments above the county level are responsible for organising stamping-out teams, which should be composed of veterinarians or personnel who are fond of animals and have been trained with veterinary knowledge.

To intensify bio-safety management

In order to prevent the animal disease from spreading and minimise the number of animals to be killed, it is required to dispose of all dead and infected animals in a bio-safe way; to disinfect thoroughly the animal pens, facilities for animal rearing, and the surroundings; to set up animal health inspection stations to prohibit animals into and out of the infected zone, and to disinfect thoroughly all vehicles and persons entering and leaving the infected zone.

To intensify supervision in the process of killing

Veterinary administrative departments and animal health inspection agencies above the county level are responsible for the standardisation of a killing operation as well as the timely correction of behaviours which do not meet animal welfare requirements. For the management of traceability, detailed records are required for animal killing personnel, animal species, number, methods of bio-safety disposal and disinfection, etc.

Future focus

To strengthen publicity and training as concerns animal welfare

The Chinese Government will publicise more extensively animal welfare and train more

intensively administrators of veterinary institutions and farming and slaughtering enterprises, especially large- and medium-sized enterprises, so as to enhance public awareness of animal welfare and improve animal welfare with better facilities, management, etc.

To strengthen scientific researches on animal welfare

The Chinese Government will take effective measures such as a more comprehensive input to encourage systematic research and

promote the application of research achievements, which could lay technical foundations for more rational animal welfare.

To improve the framework of animal welfare standards

The Chinese Government will combine OIE standards with China's actual characteristics to carry out pilot projects on animal welfare in animal farming, transportation, slaughtering, etc. Based on those findings, relevant standards and operational procedures will be established and improved.

Practical experience

Slaughter of animals for human consumption

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Keywords: slaughter, practical experience, Africa

Since its establishment in 1924, the World Organisation for Animal Health (OIE) has made a major contribution to animal welfare globally. The OIE's animal welfare programme has been guided by a working group of international experts and five sets of animal welfare guidelines were adopted at the 2005 OIE General Session, one of which was a standard on the slaughter of animals for human consumption.

In recognition that animal welfare is a broad field, this paper has restricted itself to the subject of *slaughter of animals for human consumption* and particularly some practical experiences in putting these guidelines to work. The object of the OIE guidelines for slaughter of animals for human consumption is to address the need to ensure the welfare of food animals during pre-slaughter and slaughter processes until they are dead.

Although these guidelines are not mandatory, it is expected that OIE members will incorporate them into their standards, enact relevant regulations and implement them. The final animal welfare outcome depends on the commitment of all stakeholders involved, includ-

ing producers, marketers, technicians and animal handlers guided, advised and supervised by the regulators, veterinarians and related expert professionals.

The paper reviews the general principles of slaughter of animals for human consumption, and their practical implementation in the real world. In particular, the paper gives a situational assessment of the implementation of those guides by some African countries with regard to familiarity with the guidelines, their implementation and the availability of national legislative instruments to implement them.

The paper concludes by raising key issues for advancing animal welfare to institutionalise the progress that has been made by the OIE in this area. Issues raised include the establishment of centres of excellence in each OIE Region, encouraging countries to develop appropriate legislation on animal welfare and on slaughter of animals for human consumption, research on animal slaughter, including associated pre-slaughter handling, promoting teaching and inclusion of animal welfare in curricula in agricultural institutions.

Expérience pratique

Abattage des animaux destinés à la consommation humaine

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Mots-clés: abattage, expérience pratique, Afrique

Depuis sa création en 1924, l'Organisation mondiale de la santé animale a apporté une contribution essentielle au bien-être des animaux à l'échelle du monde. Le programme de l'OIE en matière de bien-être des animaux est guidé par un groupe de travail constitué d'experts internationaux, et cinq ensembles de directives en la matière ont été adoptés lors de la session générale de l'OIE en 2005, dont l'un constituait une norme pour l'abattage des animaux en vue de la consommation humaine.

Tenant compte de l'étendue du domaine du bien-être des animaux, le présent article se limite au sujet de l'«Abattage des animaux pour la consommation humaine», et en particulier à certaines expériences pratiques de mise en œuvre de ces lignes directrices. L'objet des lignes directrices de l'OIE pour l'abattage des animaux en vue de la consommation humaine est de répondre au besoin d'assurer le bien-être des animaux élevés pour leur viande lors de la période précédant l'abattage et pendant celui-ci, et ce jusqu'à leur mort.

Bien que ces lignes directrices ne soient pas obligatoires, on espère que les membres de l'OIE les incorporeront dans leurs normes, prendront des mesures dans ce sens et veilleront à les appliquer. En fin de compte, le bien-être des animaux dépend de l'implication de toutes les parties prenantes, y compris les

producteurs, les marchands, les techniciens et les manutentionnaires, guidés, conseillés et surveillés par les organismes de contrôle, les vétérinaires et les experts professionnels compétents.

L'article examine les principes généraux de l'abattage des animaux en vue de la consommation humaine ainsi que leur application pratique. En particulier, il donne une évaluation de la situation quant à l'application de ces directives par certains pays africains en s'intéressant à la diffusion des lignes directrices, à leur mise en œuvre et à l'existence d'instruments législatifs nationaux pour leur application.

L'article conclut en soulevant des questions clés dans le but de faire évoluer le bien-être des animaux afin d'institutionnaliser les progrès qui ont été faits par l'OIE dans ce domaine. Les problèmes soulevés vont de la création de centres d'excellence au sein de chaque commission régionale de l'OIE à l'accompagnement des pays qui cherchent à élaborer une législation appropriée en matière de bien-être des animaux et d'abattage en vue de la consommation humaine, et à la recherche sur l'abattage des animaux, y compris les manipulations préalables, ainsi qu'aux mesures visant à enseigner cette matière et à l'inclure dans les programmes des établissements d'enseignement agricole.

Experiencia práctica

Sacrificio de animales para consumo humano

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Palabras clave: sacrificio, experiencia práctica, África

Desde su creación en 1924, la Organización Mundial de Sanidad Animal (OIE) ha contribuido al bienestar animal a escala mundial. El programa de bienestar animal de la OIE ha sido guiado por un grupo de trabajo conformado por expertos internacionales y por cinco directrices adoptadas durante la sesión general de la OIE en 2005, entre ellas las normas de sacrificio de animales para consumo humano.

Dado que el bienestar animal constituye un campo muy amplio, la presentación se limita al *sacrificio de animales para consumo humano* y, en particular, a algunas experiencias prácticas en la aplicación de estas directrices. El objetivo de las directrices de la OIE en torno al sacrificio de animales para consumo humano es garantizar el bienestar de los animales antes y durante el sacrificio hasta su muerte.

Pese a no ser obligatorias, se espera que los miembros de la OIE las incorporen dentro de sus normas, promulguen reglas pertinentes y las implementen. El resultado final del bienestar animal depende del compromiso de todas las partes, es decir de productores, vendedores, técnicos y operarios cuidadores de

animales guiados, aconsejados y supervisados por entes reguladores, veterinarios y expertos profesionales afines.

La presentación revisa los principios generales del sacrificio de animales para consumo humano y su puesta en práctica en el mundo real. De manera particular, brinda una evaluación de la situación de la aplicación de dichos principios en algunos países africanos, su familiaridad con las directrices, su implementación y la existencia de instrumentos legislativos nacionales para aplicarlas.

En las conclusiones se destacan temas claves para promover el bienestar animal e institucionalizar los avances alcanzados por la OIE en esta área, tales como crear centros de excelencia en cada región de la OIE, alentar a los países a desarrollar una legislación apropiada en materia de bienestar animal y sacrificio de animales para consumo humano, investigar el sacrificio animal que incluya el manejo previo al sacrificio, sin olvidar el fomento de la enseñanza a través de la introducción del bienestar animal en el plan de estudios de instituciones agrícolas.

Practical experience

Stray dog population control measures

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Keywords: Tunisia, stray dogs, dog rabies

The national rabies control programme (PNLR), launched in 1982, involving the Ministries of Agriculture, the Interior, and Public Health, has reduced the incidence of dog rabies in Tunisia. The main actions underpinning this programme are: epidemiological surveillance and free annual mass vaccination of dogs; health education for the general public and free case management of individuals exposed to the rabies contamination risk and stray dog population control. The writers present the recommended stray dog population control measures and report on its application over 25 years.

Once the extent of the stray dog population had been estimated, two control methods were adopted – namely, catching and neutering (castration or ovariectomy) and shooting animals for disease control purposes.

Surgical castration has proved to be an excellent stray dog population control method.

However, its large-scale application is limited by cost and organisational difficulties. Despite ethical reservations, disease control killing has actively contributed to bringing stray dog populations under control wherever it has been practised. However, when defining the management structures, strategies and operational procedures, the greatest care must be taken to ensure consistent reliability and that the animals are humanely and quickly killed.

This method cannot be considered as the miracle cure for the 'stray dogs' phenomenon in any way. It must be backed up and promulgated by a major public health education campaign to raise awareness of animal welfare values and the roles of pet dogs so that the sources of support for these stray dog populations are reduced and this phenomenon is contained once and for all.

Expériences pratiques

Mesures de contrôle des populations de chiens errants

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Mots-clés: Tunisie, chiens errants, rage canine

Démarré en 1982 et impliquant les ministères de l'agriculture, de l'intérieur et de la santé publique, le programme national de lutte contre la rage (PNLR) a permis de réduire l'incidence de la rage canine en Tunisie. Ce programme s'articule autour des axes suivants: la surveillance épidémiologique et la vaccination de masse gratuite et annuelle des chiens; l'éducation sanitaire des citoyens et la prise en charge médicale gratuite des personnes exposées au risque de contamination rabique; le contrôle de la population canine errante. L'auteur présente les mesures préconisées pour le contrôle de la population de chiens errants et en dresse le bilan de vingt-cinq années d'application.

Après estimation de la population de chiens errants, deux méthodes de contrôle ont été appliquées, à savoir, d'une part, la capture et la castration (ovariectomie) et, d'autre part, l'abattage à des fins prophylactiques par tir à balle.

La castration chirurgicale s'est révélée être une excellente méthode de contrôle de la

population de chiens errants. Cependant, son coût et des difficultés d'ordre organisationnel sont des facteurs limitant une application à large échelle. L'abattage prophylactique, malgré les réserves d'ordre éthique, a activement contribué à la maîtrise des populations de chiens errants dans les régions où il a été appliqué. Cependant, le plus grand soin doit être accordé lors de la définition des structures de gestion, des stratégies et des procédures opérationnelles, afin de garantir une fiabilité constante et une mise à mort rapide et dans des conditions décentes.

Cette méthode ne peut, en aucun cas, être considérée comme le remède miracle au phénomène «chiens errants». Elle doit être appuyée puis relayée par une large campagne d'éducation sanitaire des citoyens, de sensibilisation aux valeurs de la bientraitance animale et aux rôles de l'animal de compagnie afin de tarir les sources qui alimentent ces populations de chiens errants et d'endiguer définitivement ce phénomène.

Experiencia práctica

Medidas de control para poblaciones de perros vagabundos

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Palabras clave: Túnez, perros vagabundos, rabia canina

El programa nacional de lucha contra la rabia (PNLR) lanzado en 1982, que cuenta con la participación de los Ministerios de Agricultura, de Interior y de Salud Pública, ha reducido la incidencia de la rabia canina en Túnez. Las principales acciones que sustentan este programa son: la vigilancia epidemiológica y la vacunación anual masiva gratuita de perros, la educación sanitaria dirigida a la población en general, así como la atención gratuita a individuos expuestos al riesgo de contaminación de rabia y el control de las poblaciones de perros vagabundos. Los autores presentan las medidas de control para poblaciones de perros vagabundos e informan sobre su aplicación durante 25 años.

Una vez estimada la población de perros vagabundos, dos medidas de control fueron adoptadas: la castración o la ovariectomía, y la matanza de animales con fines de control sanitario.

La castración quirúrgica es un método excelente para el control de la población de perros vagabundos. Sin embargo, su aplicación en

una escala mayor está limitada por las dificultades que presenta en términos de organización y costos. A pesar de las reticencias éticas, la matanza de animales con fines profilácticos ha contribuido a mantener bajo control las poblaciones de perros vagabundos en todos los lugares en los que se ha practicado. No obstante, al definir las estructuras de gestión, los procedimientos operativos y las estrategias, se deben tomar todas las precauciones necesarias para garantizar su fiabilidad y eficacia, y que la muerte de los animales será rápida y en condiciones decentes.

Este método no debe ser considerado como la panacea para combatir el fenómeno de los «perros vagabundos». Debe contar con el apoyo de una campaña de educación pública que fomente la concienciación de la población sobre los valores relacionados con el bienestar animal y el papel de los perros de compañía, con el fin de reducir las fuentes de poblaciones de perros vagabundos y erradicar este fenómeno definitivamente.

III Putting the standards to work

Stakeholder perspective and experience of industry and NGOs



Work of non-governmental organisations supporting the implementation of the OIE animal welfare standards

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Keywords: animal welfare

The World Society for the Protection of Animals (WSPA) with over 880 member organisations in 152 countries is well placed to support the implementation of the OIE animal welfare standards in many countries of the world. Most of the world's largest animal welfare organisations are members of the WSPA and exercise great influence through campaigns and educational programmes.

One of the WSPA's priorities at the present time is to promote a Universal Declaration on Animal Welfare (UDAW) amongst developed and developing countries. Many countries do not have any form of animal welfare legislation and a declaration of simple animal welfare principles would provide countries with

a basis for legislation, to recognise that sentient animals should be treated with respect and their welfare protected and to have in place the underlying structure with which to implement OIE animal welfare standards. The importance of such a declaration was recognised by the OIE at the General Session in May 2007. Member organisations of the WSPA will also play their part in encouraging governments to implement the OIE standards, either through legislation or through codes of practice. It is the intention of the WSPA and other animal welfare NGOs to achieve recognition of the UDAW by the United Nations and at the same time to promote the implementation of OIE animal welfare standards throughout the world.

Action des organisations non gouvernementales en appui à l'application des normes de l'OIE sur le bien-être animal

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Mots-clés: bien-être des animaux, OIE

La Société mondiale pour la protection des animaux, qui regroupe plus de 880 organisations membres dans 152 pays, est bien placée pour soutenir l'application des normes de l'OIE en matière de bien-être des animaux dans de nombreux pays du monde. La plupart des grandes organisations mondiales qui s'intéressent au bien-être des animaux sont membres de la WSPA et exercent une grande influence par le biais de campagnes et de programmes éducatifs.

L'une des priorités de la WSPA à l'heure actuelle est de promouvoir une déclaration universelle pour le bien-être animal (DUBEA) dans les pays développés et en voie de développement. De nombreux pays ne disposent d'aucune législation en la matière. Une déclaration portant sur des principes simples pour assurer le bien-être des animaux leur fournirait une base juridique permettant de recon-

naître que les animaux doués de sensibilité doivent être traités avec respect et que leur bien-être doit être protégé, et les aidant à mettre en place l'infrastructure de l'application des normes de bien-être animal de l'OIE. L'importance d'une telle déclaration a été reconnue par l'OIE lors de sa session générale de mai 2007. Les organisations membres de la WSPA joueront également leur rôle pour encourager les gouvernements à appliquer les normes de l'OIE, soit par des mesures législatives appropriées, soit par des codes de bonne pratique. La WSPA ainsi que d'autres organisations non gouvernementales consacrées au bien-être animal ont la ferme intention d'obtenir la reconnaissance de la DUBEA par les Nations unies et, en même temps, de promouvoir l'application des normes de bien-être animal de l'OIE dans le monde entier.

Labor de las organizaciones no gubernamentales en apoyo de la aplicación de las normas de bienestar animal de la OIE

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Palabras clave: bienestar animal, OIE

La Sociedad Mundial para la Protección Animal (WSPA), con más de 880 organizaciones miembros en 152 países, se haya en una buena posición para apoyar la aplicación de las normas de bienestar animal de la OIE en varias naciones. Muchas de las organizaciones de bienestar animal más grandes del planeta son miembros de WSPA y ejercen gran influencia a través de campañas y programas educativos.

Una de las prioridades actuales de WSPA es promover la Declaración Universal sobre Bienestar Animal (DUBA) entre los países desarrollados y en vías de desarrollo. Muchos países no tienen ninguna forma de legislación de bienestar animal y una Declaración de simples principios de bienestar animal podrá

brindar bases para una legislación, reconocer que los animales sensibles deben tratarse con respeto, proteger su bienestar y contar con una estructura subyacente para la puesta en aplicación de las normas de bienestar animal de la OIE. La OIE reconoció la importancia de la Declaración en su sesión general de mayo de 2007. Las organizaciones miembros de WSPA también alientan a los gobiernos a aplicar las normas de la OIE, sea por medio de la legislación o mediante códigos de buenas prácticas. Uno de los objetivos de WSPA y de otras ONG de bienestar animal es lograr que las Naciones Unidas adopten la DUBA y fomentar al mismo tiempo la implementación de las normas de bienestar animal de la OIE en todo el mundo.

Work of non-governmental organisations supporting the implementation of the OIE standards

Address by the Director-General

Major General PETER DAVIES, Director-General, WSPA

Thank you, Mr President and Director-General for inviting me to address briefly this Conference. May I say how inspirational I found your opening address, Mr President.

Distinguished delegates, this morning's remaining presentations are all by non-governmental organisations. I shall speak on the work of my organisation – the World Society for the Protection of Animals (WSPA). The WSPA is truly a global alliance of animal welfare organisations with over 950 member organisations from over 150 countries. This means that we are extremely well placed, via our 15 international offices and our widespread member societies, to support the global implementation of OIE animal welfare standards, although we may sometimes be pressing for even higher standards in some areas.

In 2007, we entered into a formal agreement with the OIE which was a most significant step in ensuring the future cooperation between our two organisations. We believe, like earlier speakers, that progress in animal welfare will be made through evolution and not revolution, and such cooperation is important in achieving this progress.

There is more than one way in which the member countries of the OIE can be encouraged in their efforts to implement and enforce animal welfare standards.

In many developing countries, there is no legal basis on which to build a structure capable of implementing the OIE standard on slaughter, for example. In our opinion, there has to be groundwork laid down of basic animal welfare principles.

To this end, the WSPA and the major animal welfare organisations around the world have promoted the principle of a Universal Declaration on Animal Welfare (UDAW). How ani-

mals are treated matters both to the animals and to the people who care for them. Nearly half of the world's population is involved in agriculture, and livestock are important for food, for labour and for income. Yet there is currently no global recognition of the importance of animal welfare. A global, formal recognition of UDAW will encourage governments and intergovernmental agencies worldwide to take actions that will benefit animals, people and the environment.

The intention is for such a declaration to be adopted by the United Nations. To achieve this, the support of governments, both from developing and developed countries, is essential. Equally essential is to gain the active support of the veterinary profession, amongst others. It gives me great pleasure to know that the WSPA already has the support of the World Veterinary Association (WVA), the Commonwealth Veterinary Association (CVA) and the Federation of Veterinarians of Europe (FVE) and many national veterinary associations. In addition, I was delighted to be told by Dr Abdul Rahman, representing both the OIE and the WSPA, that the Islamic Conference on Animal Welfare, held in Cairo on 18 and 19 October 2008, has formally endorsed the UDAW initiative.

In May 2007, the International Committee of the OIE, at its General Session, adopted a resolution of support for the principle of a universal declaration on animal welfare. This was a major step forward as it meant that the member countries of the OIE recognised that a UDAW would be complementary to the OIE role in setting international animal welfare standards and would help countries to take the first steps in establishing an animal welfare legal basis on which other legislation, including that which would allow OIE standards to be implemented, to be introduced. It

would also, I believe, form a platform from which a global treaty, identified by Dr Sara Babcock in her presentation yesterday, could be progressed. We now look forward to identifying more specific collaborative opportunities where the OIE can actively support the progression of the declaration towards the United Nations General Assembly.

As I indicated earlier, improving animal welfare through legislation and practice is a step-by-step process. It can be frustrating for the international animal welfare movement to accept that, sometimes, progress can be very slow. It is encouraging, however, to see that progress is steadily being made and that animals are indeed benefiting.

In addition to our support for, and promotion of, a universal declaration on animal welfare, we also mobilise our member organisations around the world to bring pressure on governments to recognise the OIE standards and to draw up plans for their implementation.

This does not necessarily mean that a country has to rush into legislation. In fact, legislation which is not wanted and is not enforced is worse than no legislation at all. Other basic steps can be taken, and one of those steps education and training. For example, the OIE standard on slaughter for food lays down detailed criteria for the handling, stunning and slaughter of animals in slaughterhouses. Good animal handling before slaughter is not only good animal welfare but it also makes economic sense. Most injuries and bruising which cause the animal to suffer and the carcass to be damaged can be avoided. The loss of carcass value that goes with such damage will also be avoided. Even in places where pre-slaughter stunning cannot be introduced for religious reasons, the slaughtermen should be skilled in the procedure for humane slaughter. There is no excuse for a blunt knife or ignorance of the anatomy of the animal's neck and the exact position of the major veins and arteries. This was covered in greater detail by Dr Mohammed Chaudry and Dr Hassan Aidaros yesterday.

Training schemes for slaughtermen and others who work in slaughterhouses should be the first step in implementing this OIE standard. The WSPA and many of our member

organisations are more than willing to help governments set up training schemes. We are also willing to arrange for experts to visit countries and to discuss with governments and those involved in the slaughter industry the best way to bring about improvements and to make the slaughter of animals for food more humane. Later on today, Dr Kolesar, one of the WSPA's experts, will talk about the WSPA's current work in China and Brazil: efforts which have had, and will continue to have, positive results.

The WSPA recognises that OIE's task is to set international standards for the transport of animals by road and by sea and not to question the reasons why animals are being transported.

However, we believe that long-distance transport of animals — particularly for slaughter — causes great stress to animals and, in many cases, much suffering and loss of life. The traditional reasons for transporting animals long distances for slaughter are almost entirely economic. In our opinion, economic arguments cannot justify the suffering caused and, indeed, an economic benefit case can be made for the alternative of transporting chilled or frozen carcasses, which makes sense not only in animal welfare terms but by also reducing the likelihood of disease occurring and, subsequently, being spread.

Many of you will know that earlier this year a coalition between the WSPA and the major international animal welfare organisations launched a campaign which argued against the cruel and avoidable long-distance transportation of animals for slaughter. This campaign has been recognised internationally and in May, at the OIE General Session, a book was made available by WSPA to all Chief Veterinary Officers (CVOs) which provided the first comprehensive coverage of the science, welfare problems and incidence of long-distance transport. We believe that this campaign has made people, including those in government, think seriously about this problem and, in some cases, to take steps to reduce or stop the live trade. I was delighted to hear the forward-thinking and robust views on this subject by President O'Neil yesterday.

The WSPA firmly believes that the OIE's initiative in undertaking the task of designing international animal welfare standards can only result in major improvements to the way that animals are treated and lead to better animal welfare around the world. Stand-

ards on their own are only a first step. They must be implemented, and we will play our part, in collaboration with, and in support of, the OIE in achieving this. Together, and with mutual respect, we can surely make a difference.

A meat and livestock industry duty: to protect livestock and ensure their welfare

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Keywords: meat, demand, economy, competition

Protecting and taking care of their livestock is a normal behaviour for meat and livestock professionals who, by definition, are the major role players in animal welfare. While the issue is now presented as an important society concern – which raises the question of how we define and measure society concerns – one should never forget that the long history of human evolution and livestock domestication rests on practices and working methods compatible with the classical ‘Five Freedoms’. Given the wide-ranging interpretation of what is covered by such a vague word as ‘welfare’, it seems indispensable to spend more time on definitions and establish a clear distinction between ‘well-being’ and ‘welfare’.

Meat and livestock professionals are constantly facing the difficult task of reconciling the economic performance of their production systems with the whole range of consumer demand aspects, the top priority for most consumers across the world remaining the supply of adequate quantities of safe meat

products at affordable prices. OIE guidelines are useful to help ensure that modern production systems and practices remain compatible with animal welfare, and meat and livestock professionals can also draw from them to build evaluation tools for husbandry, transport and slaughtering systems.

The need to have a common international basis for animal welfare practices, a wish totally shared by economic operators, is however unrealistic given the range of cultural and economic contexts, hence outbidding and competition imbalance risks. The International Meat Secretariat (IMS) is promoting the debate on animal welfare within the industry in order to avoid such outbidding and is opposed to any animal welfare labelling of meat products.

IMS-OIE collaboration is necessarily two-way: the IMS providing an essential input for the guidelines to remain realistic and a relay for the dissemination of OIE work within the industry.

Un des devoirs de la filière de la viande: assurer la protection des animaux de rente et leur bien-être

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Mots-clés: viande, demande, économie, concurrence

La protection et les soins dispensés au bétail représentent un comportement normal pour les professionnels du secteur qui, par définition, sont les principaux intervenants en matière de bien-être des animaux. Alors que cette question est aujourd'hui présentée comme un enjeu social important — ce qui pose la question de savoir comment on définit et on mesure les problèmes sociaux —, il ne faut jamais oublier que la longue histoire de l'évolution humaine et de la domestication du bétail repose sur des pratiques et des modes de travail compatibles avec les «cinq protections». Étant donné la large interprétation qu'on peut donner à un mot de sens aussi large que «bien-être», il semble indispensable d'approfondir les définitions et d'établir une distinction claire entre bien-être et confort.

Les professionnels de la viande et du bétail se trouvent constamment confrontés à la difficile tâche de concilier le rendement économique de leur système de production et l'ensemble des aspects de la demande des consommateurs, la première priorité pour la plupart de ceux-ci, dans le monde entier, restant la fourniture de quantités adéquates de viande saine à des prix abordables. Les lignes directrices de l'OIE sont utiles pour aider à

garantir que les systèmes et pratiques de production modernes restent compatibles avec le bien-être des animaux; elles sont aussi utiles pour les professionnels de la viande et du bétail qui peuvent également s'en inspirer en vue d'élaborer des outils d'évaluation pour les systèmes d'élevage, de transport et d'abattage.

Il serait bon de disposer d'une base internationale commune permettant de mieux assurer les pratiques en matière de bien-être des animaux — tous les opérateurs de la filière le souhaitent —, mais cet objectif est aujourd'hui irréaliste, étant donné les grandes différences de contexte culturel et économique, ce qui expose à des risques de surenchère et de concurrence déloyale. L'Office international de la viande (OIV) favorise le débat sur le bien-être des animaux dans l'industrie afin d'éviter ce genre de nivellement par le bas, et il est opposé à tout marquage des produits carnés portant sur ce sujet.

La collaboration OIV-OIE se fait nécessairement dans les deux sens, l'OIV fournissant des données essentielles pour que les lignes directrices restent réalistes et servant de relais pour la diffusion des travaux de l'OIE auprès de l'industrie.

Labor de la industria cárnica en apoyo de las normas de bienestar animal de la OIE

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Palabras clave: carne, demanda, economía, competencia

Proteger y cuidar el ganado es un comportamiento normal para los profesionales de la carne y de la ganadería, quienes, por definición, son los protagonistas del bienestar animal. Aunque el tema se presenta ahora como una importante preocupación social, que plantea la pregunta sobre cómo se define y evalúa una preocupación social, nunca se debe olvidar que la larga historia de la evolución humana y de la domesticación de los animales se apoya en prácticas y métodos de trabajo compatibles con las «cinco libertades» clásicas. Dadas las amplias interpretaciones de lo que abarca una palabra tan vaga como bienestar, parece indispensable dedicar más tiempo a las definiciones y establecer una clara distinción entre equilibrio y bienestar.

Los profesionales de la carne y del ganado se enfrentan constantemente a la difícil tarea de reconciliar los resultados económicos de sus sistemas de producción con todos los aspectos de la demanda del consumidor, la principal demanda de la mayoría de los consumidores alrededor del mundo sigue siendo el aprovisionamiento de cantidades adecuadas de productos cárnicos seguros a un precio abordable. Las directrices de la OIE son útiles

para ayudar a garantizar que los sistemas y prácticas de producción modernas son compatibles con el bienestar animal; por su parte, los profesionales de la carne y de la ganadería pueden servirse de ellas para crear herramientas de evaluación de los sistemas de cría, transporte y sacrificio.

La necesidad de contar con una base internacional común para las prácticas de bienestar animal, un deseo totalmente compartido por los operadores económicos es, sin embargo, poco realista habida cuenta de la diversidad de contextos culturales y económicos, que conllevan riesgos desequilibrados derivados de la oferta excesiva y de la competencia. La Oficina Permanente Internacional de la Carne (OPIC) promueve el debate sobre el bienestar animal dentro de la industria con el fin de evitar este tipo de competencia excesiva y se opone a cualquier forma de etiquetado de bienestar animal en los productos cárnicos.

La colaboración entre la OPIC y la OIE es necesariamente de doble vía, la OPIC provee información esencial para que las directrices permanezcan acordes con la realidad y difunde el trabajo de la OIE en el ámbito de la industria.

Meeting demand sustainably and responsibly: a challenge and a duty for the meat and livestock industry

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Keywords: livestock farming, meat industry, demand, economy, welfare, well-being

Introduction

The 'well-being' of farm animals is presented today as a major society issue that concerns people to such an extent that the European Union has described animal well-being as being a European value, while some are even talking of animal rights on a par with human rights.

Why then should animal well-being have become, in the early 21st century, a major issue for civil society? In this respect, we may wonder about the motivations of opinion makers and about the way in which societal issues are defined and assessed. Could it be that today there are problems of ill-treatment and that the situation is getting worse? This is clearly not the case, since humans have been improving the conditions in which livestock are raised, and are continuing to do so.

The reason for this trend is far more insidious, and should be sought within a shift in the whole issue of animal well-being: animal protection organisations have long moved on from the sole issue of animal protection and welfare¹ to the question of the relationship between humans and animals and their respective places.

To be convinced of this, you only have to look at the slogans used in the campaigns led by many animal protection organisations, demanding rights for animals and defending vegetarianism or even veganism. Some organisations promote slogans such as 'the 19th century was the century of the liberation of slaves, the 20th that of women's liberation and the 21st will be that of animal liberation'.

For want of a clear definition of what is meant by animal protection, discussion about these issues is polemical and sometimes aggressive.

Table 1:
Livestock slaughtered worldwide by principal species, 1970–2005 (thousands of head)

	1970	1975	1980	1985	1990	1995	2000	2005
Cattle	210 511	232 812	234 794	246 602	257 689	268 312	279 637	300 854
Buffalo	9 627	10 816	11 972	14 286	16 266	20 494	21 716	23 050
Goats	118 252	135 632	155 957	179 961	227 406	267 799	310 211	389 828
Horses	3 067	2 937	2 863	2 748	2 862	4 318	4 848	4 836
Pigs	537 223	627 303	756 014	815 034	921 822	1 053 288	1 160 809	1 332 037
Sheep	366 987	362 924	383 681	422 914	464 475	480 136	481 362	539 025

Source: FAO

And yet, the need for milk, meat, and other animal products to feed the world's population is increasing all the time, and millions of livestock are raised and slaughtered every day, as shown in Table 1 below, based on FAO figures.

Underpinning all this activity are the men and women who work in the meat and livestock sector, whose job it is to provide healthy, quality meat at affordable prices. They would, therefore, like the notion of well-being to be more precisely defined in order to be able to discuss the issue in a calmer way and to work more effectively.

Livestock welfare and the relationship between humans and animals

The domestication of animals

The history of humankind shows that in every civilisation humans and animals have developed together, that humans have used animals for food, labour, transport and other purposes, and that they have domesticated a large number of species for their own needs.

The human-animal relationship is one of the foundations of the evolution of humankind, and our current societies would not exist today if there had not been this parallel development of humans and animals in a relationship where humans used animals.

Focusing on the domestication of animals, it can be seen that right from the start, and without necessarily being aware of it, humans were already putting into practice most of the Five Freedoms proposed by the Farm Animal Welfare Council² to ensure that animals are well treated:

- Freedom from hunger, thirst, and malnutrition.
- Freedom from discomfort.
- Freedom from pain, injury and disease.
- Freedom to express normal behaviour.
- Freedom from fear and distress.

Only the freedom to express normal behaviour may have been limited to some extent as it is the price to pay gain on the other criteria. We, therefore, have a kind of contract between humans and domestic animals: more comfort

on one hand but some behaviour restrictions on the other.

This domestication took place through a slow process of acquisition and build-up of knowledge with regard to feeding, breeding, shelter and animal behaviour.

Although humans need animals, the opposite is also true, and it would be wrong to say that the relationship between humans and animals has only been of benefit to the former. Between humans and animals there exist varied and complex relationships, and compensations that help to maintain and restore stability and conserve species. The elimination of livestock farming would lead to the disappearance of species and breeds selected for a specific function (cattle, horses, birds, etc.) and to a genuine impoverishment of the animal world. In addition, the development of our societies is leading to the disappearance of some animal species considered to be 'of no use' or even 'harmful', and breeding for commercial reasons is one way of preserving some of them.

The evolution of humankind and the domestication of animals already provide an answer with regard to the respective place of humans and animals: humans have always sought to establish a close relationship with certain animals and use some of their abilities or produce for their own benefit. Humans need animals and their produce just as the animal world needs humans.

Human rights and duties

Certain philosophical approaches make a strong claim that animals should be accorded rights which would restrict their use by humans, and in particular, the right to live: humans would no longer be allowed to kill animals for various uses.

This issue of animal rights is connected to that of property rights, which some people would like to restrict by endowing animals with a legal status different to that of goods. Such people wish to give animals the status of a 'legal person', which would enable them to go to court, have their own lawyer, and so on.

The question of knowing whether the human species is an animal species like any other is

asked by anti-specists such as Peter Singer³, who demand that humans cease to use animals, especially for food. This position is widely taken up by vegetarian and vegan movements, and gives inspiration to an anti-animal production and anti-meat position backed by many animal protection organisations, which thus step outside their allotted role and mislead their members.

And yet it is undeniable that the cognitive and relational abilities of humans, as well as their freedom, free will and responsibility for their own acts, endow them with a special position in comparison with animals. Humans are not an animal species just like any other, and to quote the title of a recent book by the French philosopher Jean-Marie Meyer⁴, we may be animals, but we are not *dumb* animals.

Humans, therefore, claimed rights over animals since they occupy a special place within the order of the natural world. However, such rights also give humans duties: since animals cannot have duties towards humans, it follows that they do not have rights like those humans have. Humans have the right to use the products from the livestock they rear, but they also have the duty to guarantee their protection and welfare while being reared, as well as ensuring that they die in the best possible conditions.

Consuming animal products

Vegetarian movements use the cause of animal well-being as a way of promoting their ideas about a meat-free diet, or even, for vegans, a diet free of any animal products, with the pretext that livestock farming is a source of unnecessary suffering inflicted on animals.

A vegetarian or vegan diet is a perfectly respectable personal option, but it is less credible when it is used actively, and sometimes aggressively, to oppose livestock production and meat consumers. What right do those who have opted for a vegetarian diet have to attempt to impose it on other consumers, while, incidentally, denying the fact that humans have always been omnivorous and that a balanced diet is based on the consumption both of plant and animal products? Many authors have connected the improvement in

diet caused by eating animal proteins with the increase in brain size which took place when the early hominids evolved into *Homo sapiens*^{5,6,7}, and it is this more balanced diet which enabled humans to leave their African cradle and colonise other continents⁸.

According to the FAO, the world demand for animal products, milk, meat and eggs, is constantly rising, and looks set to double by 2050 due to demographic growth and higher standards of living, especially in the developing and emerging countries.

A close correlation between meat consumption and income (based on per capita GDP) can indeed be observed. A compilation of data for meat consumption in 27 countries on all five continents showed an R² correlation of 0.7 between these two criteria. This trend is clearly confirmed by the development of consumption in the emerging countries over the last 10 years (especially in Asia, where economic growth has been outstanding)⁹.

Why should anyone be entitled to prevent new sections of the population from having access to a diet that is more varied and richer in animal proteins, on the pretext that our western societies have more than enough to eat?

It is instructive in this respect to read the manifesto for the abolition of meat consumption¹⁰ backed by many animal protection organisations (including, in France, the 'L-214' association, which is very closely connected to the French animal protection society):

Because meat production involves killing the animals that are eaten,

because their living conditions and slaughter cause many of them to suffer,

because eating meat isn't necessary,

because sentient beings shouldn't be mistreated or killed unnecessarily,

therefore,

farming, fishing and hunting animals for their flesh, as well as selling and eating animal flesh, should be abolished.

It is obvious that meat and livestock professionals cannot discuss animal well-being

issues with organisations whose actual goal is to reduce, or even abolish, the consumption of meat instead of animal protection (for example, a recent CIWF campaign that aims to reduce meat consumption by 15 %).

The demands of animal protection organisations have changed considerably, making talks – let alone collaboration – between the industry and animal protectors even more difficult.

Animal protection organisations can be classified according to their objectives and activities:

- those acting in the area of animal welfare and protection: animals should not be ill-treated, should be protected, and should be guaranteed the Five Freedoms,
- those placing themselves in the far more subjective field of animal well-being: they question farming methods, transport conditions, etc.,
- those demanding genuine rights for animals and actively fighting for vegetarianism and veganism: they question the use of animals by humans.

A parallel can be drawn between this classification and the historical development of organisations that defend animals: the organisations set up in the 19th century (SPA, RSPCA, etc.) mostly belong to the first group, those set up in the mid 20th century to the second group, while the most recent organisations created in the 1980s and 1990s belong to the third group. In addition, competition between organisations is leading to an escalation in demands, which are becoming increasingly radical and aggressive towards the industry, with some organisations resorting to the use of methods of action bordering on terrorism.

Animals are 'sentient beings'

In this debate about the human-animal relationship, qualifying animals as 'sentient beings' is a fundamental point, since it gives a legal framework and a solid base to the duties of humans towards animals.

Although the extent to which animals are sentient has been the subject of much debate in

the past, everyone now agrees that animals should be recognised as sentient beings: they are sensitive to pleasure and pain, to deprivation and to stressful situations.

It is with this status of animals as sentient beings in mind that regulations and legislation have been developed in many countries of the world: humans must protect those 'sentient beings', in order to spare them from situations of pain. And when animals are used by humans to produce milk, meat, eggs, etc., farmers must implement rearing, transport and slaughter practices that take into account their nature as sentient beings.

The European Union makes explicit reference to animals as 'sentient beings' in the Treaty of Amsterdam, signed on 2 October 1997: it includes a clause that requires Member States to 'guarantee greater protection and more respect for the well-being of animals as sentient beings'¹¹.

The same reference to the sensitivity of animals to pain can be found in the legislation of many other countries, for instance, New Zealand, to quote just one other example from the other side of the world¹².

It was on the basis of that 'sentient beings' status that the Five Freedoms which humans should guarantee to animals were defined. Although it should be stressed that in large part this is merely a formalisation and improvement of ancestral practices of domestication and livestock farming, this work has made it possible to construct specific, realistic programmes for animal welfare.

The intensification of animal production

From the second half of the 20th century, there has been an intensification and even industrialisation of animal production systems under the twin influences of, on the one hand, the increasing demand for animal products at affordable prices, and on the other, the acquisition of new knowledge in the field of the animal sciences, such as feeding, selection and genetics, control of reproductive cycles, etc.

Today, not only in industrial countries but also in the emerging countries, traditional small farming has given way to large, more industrial units. This radical transformation

chiefly concerns pigs and poultry, which are fed on cereals and oil cake, cattle to a far lesser extent, and sheep and goats hardly at all.

This thus leads to specialised, automated units producing just one type of animal inside closed buildings that restrict or prevent animals from having access to the outside world.

For the producers, such new production systems have undeniable advantages: improved productivity linked to controlled feeding, a reduction in the surface area needed (off-land farming), and improved control of hygiene conditions, as well as less strenuous work for producers thanks to automation.

According to the FAO, the intensive model should also be preferred in certain situations in order to minimise environmental impact¹³.

However, the intensification of animal production also has its own limits, which are today penalising producers: the shortening of production cycles, with ever younger animals as a result of excessive selection for growth rate, means that livestock are more delicate and more prone to disease, while the end products lack maturity. It is up to the industry to make sure that animals can cope with the new rearing conditions and a balance has to be found between marginal productivity gains and possible costs in terms of well-being.

Moreover, some of the new farming methods have altered the image of traditional livestock farming, and may upset citizens and consumers, who are increasingly removed from the countryside. David Fraser, in particular, has reviewed the relationship between intensification and ethical conflicts, but he also disagreed with a rash association between intensification/confinement and animal well-being problems; according to him, the trend towards confinement also helped solve a number of them, and well-being problems are less a function of the type of rearing system than of how well it is operated¹⁴. Nevertheless, from now on, more attention will need to be paid by the industry to factors linked to the intensification of livestock production.

Thanks to recent technological and scientific progress, producers are already modifying their techniques and the organisation of

buildings and equipment, with the aim of improving certain techniques that are overly brutal or restrictive for livestock: alterations to chicken coops, runs and outdoor access for broilers (with the additional constraints linked to bird flu control measures), shared pens for calves, etc.

Similar improvements have been carried out in means of transport and in stunning equipment and methods in slaughterhouses, where it is also necessary to increase capacity and automate jobs in order to improve working conditions and safety of staff.

It is necessary to develop global assessment tools for current animal production systems that, in addition to criteria pertaining to productivity and cost-effectiveness, introduce criteria pertaining to well-being and the contribution to sustainable development.

For the industry, the question of the protection and well-being of animals is entirely legitimate, as long as the following principles are accepted.

1. Livestock farming is an economic activity undertaken with domestic animals, which humans may appropriate and use to satisfy their own needs, especially with regard to food.
2. Animals are sentient beings and should, for this reason, be protected and well treated in accordance with the Five Freedoms, which should serve as a basis for regulatory action.

How does the industry approach animal welfare?

Due to its behavioural aspects, animal well-being is, more than any other discipline, far from being an exact science. An open approach is to be preferred, based both on the knowledge and understanding of scientists as well as on the experience, practices and know-how of the industry.

Scientific knowledge

The first scientific research into the handling of animals from the 1960s to 1980s initially sought to measure the influence of the conditions of rearing, transport and stunning meth-

ods on the quality of meat (meat with high pH, dark meats).

The connection between poor handling of livestock and defective meat quality was easily demonstrated, and this work led to the introduction of improvements that made it easier to handle animals during loading and unloading, transport, and stunning operations, and to the organisation of supply to abattoirs so as to leave animals enough time to rest before slaughter.

More recent work has concentrated on measuring animals directly for certain physiological constants that indicate the state of fatigue, dehydration or undernutrition at each stage: assembly, loading, transport, unloading, and lairaging.

These studies revealed the critical points and the trickiest situations during the handling of animals¹⁵:

- mixing up animals from different farms,
- loading and unloading,
- times when humans have to intervene in order to move the animals, sort them and get them to move forward,
- quality of driving by livestock transporter drivers, which is recognised to count for 50 % in the well-being and comfort of transported animals; industry organisations therefore attach great importance to training drivers.

On the other hand, journey time as such is not one of the major factors in the quality of transport, as long as precautions are taken with regard to watering and feeding. Despite the fact that this has been recognised, one of the key demands of animal protection organisations in Europe is the banning of long-haul transport.

More recently, a behavioural approach to well-being has been developed, with the systematic observation of livestock behaviour in different situations by means of continuous video recordings:

- position of animals in livestock transporters, standing and lying positions while stationary and moving,

- how much time the cattle devote to rumination, which is a good indicator of their state of comfort and tranquillity,
- access to drinking troughs in livestock transporters,
- movement of animals in drive chutes leading to the stun box, restraining and stunning, etc.

Such studies today take more account of the factors of animal well-being as a whole, including the pragmatic knowledge of the professionals and handlers who are in daily contact with animals.

Bringing these various approaches together enables one to make practical recommendations and motivate operators to better integrate welfare issues.

Recommend and/or regulate

Meat and livestock operators are convinced that their economic results depend on the effective application of animal protection and welfare rules.

However, in order to guarantee a satisfactory welfare situation, it is not enough to merely apply one or more simple rules; it is necessary to implement a number of professional practices, which need to be permanently adapted according to the situation and the people concerned.

That is why best practice guidelines, drawn up by professional organisations for their members, are so useful. These guidelines bring together advice and recommendations to improve the situation of livestock, with the aim of actually getting results, and 'translate' regulations into language that can be understood by all and that can be applied in the field.

Regarding the issue of animal protection and welfare, some countries adopt a very regulatory approach; some prefer to rely on professional guidelines, while others take up an intermediate position.

The New Zealand approach

In New Zealand, the Animal Welfare Act 1999 is the basis for all the regulations concerning animal welfare.

It comprises three sections.

1. The obligations of those responsible for looking after animals who must ensure that their physical needs, health and behaviour are respected and allowed for, and that pain and stress is avoided. This is an approach that refers to the Five Freedoms. The text also specifies activities and actions that are banned, such as acts of cruelty, ill-treatment and neglect of animals, and provides procedures to be followed in the event of breach of these rules.
2. Codes of welfare which must be established for different species and different activities (rearing, transport, slaughter, laboratory animals). These codes lay down appropriate behaviours, and define minimum standards to be respected and good practices.
3. Lastly, regulatory texts that govern administrative issues: payment of licence fees, models for administrative documents, composition and areas of competence of committees, etc.

This approach leaves plenty of room for codes of welfare, which are genuine best practice guidelines explaining to industry professionals the practices and behaviours to adopt at every stage and in every situation.

These codes contain minimum standards which serve as a legal basis in two possible ways:

- demonstration of a breach of minimum standards, which can then be used to institute proceedings for misdemeanour,
- grounds for defence of persons against whom proceedings have been brought, showing that they have reached or exceeded the minimum standard.

The US approach

This is basically a 'best practice guidelines' approach, as illustrated by the American Meat Institute's (AMI) Recommended Animal Handling Guidelines¹⁶.

This guide, the third published by the AMI (the first was in 1991, the second in 1997), concerns cattle, sheep and pigs.

What is original about the US guidelines is their practical and concrete nature. For instance, on page 12: if temperature condi-

tions go outside the recommended range during transport, 'the driver is not permitted to stop with a loaded livestock transporter', because obviously, if he/she does so, temperature levels can only get worse. What is a driver in the same situation in Europe supposed to do, given the regulations about driving time and periods of transport, with a compulsory halt after 14 hours?

Even more interesting is the quality control system for handling and stunning of animals in the abattoir, which is measured on the basis of seven criteria:

- two mandatory criteria:
 - zero tolerance for acts of cruelty or ill-treatment, such as beating an animal, dragging an animal that cannot move, deliberately applying an electric prod to sensitive areas (eyes, nose, ears, anus, etc.),
 - obligation to provide access to water in lairage pens,
- five criteria that are scored (excellent, acceptable, not acceptable, serious problem) on the basis of objective measurements, with thresholds that naturally vary according to the species:
 - stunning efficacy: measured as a percentage of animals stunned on the first attempt,
 - bleeding rail insensibility: measured as a percentage of animals showing signs of a return to sensitivity on the bleeding rail,
 - floor quality: measured as a percentage of animals that slip or fall,
 - calmness of animals: measured as a percentage of animals that vocalise,
 - use of electric prods: the guidelines state that the use of electric prods should be reduced, but the approach remains realistic, and control is based on the level of use, measured as a percentage of animals prodded.

This is an example of a professional and pragmatic approach which does not rely on any laws, regulations or any other state intervention.

This auditing system has been adopted in the specifications laid down for the supply of certain restaurant and retailing companies.

The EU approach

The EU approach is rather different: it is based on a series of regulations detailing all the means that an operator should implement so that animals are protected and well treated during rearing, transport and at the abattoir.

For instance, with regard to transport of animals, a regulation that came into force in 2007 details in over 50 pages the obligations of transporters of live cattle :

- first of all, a distinction is drawn on the basis of the journey time: short-haul transport, less than eight hours, and long-haul transport, more than eight hours,
- journeys of over eight hours are only allowed subject to travel programmes: for instance, for adult cattle, two periods of 14 hours separated by an interval of one hour for watering and feeding if necessary; animals must then be allowed to rest for 24 hours at a stopping place before beginning a new period,
- companies must obtain an accreditation from the competent authority; requirements are more severe for those involved in long-haul transport,
- lorries for long-haul transport are inspected and must have specific equipment: drinking troughs, mechanical ventilation systems, compartments, recovery system for urine and faeces, system for recording temperature in the animal compartments with relay in the driver's cab and warning in the event of temperatures going outside the permitted range,
- for long-haul transport, the lorries must be equipped with a GPS system recording the main transport parameters: arrival and departure time, intermediate stops, opening of doors, etc.,
- drivers and handlers must hold a certificate of proficiency for livestock transport issued by the authorities,
- loading densities are defined for each category of animal according to their weight.

Many other details figure in these regulations, which are far removed from the approach which the industry would like to see, namely, working more towards output-based objectives rather than a catalogue of means.

Despite the severity of such regulations in the EU, animal protection organisations continue to demand the banning of transport of live animals for a duration exceeding eight hours.

Although these three approaches admittedly correspond to traditions and customs that vary from one region of the world to another, the meat and livestock industry tends to be more favourable to a New Zealand type approach:

- a basic statutory text which defines obligations and prohibitions, together with penalties: acts of cruelty, ill-treatment and neglect of animals, etc.,
- codes for each species and activity which lay down performance targets to be attained, as do the American Meat Institute's guidelines.

Nevertheless, everyone knows that the implementation of such rules is linked to the state of mind and motivation of industry professionals, which in turn depend entirely on there being regular awareness raising and training sessions for those involved in rearing and handling animals.

The OIE guidelines and recommendations

In the years following 2000, the OIE, in its role as the intergovernmental organisation in charge of animal health issues, gave top priority to animal welfare issues in its strategic plan, on the grounds that animal health is a key component of animal well-being. The opposite is also true: an ill-treated animal cannot be in good health!

Since then, several ad hoc groups within the OIE have drawn up guidelines, which were adopted at the OIE 2005 General Session, and incorporated into the organisation's *Terrestrial Animal Health Code*:

- Guidelines for the transport of animals by land.
- Guidelines for the transport of animals by sea.

- Guidelines for the transport of animals by air.
- Guidelines for the slaughter of animals.
- Guidelines for the humane killing of animals for disease control.

As far as farm animals are concerned, the OIE is currently also working on drawing up guidelines for welfare in livestock production systems.

The International Meat Secretariat (IMS), representing those working in the meat and livestock farming, trade and industry sectors, has actively contributed to drawing up these guidelines, and believes they should constitute the common, standardised basis for an approach to animal well-being and welfare issues.

Indeed, the globalisation of trade means that the industry and government authorities should be able to work within the framework of internationally recognised common standards and recommendations.

The OIE has both the legitimacy and the competence to establish those minimum standards with regard to the protection and welfare of domestic animals, standards which should be recognised as such by government authorities and by the World Trade Organisation.

It is just as important that these standards be recognised by animal protection organisations, which ought to adopt a more positive and constructive attitude to the industry, and move away from constant opposition to the work of the industry and to the action taken by government authorities.

There are issues with regard to the use of the OIE guidelines, since it is certain that the sensitivity of public opinion and government authorities, as well as the motivation of the industry, is not the same all over the world, due to economic, cultural and religious differences. Moreover, as was mentioned above, statutory approaches vary considerably between countries or between the major regional areas, Africa, Asia, the EU, Oceania, South America, the United States, etc.

The International Meat Secretariat therefore proposes that the OIE should encourage and support initiatives by countries that have nei-

ther government regulations nor industry guidelines in the field of animal welfare, by encouraging them to:

- draw-up basic regulations on the issue of animal protection and welfare, defining obligations, prohibitions and penalties, and
- draw-up, on the basis of OIE guidelines, codes or best practice guidelines, adapting them to the conditions of production, marketing and processing in each country or regional area.

Many organisations that are members of the IMS have already drawn-up such codes and best practice guidelines, and can therefore help other countries to draw-up their own if they so wish. This work could be carried out with the financial backing and support of international organisations such as the FAO or the World Bank.

Countries which already have abundant regulations with regard to animal well-being should, on the other hand, take stock and put an end to laying down ever increasing numbers of standards under the pressure of animal protection organisations who continually want more. We are especially referring here to the European Union, which wishes to show that it has advanced standards, thereby protecting itself from imported products that may not respect the same standards on the basis of labelling aimed at the consumer.

Animal well-being and consumer demand

On the pretext of strong demand from consumers for improved protection for farm animals, the idea of a 'well-being' label for products has been put forward in a number of countries, and especially in the EU.

This demand for a 'well-being' label is obviously widely backed by animal protection organisations, drawing on surveys and opinion polls, the reliability of which is often questionable.

Among the general public, there is a very wide and genuine awareness and interest in animal welfare issues, and it is not in the least surprising that between 80 and 90 % of people polled reply in the affirmative to such simplistic questions as 'Should animal well-being be improved?' Although one can only be satis-

fied with such a high rate of support (in fact, it would be worrying if it were to be lower), this doesn't mean that we can conclude that domestic animals are ill-treated. It turns out that when you try to assess how much knowledge people have of actual standards, regulations and practices with regard to animal well-being, the large majority of the population say that they know nothing about them.

Similarly, if you ask consumers whether the level of protection and well-being of animals is likely to affect their buying behaviour, the reply is nearly always affirmative. But if the question points out the added cost of such labelling, replies are not so clear-cut.

The public's judgement is thus distorted by frequently provocative media campaigns by opinion makers, who use an incident or an accident to get people to believe that most animals are ill-treated and that the consumer should therefore demand to know whether the animal product that is on offer comes from a well-treated animal.

Such an approach is not acceptable, and the industry is opposed to any labelling with regard to well-being, since it would only act as yet another trade barrier. Animal well-being cannot be divided up, and it would be absurd to present certain products as having a superior status in terms of animal well-being. Just as for sanitary quality, all animals and their products should meet the same welfare requirements, and if certain products do not meet the standards established by regulations, they should be removed from consumption.

With regard to the issue of product labelling, the well-being of animals in the strict sense of the term is often mixed up with rearing methods and practices, linked to quality and market segmentation policies. As examples, we could mention free-range production, organic production, production based on precisely defined feeding rations (without GMOs for

example), etc. These are all production methods that can be proposed to consumers, but all the animals concerned should have been treated in accordance with regulations governing well-being. Any producers not respecting these regulations should simply not be allowed to market their products. If all marketed products have the right to the 'well-being' label, the label becomes pointless, and can only help to confuse the consumer.

Conclusion

Discussions about animal well-being, and the measures and regulatory standards to be implemented, should be straightforward, effective and practical, and be based on genuine scientific studies and on the practical observations of those working in the industry, in order to avoid any tendency towards anthropomorphism.

For all those who work in the meat and livestock industry, animal well-being is one of the many factors that need to be managed, both in order to guarantee economic performance and the sustainability of their activity and to respond to a genuine demand from society.

As Temple Grandin says in the introduction to the collective work *Long-distance transport and welfare of farm animals*: 'During a career spanning over 35 years, I have learned to understand more and more how economic forces can be used to improve animal welfare.'

Economic performance cannot be separated from the conditions of well-being of farm animals reared to produce foodstuffs, and this approach is welcomed by the industry.

Increasing economic performance while at the same time improving animal well-being in a win-win relationship, and improving the training and motivation of those working in the industry, are the two priorities for the meat and livestock sector.

¹ There is a need to make a difference between animal welfare and animal well-being. According to the definition of the American College of Animal Welfare Organising Committee, welfare is the ethical responsibility of ensuring animal well-being, while animal well-being is a condition in which animals experience good health, are able to effectively cope with their environment, and are able to express a diversity of species-typical behaviours. Such a distinction was discussed within the OIE Animal Welfare Working Group given a French proposal to oppose the words *bien-traitance* (corresponding to the US welfare) and *bien-être* (equivalent to the US well-being).

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Guide to good animal welfare in dairy production

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Keywords: animal welfare, dairy production, management practices

The International Dairy Federation (IDF) represents the dairy sector worldwide; currently, 53 countries are members, who account for about 82 % of current total milk production. IDF seeks to provide the best scientific expertise and knowledge in support of the development and promotion of quality of milk and dairy products.

As a follow-up from the publication of a joint FAO/IDF Guide to Good Dairy Farming Practice (2004), IDF initiated work in 2006 on the development of a Guide to Good Animal Welfare in Dairy Production, with expert involvement from FAO and OIE. The IDF work is complementary to the ongoing work of an OIE permanent working group on animal welfare in which IDF actively participates.

Animal welfare is the application of sensible and sensitive animal husbandry practices to the livestock on the farm. Good dairying practice of animal welfare is underpinned by the framework provided in the 'Five Freedoms' that describe an animal's fundamental needs. Animal management practices should aim at keeping animals:

- Freedom from hunger, thirst, and malnutrition.
- Freedom from discomfort.
- Freedom from pain, injury and disease.

- Freedom to express normal behaviour.
- Freedom from fear and distress.

Dairy production systems vary widely around the world, but the animals' needs with regard to animal welfare within these systems do not. Herd size varies from single cows to many thousands of cows, production systems range from fully pastured to fully housed, and feed varies from finely controlled mixed ration to rough forage.

The IDF guide identifies five key action areas to be considered when developing and implementing quality management systems for dairy animal welfare:

- stockmanship,
- feed and water,
- physical environment,
- husbandry practices,
- health management.

Each action area has an associated set of generic principles that can be used to define best management practices.

The IDF guide is written in a practical format for use by dairy farmers and should be seen as benefiting their business. It does not have any legal status and does not supersede national requirements.

Guide des bonnes pratiques de bien-être animal dans le secteur de la production laitière

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Mots-clés: bien-être des animaux, production laitière, pratiques de gestion

La Fédération internationale de laiterie représente le secteur de l'industrie laitière à l'échelle mondiale, avec aujourd'hui 53 pays membres, qui rassemblent environ 82 % de la production laitière actuelle. L'IDF vise à garantir l'appui des meilleurs spécialistes et chercheurs pour le développement et la promotion de la qualité du lait et des produits laitiers.

À titre de suivi après la publication en commun d'un *Guide de bonnes pratiques en élevage de bétail laitier*, FAO/IDF (2004), l'IDF a amorcé en 2006 un travail d'élaboration d'un *Guide pour le bien-être animal en production laitière*, faisant appel à des experts de l'Organisation des Nations unies pour l'alimentation et l'agriculture (FAO) et de l'OIE. Le travail de l'IDF est complémentaire à celui, en cours, d'un groupe de travail permanent de l'OIE sur le bien-être des animaux, auquel l'IDF participe activement.

Le bien-être des animaux correspond à l'application de pratiques d'élevage intelligentes et responsables au bétail de ferme. Les bonnes pratiques pour ce qui concerne les vaches laitières sont étayées par le cadre fourni par les «cinq protections» qui répondent aux besoins fondamentaux des animaux. La gestion correspondante doit se fixer les objectifs suivants:

- Protection contre la soif, la faim et la malnutrition
- Protection contre l'inconfort
- Protection contre la douleur, les blessures et les maladies
- Protection contre la peur

- Protection permettant d'assurer la possibilité de schémas normaux de comportement animal

Les systèmes de production laitière varient énormément dans le monde, mais les besoins des animaux en matière de bien-être ne changent pas, quel que soit le contexte économique. La taille des troupeaux peut aller de quelques têtes à plusieurs milliers de bêtes, les systèmes de production vont de la pâture intégrale à la stabulation permanente, l'alimentation, d'un mélange soigneusement dosé à un fourrage brut.

Le guide de l'IDF identifie cinq catégories de mesures clés à envisager lors de la mise au point et de l'application de systèmes de gestion de qualité en vue du bien-être des animaux de laiterie:

- Techniques d'élevage
- Fourrage et eau
- Environnement physique
- Pratiques agricoles
- Gestion sanitaire

Chaque domaine d'intervention se réfère à un ensemble de principes génériques qui peuvent servir à définir les meilleures pratiques de gestion.

Le guide de l'IDF est écrit dans un format pratique, afin de pouvoir être utilisé quotidiennement par les agriculteurs, et doit être considéré comme bénéfique pour leur exploitation. Il n'a aucun statut légal et ne se substitue pas aux réglementations nationales.

Labor de la industria láctea en apoyo de las normas de la OIE

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Palabras clave: bienestar animal, producción lechera, prácticas de gestión

La Federación Lechera Internacional (FIL), que representa al sector lácteo mundial, está conformada en la actualidad por 53 países que agrupan cerca del 82 % de la producción lechera. La FIL busca brindar los mejores conocimientos y experiencia científica para apoyar el desarrollo y promoción de la calidad de la leche y de los productos lácteos.

Tras la publicación conjunta FAO/FIL de la Guía de buenas prácticas en la explotación lechera (2004), la FIL empezó a trabajar en 2006, con la participación de la FAO y de la OIE, en la elaboración de una Guía de buenas prácticas de bienestar animal en la producción lechera. El trabajo de la FIL completa la labor adelantada por el grupo de trabajo de la OIE sobre bienestar animal en el que la Federación participa de manera activa.

El bienestar animal es la aplicación de prácticas de cría delicadas y sensatas en las explotaciones. Las buenas prácticas de bienestar animal en lechería se inscriben dentro del marco estipulado en las «cinco libertades», que describe las necesidades fundamentales de los animales. De este modo, las prácticas

de gestión deben orientarse a mantener a los animales:

- Libres de sed, hambre y malnutrición
- Libres de molestias
- Libres de dolor, heridas y enfermedad
- Libres de miedo
- Libres para expresar su comportamiento natural.

Si bien los sistemas de producción lechera difieren ampliamente alrededor del mundo, las necesidades de bienestar animal dentro de estos sistemas, no. El tamaño de los hatos varía de uno a varios cientos de cabezas, los sistemas de producción van del completo pastoreo a la estabulación, y los alimentos abarcan de raciones de mezcla controladas con precisión al forraje basto.

La guía de la FIL se ha editado en un formato práctico para el empleo de los productores de leche y ha de considerarse como un beneficio para su actividad. No tiene ningún estatus legal y no suplanta los requerimientos nacionales.

The International Dairy Federation (IDF) Guide to good animal welfare in dairy production

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This paper describes the development of the IDF Guide to Good Animal Welfare in Dairy Production. This document is available at no cost on enquiry to the Joërg Seifert, IDF Head Office (<http://www.fil-idf.org>).

Background

The IDF is an organisation connecting experts in all aspects the dairy industry from 54 countries around the world and representing over 75 % of the world's milk production. It is non-profit and science-based, and is the world's most comprehensive and authoritative source of information, expertise and knowledge on dairying, milk and milk products. IDF has a formal working relationship with OIE, FAO, Codex and ISO to promote international standards for the dairy industry. Work areas span human health and nutrition, food standards and analytical methods, hygiene and safety, as well as dairy farming. Further information on the IDF and its work can be found online (<http://www.fil-idf.org>).

In 2004, the International Dairy Federation released its Guidelines for Good Dairy Farming Practice. This document focused on the five key areas of animal health; milking; hygiene; animal feeding and water; animal welfare; and environment. This document focused on the role of dairy farmers in ensuring that good agricultural practices are employed at farm level and provided a series of guidelines as to how these might be implemented. This document was well received internationally and subsequently translated into six languages and distributed widely in developing countries by the FAO. The focus of the animal welfare section reflected delivery of the Five Freedoms. It was considered that further guidelines to expand upon these principles should be developed and a task

force of experts nominated by member countries was established in 2006 for this purpose.

The IDF Guide to Good Animal Welfare was completed in June 2008 after an extensive consultative process within the member countries and the document received final ratification and was published in September 2008. As project leader, I thank the contributors from many parts of the world for the development of this document. Its purpose is to define and promote good stockmanship and animal husbandry that come together to ensure good welfare for animals in dairy production systems.

Key principles adopted by the project team

The objective of the guide is to promote good animal welfare practices in milk production. The overriding principle was that it would be practical, useful and applicable in the 'real world'. It was also important to ensure that recommended practice be based in science to ensure defensibility but with the role of the farmer and stockhandler in delivering good husbandry practice was at the forefront.

The immediate need was find a way to deal with the broad diversity of dairy production systems around the world which are both extensive and intensive, may produce for international markets or community milk schemes, and which incorporate a range of small and large ruminant species. The common elements are milk for human consumption and the nature of the animals that produce it. When we recognise this unity within diversity, we no longer need to consider the specifics of individual production systems. The needs of the milking animal, regardless of its species, become the common denominator of all dairying systems and the success

of any system in meeting these needs can be measured. This ensures that assessment methodology focuses on measures that are based on the outcomes for the animals themselves. By using outcome-based measures we also facilitate the demonstration of equivalence across our diverse systems and discharge any need for direct comparison.

It was also agreed early in the process that to achieve good welfare practice means having good husbandry practices, having physical strategies to relieve constraints of the production system, having well-planned herd health programmes and ensuring that the animals selected for the production system are suitable.

The Guidelines document

Having established the key principles and with the traditional Five Freedoms as the starting point, the project team agreed upon five action areas to be considered when developing and implementing quality manage-

ment systems for dairy animal welfare. These are the basis of the document and are:

- stockmanship,
- feed and water,
- physical environment,
- husbandry practices,
- health management.

Each action area has an associated set of principles that can be used to further define best practices for individual quality management systems.

Availability

The IDF Guide to Good Animal Welfare in Dairy Production is available for all interested parties to use. Electronic copy can be downloaded in English and Spanish free from the IDF website (Search: Free Publication 17). Hard copy may also be available upon enquiry to the Joërg Seifert, IDF Head Office (<http://www.-fil-idf.org>).

Farmers' organisations work in support of the OIE animal welfare standards

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Keywords: abattoir, beef, injuries, welfare, standards

Farmers are conscious of the moral and ethical issues involved in animal welfare, and they are responsible for the well-being of their animals. In most cases, good welfare practices result in enhanced profitability for farmers and prevent waste of food for human beings. IFAP maintains that basic international animal welfare standards are essential to ensure worldwide acceptable practices and should also guarantee that issues of animal welfare do not become barriers to trade.

The OIE has succeeded in developing minimum standards, based on sound scientific research, for animal welfare worldwide that should serve as a reference point when developing international trade rules. Such rules must be sustainable and based on expected results. In turn, this demands a successful communications strategy keeping the whole community and, in particular, industry, governments and international partners, well informed on the latest accomplishments in animal welfare in each country. This will also facilitate a wider understanding of industrial animal welfare practices and will help to pre-

serve consumers' trust in agricultural products. A good example of this is the study funded by the Instituto de Promoción de la Carne Vacuna Argentina. Its positive results promoted the adoption — by cattle abattoirs — of good animal welfare practices, including the OIE guidelines for transport of animals by land.

Data on 17 370 slaughtered animals were collected over a month by researchers of the Facultad de Ciencias Veterinarias, Universidad del Centro de la Provincia de Buenos Aires, Argentina. Origin, sex, age, fattening system and distance to abattoir were recorded. In-house handling of animals was monitored and injuries were assessed and classified according to recognised international parameters.

Better handling of animals resulted in a 39 % decrease in injuries, which implies, on a national basis, a production of 14 200 extra tonnes of beef for human consumption valued at USD 28 000 000 on the international market.

Action des associations d'éleveurs en appui à l'application des normes de l'OIE sur le bien-être animal

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Mots-clés: abattoir, bœuf, blessures, bien-être, normes

Les agriculteurs sont conscients des problèmes moraux et éthiques soulevés par la question du bien-être animal, et ils se sentent responsables de leur propre cheptel. Dans la plupart des cas, de bonnes pratiques en matière de bien-être aboutissent à une amélioration du rendement de l'exploitation agricole et évitent un gaspillage de nourriture pour les êtres humains. La FIPA continue d'affirmer que des normes internationales de base portant sur le bien-être animal sont essentielles pour assurer des pratiques acceptables à l'échelle mondiale, et qu'elles doivent également garantir que les questions de bien-être animal ne deviennent pas des obstacles au commerce.

L'OIE a réussi à mettre au point des normes minimales, basées sur des recherches scientifiques incontestables, qui doivent servir de point de référence lorsqu'il s'agit d'élaborer des règles de commerce international. De telles règles doivent être durables et fondées sur des résultats escomptés. Cette optique exige à son tour une bonne stratégie de communication, afin de tenir au courant l'ensemble de la société civile, et en particulier l'industrie, les gouvernements et les partenaires internationaux, des dernières réalisations en matière de bien-être animal dans chaque pays. Cela facilitera également une meilleure compréhension des pratiques de l'industrie concernant

le bien-être animal et aidera à maintenir la confiance des consommateurs envers les produits agricoles. On en trouvera un bon exemple dans l'étude financée par l'«Instituto de Promoción de la Carne Vacuna Argentina». Ses résultats positifs ont favorisé l'adoption – par les abattoirs de bétail – de bonnes pratiques de bien-être animal, incluant les lignes directrices de l'OIE pour le transport terrestre des animaux.

Des données portant sur 17 370 animaux abattus ont été recueillies pendant un mois par les chercheurs de la faculté de sciences vétérinaires de l'université du centre de la province de Buenos Aires en Argentine. L'origine, le sexe, l'âge, le système d'engraissement et la distance à l'abattoir ont été enregistrés. Un suivi de la manipulation en interne des animaux a été établi, et les blessures ont fait l'objet d'une évaluation et d'une classification de manière conforme à des paramètres internationaux reconnus.

L'amélioration de la manipulation des animaux a eu pour conséquence une diminution de 39 % des blessures, ce qui implique, au niveau national, une production supplémentaire de 14 200 tonnes de bœuf pour la consommation humaine, soit une valeur de 28 millions de dollars des États-Unis sur le marché international.

Labor de los productores agrícolas en apoyo de las normas de bienestar animal de la OIE

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Palabras clave: matadero, carne, lesiones, bienestar, normas

Los productores agrícolas son conscientes del aspecto ético y moral relacionado con el bienestar animal, así como de su responsabilidad con respecto al bienestar de sus animales. En la mayoría de los casos, la aplicación de buenas prácticas de bienestar animal aumenta la rentabilidad de los productores agrícolas y previene la pérdida de alimento destinado a los seres humanos. Para la Federación Internacional de Productores Agrícolas (FIPA), las normas internacionales de bienestar animal son esenciales para llevar hasta un nivel básico aceptable las prácticas de bienestar animal en aquellos países en los que son insuficientes y garantizar que las cuestiones de bienestar animal no se conviertan en una barrera para el comercio.

Basándose en trabajos científicos, la OIE ha de establecer normas mínimas internacionales para el bienestar animal que sirvan de referencia para la elaboración de reglas para el comercio internacional. Las normas de bienestar animal deben ser sostenibles y estar basadas en los resultados esperados. La aplicación de estas reglas exige una amplia estrategia de comunicación para mantener informada a la comunidad, la industria, el gobierno y los socios comerciales internacionales sobre los logros y enfoques de la sanidad animal en cada país. De esta manera, se

podrá fomentar una amplia comprensión de las prácticas de la industria animal desde la perspectiva del bienestar y mantener la confianza del consumidor en los productos agrícolas. El estudio patrocinado por el Instituto de Promoción de la Carne Vacuna Argentina (IPCVA) ilustra esta afirmación; a través de sus resultados promovió la adopción de buenas prácticas de bienestar, incluyendo las Directrices de la OIE para el transporte de animales por vía terrestre.

Para el estudio, los investigadores de la Facultad de Ciencias Veterinarias, Universidad del Centro de la provincia de Buenos Aires, Argentina, recopilaron información sobre 17 370 animales faenados durante un mes. Procesaron datos como el origen, el sexo, la edad, la alimentación y la distancia hasta el matadero. También efectuaron el monitoreo del trato de los animales en el frigorífico y clasificaron las lesiones conforme a parámetros internacionales.

El manejo más cuidadoso de los animales en los mataderos permitió una disminución del 39 % en el número de lesiones, lo que a escala nacional se tradujo en la producción de 14 200 toneladas suplementarias de carne para el consumo humano, cuyo valor en el mercado internacional asciende a 28 millones de dólares estadounidenses.

Farmers' organisations work in support of the OIE animal welfare standards

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Keywords: farmers, organisations, international standards

Introduction

Farmers are conscious of the moral and ethical issues involved in animal welfare, and they are responsible for the well-being of their animals. Indeed, good animal welfare practices reward farmers with improved productivity and enhanced profitability. Additionally, animal welfare should be part of an overall approach towards farming and agriculture as it is inextricably linked to ensuring farmers' welfare: family farmers that are properly rewarded for their efforts, have, indeed, a better capacity to take care of their farm animals.

Animal welfare has been identified as a priority in the strategic plan of the World Organisation for Animal Health (OIE) as it is in the strategic plan of the International Federation of Agricultural Producers (IFAP). As an intergovernmental organisation, the OIE is committed to a science-based approach to the development of animal welfare guidelines and standards and to working closely with all stakeholders. IFAP is therefore working with OIE as the organisation best placed to provide international leadership on animal welfare. IFAP, representing the world's farmers, is the key organisation at the global level that can make sure these standards have a real impact in the barns and on the fields around the world.

Minimum International Standards for Animal Welfare

Farmers in IFAP stress that all livestock products should be produced according to agreed minimum animal welfare standards and ani-

mal welfare practices should be raised to a basic acceptable level in countries where they are substandard. Emerging market trends demand higher animal welfare standards such as free-range chicken or grass-fed beef. These production systems take into account not only the effects of production systems and methods on the health status of the animals, but also attempt to allow animal to express natural behaviour and maintain animal well-being to the possible extent.

IFAP agrees with OIE that international standards must be 'sustainable', that is applied cost-effectively and 'outcome-based' rather than being 'prescriptive' in saying exactly how these standards should be achieved.

It is also important to improve consistency of codes of practice – specific for different species and production systems – or regulations and their administration across jurisdictions and borders, as well as the enforcement procedures of agreed standards.

Broad National Consultation Involving Livestock Producers and Farmers' Organisations

Consultation processes on animal welfare standards should be established ensuring the input from livestock producers in developing and implementing the strategies. Within the production chain, livestock producers are the first link catering for on-farm animal well-being. However, in many cases, particularly where modern concepts on integrated business are put into practice, livestock farmers

are also directly concerned by animal welfare in transport systems and slaughterhouses.

Farmers' organisations should be consulted at all stages, from conception to implementation, on all national and international strategies concerning animal welfare. This process is critical to ensure that these strategies are written in such a way that farmers are able to live up to them and also make a living.

Effective communication strategy

Dialogue and partnership between farmers (livestock producers in particular), consumers, communities, animal welfare groups, industries, trading partners, researchers, veterinarians and governments are critical for effective construction and implementation of a strategy addressing animal welfare. Extensive communication activities are required to keep the diverse stakeholders better informed of achievements and approaches in each country and to foster a broad understanding of animal industry practices from a welfare perspective.

An effective communication strategy must include enhanced community-wide education and training to promote an improved and consistent approach. Moreover, advisory services, research institutes and agricultural education establishments must include animal welfare concerns in their programmes. Veterinarian services should also provide farmers and farm workers with relevant information about farm animal welfare in their routine activities. All of these activities would contribute to stronger and more effective animal welfare strategies.

At the consumer level, clearly communicating animal welfare practices is of paramount importance. At this point, attention must be paid to the education of consumers and urban inhabitants regarding good farming practices, involving animal welfare, applied in the production of the food they eat derived from animals.

IFAP Support OIE Activities

For IFAP, OIE is the forum best suited to reach a global recognition of animal welfare to assist with guidelines and recommendations. IFAP supports the guiding principles for ani-

mal welfare that are outlined in the *OIE Terrestrial Animal Health Code*.

1. That there is a critical relationship between animal health and animal welfare.
2. That the internationally recognised 'Five Freedoms' (Freedom from hunger, thirst, and malnutrition; Freedom from discomfort; Freedom from pain, injury and disease; Freedom to express normal behaviour; Freedom from fear and distress) provide valuable guidance in animal welfare.
3. That the internationally recognised 'three Rs' (Reduction in numbers of animals, Refinement of experimental methods and Replacement of animals with non-animal techniques) provide valuable guidance for the use of animals in science.
4. That the scientific assessment of animal welfare involves diverse elements which need to be considered together, and that selecting and weighing these elements often involves value-based assumptions which should be made as explicit as possible.
5. That the use of animals in agriculture and science, and for companionship, recreation and entertainment, makes a major contribution to the well-being of people.
6. That the use of animals carries with it an ethical responsibility to ensure the welfare of such animals to the greatest extent practicable.
7. That improvement in farm animal welfare can often enhance productivity and food safety, and hence lead to economic benefits.

Animal Welfare Standards are needed to facilitate Equal Trade Opportunities

Animal welfare standards should not become a barrier for trade. This means that they must be harmonised internationally using a science-based system. IFAP supports initiatives to promote at least minimum standards of animal welfare in international trade as a non-competitive issue. These standards should be based on 'equivalent outcomes' rather than on 'identical systems'. Such rules

must be sustainable and based on expected results. In turn, this demands a successful communications strategy keeping the whole community well informed and in particular industry, governments and international partners of the latest accomplishments in animal welfare in each country.

Special Difficulties are faced by Farmers in Developing Countries in Meeting Animal Welfare Standards

The promotion of animal welfare in developing countries is strictly linked to farmers' welfare; family farmers that are able to live decently from their work, indeed, have a greater capacity to take care of their animals. A specific effort should be made to secure family farmers' incomes and to facilitate the information about this worldwide concern in order to ensure the welfare of farms' animals in developing countries.

Animal Welfare Guidelines Into Practice: Example of Researches, Initiatives and Systems Across the World

Examples are given by members of IFAP of cases where guidelines are put into practices in different countries, showing farmers commitment to animal welfare.

Animal welfare practices reward farmers with better profitability

Argentina

A good example of collaborative work between a university and farmers is the study funded by the *Instituto de Promoción de la Carne Vacuna Argentina* where IFAP affiliates are members of its board. Its positive results promoted the adoption — by cattle slaughterhouses — of good animal welfare practices, including the OIE *Guidelines for the transport of animals by land*.

Methods

Data from 17 370 slaughtered animals were collected over a month by researchers of the Facultad de Ciencias Veterinarias, Universidad Centro de la Provincia de Buenos Aires, Argentina. Origin, sex, age, fattening system

and distance to slaughterhouses were recorded. In-house handling of animals was monitored and injuries were assessed and classified according to recognised international parameters.

Results

Better handling of animals resulted in a 39 % decrease in injuries, from 2.85 to 1.75 lesions per head, which implies, on a national basis, a production of 14 200 extra tonnes of beef for human consumption valued at USD 28 000 000 on the international market.

Sweden

A study conducted by the Swedish Dairy Association looked into the economic benefits of improved well-being in dairy cows, the hypothesis being that improved animal welfare is positively linked to profitability.

Methods

The economic effects of the 66 potential welfare indicators were investigated, through multivariate analysis, using annual cost accounting data from 161 dairy farms during 2002–04. Examples of these parameters are calf mortality, incidence of mastitis, culling rate, stocking density, calf health, calving ease, feeding, udder health, drug use, management and fertility, focusing on calves and young cows.

Results

The applied scheme for animal welfare is positively related to the financial return of production. Improvement in animal welfare issues resulted in an increased profit of EUR 450/cow.

Enforcement of animal welfare rules

The Livestock Welfare Coordinating Committee in South Africa

Following a chain approach, several producers' organisations involved in commercial livestock production, marketing and service organisations, scientists, veterinarians, government bodies and consumers associations established the Livestock Welfare Coordinating Committee (LWCC) in 1978 in South Africa. Tasks, like the writing of codes, are delegated to working groups consisting of

member representatives involved in the specific code or task. Member organisations that had previously been in conflict with each other developed an improved understanding, relations and trust in each other. The main and common objective of the LWCC is to improve the standard of livestock welfare in South Africa. It must be noted that the LWCC's efforts are effective mainly in the commercial livestock and meat industry. There are more codes to be drafted for this part of industry, but the biggest remaining challenges will be in the informal market where it is very difficult to be effective, while, in the case of informal, traditional and ritual slaughtering of livestock, it is even dangerous to interfere with regard to suffering of animals. The LWCC efforts have met with remarkable successes resulting in decreases in mortalities, dead on arrivals, emergency slaughter and cutaways of bruised meat from carcasses in the commercial sector by more than 80 % within the appearances of the LWCC first codes for the handling of livestock.

An example of LWCC initiative on the international trade in live sheep by ship

The LWCC has had a significant effect on attempts to import live sheep for slaughter from Australia. In accordance with World Trade Organisation (WTO) rules, no country may prohibit the importation of produce, including livestock, from another member WTO country. The existence of a 40 % levy on the import of lamb and mutton and zero rating on live animals (internationally) had created a huge profit incentive for the importation of live sheep, especially culled animals from Australia's huge wool sheep flock. Based on research of the international trade of live sheep by ship and other exposures that the LWCC and its member organisations had made in this regard, no permit had ever been granted for importation of sheep by ship for slaughter in South Africa. The refusal of such a permit by a Minister of Agriculture would be illegal in terms of international trade rules. However, the combined efforts of the LWCC and its member organisations had been successful in submitting sufficient grounds for such a refusal. For a decade now, no overseas country or local importer has reapplied for a

permit in this regard. Although the Australian export industry has gone to great lengths to seemingly improve their welfare standards in the transport of live sheep by ship, and although they have written some of the best codes in this regard, the Australian export trade is still in the hands of Arab companies whose statistics regarding mortalities can never be believed by people in the know. Even ships plying the live sheep trade from South America to the Red Sea Arab states try to avoid the bunkering of their ships in South African ports. Efforts by Namibia to export live sheep by ship to the Gulf around the bulge of South Africa was also quickly curtailed.

EU Action plan encourage farmers' training: the Italian experience

In the context of the EU Plan of Action, the AIA (Livestock Producers Association) is, in Italy, the first in line for training farmers in agreement with the 'Istituto Zooprofilattico Sperimentale' (IZS) of Lombardy and Emilia Romagna, the national centre for animal welfare, under the supervision of the Ministry of Employment, Health and Social Policies.

Training course for farmers on the protection of farm animals

At national level, animal protection is regulated by laws implementing specific EU directives which attach great importance to the training of owners, guardians or keepers of farm animals. In particular, legislation stipulates that they should take adequate measures to ensure animal welfare and, in particular, the absence of pain, suffering or injury and specifying that regional governments are the most appropriate institutions to carry out training courses aimed at disseminating among professionals, concepts of ethology, physiology, animal husbandry and law with exclusive reference to farm animals and with the objective of increasing knowledge on animal welfare.

Taking into account the need for improvement and the promotion of the national livestock sector, the Ministry considered it appropriate to financially support a training programme for farmers at national level.

The training course is developed in two stages: the first phase is addressed to veterinarians, public veterinarians or similar technicians, and professional operators from livestock associations and it specifically aims to train trainers who will later provide direct training to farmers. The second phase is the direct training of farmers with the support of at least two teachers trained in the first phase (one veterinarian and one representative of the Associations).

As initiatives to promote animal welfare, the following are also planned:

1. A 'national information campaign' for farmers involving the distribution of audiovisual materials and information leaflets to increase awareness of farmers and all the players in the sector.
2. A 'national conference' to be held at the end of training, which will illustrate the activities financed by the Ministry of Health to promote animal welfare on farms. The aim is also to inform about the commitments and work of the government to protect animals giving at the same time a positive message to consumers.
3. Meetings will be held at regional level, prior to the dissemination phase to allow a broad involvement of farmers. These will be organised by the Ministry of Health in cooperation with the National Reference Centre for Animal Welfare (the IZS), the AIA and its provincial associations. All operators of the industry will be invited to attend these meetings.

Example of systems for animal welfare

The Red Tractor mark in the United Kingdom

Assured Food Standards (AFS) is the independent organisation managing the Red Tractor mark in the United Kingdom. Owned by the food chain, AFS represents the interests from each of the key links, including the National Farmers Union, the Ulster Farmers Union, the Meat and Livestock Commission, Dairy UK and the British Retail Consortium. Observers include Defra and the Food and Drink Federation. Two examples of some of the individual commodity schemes and their

contribution to the animal welfare debate in the United Kingdom follow.

Dairy Cattle

Increasingly, consumers are seeking reassurance in the areas of animal health and welfare and many physical measurements can be taken on-farm. When considered in isolation, these measurements may give a misleading indication of the welfare or health status of the dairy cows in the herd. The National Assured Dairy Farm scheme places increased emphasis on the keeping of accurate and meaningful health records, which, with the help of veterinary surgeons, will allow the monitoring of herd health and welfare.

The Board of Directors of ADF acts as the guardian of the scheme and is drawn from the National Farmers Union, the Dairy Industry Federation, the Federation of Milk Groups and the British Cattle Veterinary Association. The culmination of their work is a set of national farm assurance standards which cover the following.

1. Hygiene and food safety — to provide reassurance for customers in terms of the safety and high quality of the milk processed.
2. Housing and facilities — to ensure there is a comfortable environment and sufficient space for free movement without undue risk of injury.
3. Plant and equipment — to ensure all mechanical and electrical installations are adequately serviced so that milk quality and herd health and welfare problems do not arise.
4. Feedingstuffs and water — to ensure all stock receive water of an appropriate quality and a balanced diet.
5. Herd health — to provide assurance about the level of health and welfare of the dairy herd with farmers having the knowledge and practical skills to care for animals in an environment that minimises stress or injury.
6. Stockmanship and training — to ensure that the person in overall charge of the dairy herd can demonstrate that they have the knowledge and practical skills to care

for animals in an environment that minimises stress or injury.

7. Contingency procedures — to be proactive in an effort to prevent potential hazards to humans, dairy cattle and milk quality.
8. Environmental standards.

Poultry

It is the objective of Assured Chicken Production (ACP) to set standards for the nutrition and welfare of poultry and to verify producer's compliance with them. Another objective is the development of the standards to achieve high levels of food safety and environmental care.

The standard covers the following areas: breeder replacement, breeder layers, hatchery, chickens, free-range, poussin, catching, transport and slaughter. The Scheme unreservedly supports the ideals of the Farm Animal Welfare Council (FAWC) and the Five Freedoms.

ACP is one of the most powerful engines yet developed to drive continuing improvement in animal welfare standards in chicken production. The use of the logo greatly simplifies consumer recognition for these standards.

Benefits include: no antibiotic growth promoters permitted, guidance on stocking density, and total traceability of the life of the bird. The standards are designed to cover the whole life of the bird up to the processing point. All producers are independently audited to ensure compliance with the standards. The scheme gives UK chicken farmers a chance to gain recognition for the considerable investment in time, money and research that ensures they lead world chicken production standards.

Examples of development of codes of practice in Canada

Development and renewal of codes of practice primarily drive the policy and standard-setting function for farm animal welfare in Canada. These codes are developed by a broad range of stakeholders including representatives from primary and secondary production sectors, animal welfare societies, the

veterinary profession, academic institutions (including animal welfare researchers) and government. In the past five years, development of these codes has stalled due to a lack of government funding and lack of consensus on the process that should be used.

However, a national farm animal care council is currently revitalising the code of practice development process. Members of the council parallel those who were involved in the earlier processes to develop codes of practice. The emphasis is to precede any sector's code development by a thorough review of relevant science.

Animal care programme

The Code of practice for the handling and treatment of pullets, layers and spent fowl was among the most recent to be renewed. Since 2003, the primary production sector has developed an animal care programme based on 14 measurable criteria found in the *Code*. *Egg Farmers of Canada* took what were felt to be the most important guidelines established in the Code that could also be objectively measured, and incorporated them into a programme against which regulated egg farms could be rated. Field inspectors employed by *Egg Farmers of Canada* rate farms every year against the criteria found in the Code. Both the Code and the rating programme are voluntary but there is a high level of participation. Some of provincial jurisdictions are considering the ways to develop mandatory mechanisms.

Egg Farmers of Canada actively promotes the animal care programme to customers so one standard is adopted throughout the country. The biggest advantage for retailers and food-service customers is that it prevents a never-ending battle of marketing one-upmanship. Farmers are able to produce eggs according to one set of production criteria. One common programme also discourages confusion among consumers.

By far, the most important criterion in the programme is cage density. In fact, if producers do not meet the density criterion, they are deemed to have failed the programme. For producers with cage systems pre-dating 2004, the lighter white breed birds must have a minimum space allowance of 64 square

inches of cage floor space while those with newer systems must have a minimum space allowance of 67 square inches. For larger brown strains, the allowances are 70 and 75 square inches respectively. These densities are similar to those, but not identical to those, found in the United States. About 98 % of egg production in Canada is from layers in conventional cage housing.

The major livestock sectors of pork, chicken, turkey, dairy and beef are in the process of developing or have developed measurable on-farm animal welfare programmes as well.

Research welfare cluster

All of the major poultry and egg sectors in Canada are members of the Canadian Poultry Research Council (CPRC). Contributions to this council by Egg Farmers of Canada have recently supported the development of a poultry welfare cluster of researchers. This is a virtual network of poultry scientists across the country who are conducting welfare research. A hub for the network has been identified in one of our leading academic research institutions. This hub will drive the cluster by encouraging poultry welfare research and ensuring there is a good sharing of research studies and results. The CPRC itself is a useful conduit of information to producers about primary research results.

International development of production criteria

Egg Farmers of Canada believes that any attempts to develop animal welfare standards or criteria internationally must ensure there is sufficient flexibility so countries retain the right to develop production systems congruent with the climatic, environmental and regulatory realities faced by their producers. Confinement housing does provide safe and humane conditions for farm animals while encouraging the production of an economical and safe food supply. While Egg Farmers of Canada are not suggesting that all farm animal production should occur within confined housing, they strongly hold the view that, under some conditions, confinement housing is a prerequisite for safe food production, good animal and human health, enhance-

ment of animal welfare, protection of the environment and protection of livestock from predators and adverse weather.

Conclusions

Farmers are conscious of the importance of respecting animal welfare standards and guidelines, in order to meet consumer concerns. IFAP supports the adoption of minimum standards for animal welfare that are harmonised internationally through the OIE. IFAP is pleased that there is producer representation in the OIE Animal Welfare Working Group, and insists that farmers' organisations be consulted on the drawing up and application of all national and international strategies on animal welfare. The national delegations in this Congress can make the difference for farmers in their countries and the IFAP delegation will be pleased to discuss with you how family farmers' organisations could be involved in animal welfare improvements.

In particular, IFAP encourages OIE to pursue its work in the following areas:

- to identify animal welfare research needs and encourage collaboration among research centres, to improve awareness of animal welfare in academia,
- to provide expertise on specific animal welfare issues to other international organisations, animal production sectors, industry and consumer groups,
- to assume a strong proactive action in producing international guidelines, as there is always the risk that other proposals, that do not entirely comply with the principles here sustained, may be adopted.

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Voluntary schemes to apply OIE animal welfare standards Uruguay: one experience in the private sector

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Keywords: meat chain, continuous improvement, animal welfare education

For a country that exports 80 % of the bovine and ovine meat it produces, the increasing interest in animal welfare standards gave a clear signal of market trends and has influenced the development of the whole of the Uruguayan meat production chain.

Tacuarembó Marfrig Group, Uruguay, with four bovine and ovine meat processing plants, has incorporated the continuous development of animal welfare standards in two strategic aspects of the company's programmes.

The company has adopted the strategy of identifying opportunities to differentiate its products within the market, thereby enabling us to better satisfy our clients in the retail and food service sector.

In parallel, the company has incorporated animal welfare standards to maintain, on a permanent basis, the continuous improvement process, which supports good practices at the industrial level and also strengthens integrated primary production systems, in line with the company's commercial strategy and those of associated services.

Thus, for the past 10 years, with the aim of targeting market sectors such as certified organic production and companies with specific requirements, such as McDonald's, animal welfare standards have been incorporated into the Uruguayan meat chain on the basis of constant evaluation and improvement driven from within. Thus, the concept of animal welfare standards being externally imposed is a thing of the past.

There can be no doubt that Uruguay's outdoor production systems provide an ideal basic framework for the incorporation of animal welfare standards. In addition, the company's process of continuous feedback and information exchange is effective in conveying market signals back to the generators of primary products.

The education of producers and processors and the permanent exchange of information constitute a sound guarantee that Uruguayan production systems can achieve optimal product identification in the relevant market segments.

Régimes des normes d'application volontaire venant à l'appui de l'application des normes de l'OIE sur le bien-être animal

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Mots-clés: chaîne carnée, amélioration continue, opportunités de valorisation, éducation

Du point de vue d'un pays qui exporte 80 % de la viande bovine et ovine qu'il produit, l'application des normes de bien-être animal a été un signal clair et d'orientation du marché pour le développement de toute notre chaîne de production de viande.

Le groupe Tacuarembó-Marfrig, Uruguay, avec quatre établissements de traitement de viande bovine et ovine, a intégré l'évolution continue des normes de bien-être animal dans deux axes d'action stratégique de la société.

Le groupe a adopté une vision stratégique d'identification des possibilités de différenciation au sein du marché, ce qui nous permet de satisfaire au mieux nos clients sur le marché du détail et des services alimentaires.

En parallèle, il a incorporé lesdites normes pour entretenir de façon continue le processus d'amélioration permanente, qui non seulement rétroagit sur les bonnes pratiques au niveau industriel mais aussi renforce le développement de systèmes intégrés de production primaire, dans la stricte orientation de sa

stratégie commerciale et de tous ses services annexes.

C'est ainsi que, depuis dix ans, dans l'objectif d'axes commerciaux tels que la production biologique certifiée ou la fourniture exclusive de McDonald's, entre autres, les normes de bien-être animal ont été incorporées à notre chaîne carnée comme éléments d'évaluation et d'amélioration permanente. Ainsi, le concept d'obligation, souvent perçu de cette manière par le secteur primaire, a été dépassé.

Sans aucun doute, les systèmes de production à ciel ouvert uruguayens fournissent un cadre de base idéal au processus continu de rétroaction et d'échange que la question du bien-être animal réclame au niveau de toute la chaîne, depuis le marché en tant que tel, jusqu'au générateur de produits primaires.

L'éducation et l'échange permanent d'informations représentent une des garanties les plus solides pour que nos systèmes de production puissent atteindre un niveau d'identification des produits optimal dans les segments de marché visés.

Esquemas voluntarios de implementación de los estándares de bienestar animal de la OIE

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Palabras clave: cadena cárnica, mejora continua, educación en bienestar animal

Para un país que exporta el 80 % de la carne bovina y ovina que produce, el aumentado interés en los estándares de bienestar animal da una clara señal de las tendencias en el mercado y ha influenciado el desarrollo de toda nuestra cadena cárnica.

Tacuarembó Marfrig Group-Uruguay, con cuatro plantas de faena y procesamiento de carne bovina y ovina ha incorporado la continua evolución de los estándares de bienestar animal a dos estratégicos aspectos de los programas de la compañía.

Por una parte la compañía ha adoptado la estrategia de identificar las posibilidades para diferenciar sus productos dentro del mercado, permitiéndonos de esta manera mejor satisfacer nuestros clientes en el sector minorista y alimenticio.

En paralelo, la compañía ha incorporado los estándares de bienestar animal para mantener en una base permanente los procesos de mejora continua que soporta no solo sus buenas prácticas a nivel industrial sino más aun para fortalecer los sistemas integrados de producción primaria, en línea con su estrate-

gia comercial y con la de todos sus servicios asociados.

Es así que desde hace diez años y guiado por líneas comerciales como la producción orgánica certificada, producción y compañías con específicos requisitos, como entre otros Mac. Donald's, los estándares de bienestar animal se han incorporado a nuestra cadena cárnica uruguaya en base a una evaluación constante y mejora generada en el propio país. Por lo que el concepto de bienestar animal ya no viene impuesto desde el exterior.

Sin duda nuestros sistemas de producción a cielo abierto suministran un marco ideal de base para la incorporación de los estándares de bienestar animal. Además, el proceso continuo de realimentación e intercambio de información de las compañías es efectivo a nivel de toda la cadena, desde el mercado en sí, hasta el generador de productos primarios.

La educación de los productores y el intercambio permanente de información constituye una de las garantías más sólidas para que los sistemas de producción en Uruguay puedan lograr la mejor identidad de productos en los relevantes sectores de mercado.

Practical experiences with an avian influenza outbreak in the Netherlands

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Keywords: poultry, disease control, culling methods

The Product Boards for Livestock, Meat and Eggs (PVE) are umbrella organisations for the meat, eggs and livestock industries in the Netherlands, which address activities ranging from livestock farmers to retailers. The PVE are entitled to formulate binding rules for a sector. One of their activities is developing and managing animal health and quality assurance schemes, amongst other for poultry.

In 2003, the Dutch poultry sector suffered from a large outbreak of H7N7 avian influenza (AI). This was at a time when knowledge about the disease in Western Europe was relatively low. It had been a long time since large-scale culling of poultry for disease control had taken place. At that time, the Dutch Government had a national plan for disease control according to Council Directive 92/40/EEC of 19 May 1992 introducing Community measures for the control of avian influenza and, in addition, had imposed a national standstill of movement of poultry and certain poultry products for 72 hours.

When the outbreak occurred on 28 February 2003, the measures imposed were more stringent than described above and exceeded EU requirements. This was due to the lack of experience with this disease. Stamping out and preventive culling was applied to commercial farms and also to non-commercial holdings, namely individuals with some hobby birds. Because of transport restrictions, it was also necessary to cull poultry for welfare reasons.

The outbreak took place in the two areas with the most intensive poultry production. Clinical signs were first seen in the central part of the country, then in the south-eastern production area, triggering a second movement standstill for 132 hours. Table eggs from

healthy birds in the surveillance zone could only be brought to an egg processing plant within the same zone and hatcheries in the surveillance zone were closed. Subsequently, the transport of live birds was allowed within defined compartments.

Once the disease had been brought under control, restocking took place according to the relevant EU decision. Prior to normal restocking, sentinel birds were placed on farms that had experienced an outbreak. Weekly inspection by a veterinarian and sampling after 21 days provided the basis for restocking. On 22 August 2003, all measures were lifted.

The direct costs of the operation were EUR 270 million, financed by the EU, the Dutch Government and the farmers. The total loss for the poultry industry was over EUR 500 million.

In the period March–May, a total of 30.7 million birds were culled. Culling had previously been done by spreading HCN in stables but the use of HCN had been banned by 2003 and no appropriate alternative for larger groups of birds had been developed.

Several methods were used for culling, including the use of CO₂ gas in small containers, house gassing and a mobile slaughter line using electrocution in a water box. During the crisis, a new method was developed, involving a one-minute induction/stunning phase using CO₂/O₂, followed by a three-minute euthanasia phase using 80 % CO₂ and 20 % O₂/N₂. Several research projects were conducted to compare these methods, especially from an animal welfare point of view. Recently, the results of research into the use of gas in foam were released. The advantage is that the building does not need to be sealed. These experiences provide very useful lessons for the future.

Expériences pratiques lors d'un foyer d'influenza aviaire aux Pays-Bas

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Mots-clés: volaille, lutte contre les maladies, méthodes d'abattage

Les Bureaux de produits du bétail, de la viande et des œufs (PVE) sont des organisations qui chapeautent les industries de la viande, des œufs et du bétail aux Pays-Bas, et qui s'intéressent aux activités des éleveurs comme à celles des détaillants. Les PVE ont le droit de formuler des règles contraignantes pour ce secteur. Une de leurs actions privilégiées consiste à élaborer et à gérer des démarches d'assurance qualité et de santé animale, entre autres pour les volailles.

En 2003 le secteur de la volaille aux Pays-Bas a souffert de l'apparition d'un important foyer d'influenza aviaire H7N7. Ce phénomène est apparu à une époque où les connaissances que l'on avait de la maladie en Europe occidentale étaient relativement faibles. Aucun abattage de grande ampleur n'y avait été pratiqué depuis longtemps pour lutter contre une maladie. À l'époque, le gouvernement néerlandais avait dans ses cartons un plan national de lutte contre les maladies qui répondait à la directive 1992/40/CE et, en outre, avait imposé un gel national des mouvements de volaille et de certains produits de volaille pendant 72 heures.

Lorsque le foyer apparut, le 28 février 2003, les mesures imposées furent plus strictes que celles énumérées ci-dessus et dépassèrent les exigences de l'Union européenne. Il fallait y voir un manque d'expérience face à cette maladie. Les mesures d'éradication et d'abattage préventif furent appliquées à des exploitations commerciales ainsi qu'à des élevages sans but lucratif, c'est-à-dire à des individus dont le passe-temps était d'élever quelques oiseaux. Du fait des restrictions de transport, il se révéla également nécessaire d'abattre des volailles pour des raisons sanitaires.

Le foyer se manifesta dans les deux zones qui regroupaient les exploitations de volaille les

plus intensives. C'est dans le centre du pays que les premiers signes cliniques apparurent, puis dans la zone de production du sud-est, justifiant une seconde mesure d'immobilisation de 132 heures. Les œufs de table provenant d'oiseaux sains dans la zone de surveillance ne pouvaient être expédiés que vers une unité de transformation de la même zone, et les couvoirs de la zone de surveillance furent fermés. Ultérieurement, le transport d'oiseaux vivants fut autorisé à l'intérieur de secteurs définis.

Une fois que la maladie fut maîtrisée, le repeuplement s'effectua en conformité avec la décision correspondante de l'Union européenne. Avant le repeuplement normal, des oiseaux furent mis en situation de test dans des exploitations ayant été témoins de l'apparition d'un foyer. Une inspection hebdomadaire par un vétérinaire et un échantillonnage effectué au bout de 21 jours fournirent la base de l'opération. Le 22 août 2003, toutes les mesures furent levées.

Le coût direct de l'opération se monta à 270 millions d'euros, financé par l'Union européenne, le gouvernement néerlandais et les agriculteurs. La perte totale pour l'industrie de la volaille fut supérieure à 500 millions d'euros.

Dans la période allant de mars à mai, un total de 30,7 millions d'oiseaux furent sacrifiés. L'abattage s'effectuait antérieurement en répandant du cyanure d'hydrogène (HCN) dans les volières, mais l'emploi d'HCN avait été interdit vers 2003 et aucune solution de rechange appropriée n'avait été mise au point pour les élevages d'oiseaux importants.

On eut recours à plusieurs méthodes pour l'abattage, parmi lesquelles l'utilisation de gaz CO₂ dans de petits caissons, un gazage

sur place et une chaîne d'abattage mobile faisant appel à une électrocution dans un réservoir rempli d'eau. Au cours de cette crise, un nouveau procédé fut mis au point, qui comprenait une phase d'induction/assomme-ment d'une minute avec un mélange de CO_2/O_2 , suivie d'une phase d'euthanasie de 3 minutes utilisant un mélange de 80 % de CO_2 et de 20 % d' O_2/N_2 . Plusieurs travaux de

recherche furent engagés pour comparer ces méthodes, en particulier du point de vue du bien-être des animaux. Les résultats de recherches portant sur l'utilisation de gaz dans une mousse ont été publiés récemment. L'avantage est qu'il n'est pas nécessaire d'ap-poser les scellés sur les bâtiments. Ces expé-riences fournissent des leçons très utiles pour l'avenir.

Experiencias prácticas durante un foco de influenza aviar en los Países Bajos

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Palabras clave: aves de corral, control profiláctico, métodos de sacrificio

El Consejo para Ganado, Carne y Huevos (PVE) es la organización paraguas que abarca las industrias de la carne, los huevos y el ganado en los Países Bajos, rigiendo la actividad desde los productores hasta los distribuidores. El PVE está habilitado para formular normas vinculantes aplicables en un sector. Una de sus actividades es el desarrollo y la gestión de la sanidad animal y los esquemas de garantía de calidad para las aves de corral.

En 2003, el sector avícola de los Países Bajos fue víctima de un importante brote de influenza aviar de tipo H7N7. En esa época, Europa occidental disponía de relativamente escasos conocimientos sobre la enfermedad. Ya se había puesto en práctica la matanza selectiva de aves de corral con fines profilácticos y el gobierno de los Países Bajos se había dotado de un plan nacional para controlar la enfermedad de conformidad con la Directiva 92/40/CEE del Consejo, e impuso además la prohibición de transportar aves y algunos productos procedentes de aves durante 72 horas.

Cuando se declaró el foco de la enfermedad, el 28 de febrero de 2003, las autoridades reforzaron las medidas impuestas anteriormente, sobrepasando las exigencias de la Unión Europea. El gobierno tomó esta decisión debido al desconocimiento que se tenía entonces de la enfermedad. Se impuso el sacrificio preventivo en las granjas comerciales así como en las pequeñas propiedades (propietarios de algunas aves domésticas). Debido a las restricciones de transporte, fue necesario imponer el sacrificio por razones de bienestar animal.

El brote se presentó en dos zonas con alta producción avícola. Los primeros signos clínicos aparecieron en el centro del país, exten-

diéndose posteriormente hacia la zona de producción del sureste, lo que llevó a las autoridades a imponer una prohibición de transporte durante 132 horas. Los huevos de mesa provenientes de la zona de vigilancia solo podían ser procesados en una planta de la misma zona y los establecimientos de incubación de la zona fueron cerrados. Posteriormente, fue autorizado el transporte de aves vivas en algunos compartimentos.

Una vez controlada la enfermedad, se llevó a cabo la repoblación conforme a la decisión de la Unión Europea. Antes de efectuar la repoblación normal, se utilizaron aves centinelas en granjas en las que se habían registrado focos de la enfermedad. Para poder realizar la repoblación, se contó con una inspección veterinaria semanal y se llevó a cabo un muestreo después de 21 días. Las restricciones fueron levantadas el 22 de agosto de 2003.

Los costos directos de esta operación fueron de 270 millones de euros financiados por la UE, el gobierno de los Países Bajos y los propietarios. Las pérdidas registradas superaron los 500 millones de euros.

Durante el período de marzo a mayo, se sacrificó un total de 30,7 millones de aves. Anteriormente, se había empleado el ácido cianhídrico en los establos, pero en 2003 ya se había prohibido su utilización y no se había desarrollado una alternativa para la matanza de grandes cantidades de aves.

Se utilizaron diversos métodos para la matanza de las aves, incluyendo el gas CO₂ en contenedores pequeños, la gasificación y un dispositivo móvil de electrocución en baños de agua. Durante la crisis, se desarrolló otro método que consistía en 1 minuto de aturdimiento por gas CO₂/O₂, seguido de

una fase de eutanasia utilizando una solución compuesta en un 80 % de CO₂ y en un 20 % de O₂/N₂. Una serie de proyectos de investigación comparó estos métodos, considerando particularmente el aspecto del bienestar animal. Recientemente, fueron

publicados los resultados de los estudios sobre la utilización de espuma. La ventaja de este método es que no es necesario cerrar herméticamente el edificio. Estas experiencias nos han aportado lecciones útiles para el futuro.

Implementing OIE animal welfare standards The WSPA's humane slaughter training programme in Brazil and China

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Keywords: humane, slaughter, livestock, welfare

Slaughter and pre-slaughter techniques to improve animal welfare, and meat quality and safety are dependent on appropriate information, application and enforcement as well as information ownership by local people. WSPA has trained and assisted local veterinarians in developing a humane slaughter training programme.

The primary aim of the protocol was to improve the welfare of animals slaughtered in Brazil and China through a three-pronged approach: (a) by training core Brazilian and Chinese veterinarians to be humane slaughter trainers; (b) by providing guidance on legislation and codes of practice; and (c) by developing and implementing pre-slaughter and slaughter animal welfare curricula for undergraduate veterinarians.

Production of in-country training materials were based on training needs analysis conducted in each country. Comprehensive memorandums of understanding were signed with key officials and stakeholders. Four Brazilians and six Chinese have completed training and became national level trainers. They are poised to provide training to 200 slaughter managers and inspectors by the year's end in each country.

Pro-welfare OIE-based guidelines have been adopted in China. Veterinary curriculum development is progressing in both countries. The WSPA continues to work with the Brazilian Ministry of Agriculture and academics from Henan Agriculture University in Zhengzhou, China, on the implementation of animal welfare aspects of pre-slaughter and slaughter in training curricula.

Mise en œuvre des normes de l'OIE sur le bien-être animal: Programmes de formation en matière d'abattage dans des conditions décentes de la WSPS au Brésil et en Chine

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Mots-clés: sans cruauté, abattage, bétail, bien-être

Les techniques d'abattage et de préabattage pour améliorer le bien-être des animaux ainsi que la qualité et la sécurité des aliments carnés dépendent de procédures appropriées d'information, d'application et d'obligation, tout autant que de la maîtrise de l'information par les populations locales. La WSPA a formé et aidé des vétérinaires de différents pays à mettre au point un programme de formation à l'abattage sans cruauté. L'objectif principal de ce protocole était d'améliorer le bien-être des animaux abattus au Brésil et en Chine en suivant une triple approche: 1) préparer un noyau de vétérinaires brésiliens et chinois à devenir des formateurs en la matière; 2) fournir un conseil sur les législations et les codes de

bonne pratique; 3) élaborer et lancer des cursus de bien-être animal avant et pendant l'abattage pour les étudiants vétérinaires. La production de documents pédagogiques sur place se fonde sur l'analyse des besoins en formation réalisée dans chaque pays. La Chine a adopté des lignes directrices en matière de bien-être animal qui sont basées sur celles de l'OIE. Le développement des cursus vétérinaires progresse dans les deux pays. La WSPA continue à travailler avec le ministère de l'agriculture du Brésil et des enseignants de l'université d'agriculture du Henan à Zhengzhou, en Chine, sur la mise en œuvre des aspects du bien-être animal lors du préabattage et de l'abattage dans les cursus d'enseignement.

Puesta en práctica de los estándares de bienestar animal de la OIE: programa de formación de WSPA sobre el humano sacrificio de animales en Brasil y China

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Palabras claves: humano, sacrificio, ganado, bienestar

Las técnicas antes del sacrificio y de sacrificio para mejorar el bienestar animal, la calidad de la carne y la seguridad dependen de la información apropiada, de la aplicación y del refuerzo de los conocimientos que poseen las poblaciones locales. WSPA ha formado y colaborado con veterinarios locales en el desarrollo de programas de formación de sacrificio humano. El objetivo principal del protocolo era mejorar el bienestar de los animales sacrificados en Brasil y China a través de un enfoque de tres dimensiones: 1) formación de un núcleo de veterinarios brasileños y chinos para convertirse en formadores sobre el sacrificio humano; 2) orientaciones sobre legislación y códigos de prácticas, y 3) desarrollo e implementación de planes de enseñanza sobre el sacrificio para estudiantes universitarios de veterinaria. La elaboración de mate-

riales de formación se hizo partiendo de un análisis de las necesidades que se hizo en cada país y se firmó un completo memorando con responsables y partes interesadas. Seis chinos y cuatro brasileños completaron la formación y se convirtieron en formadores a escala nacional. Cada año, están en capacidad de brindar formación a 200 administradores e inspectores de mataderos. En China, se han adoptado normas a favor del bienestar animal basadas en las directrices de la OIE. En ambos países se ha avanzado en incluir el tema en el plan de estudios de veterinaria. WSPA sigue trabajando con el Ministerio de Agricultura de Brasil y con académicos de la universidad agrícola de Henan en Zhengzhou, China, sobre la puesta en práctica de los aspectos de bienestar animal antes y durante el sacrificio en el plan de estudios.

Implementing OIE animal welfare standards The WSPA's humane slaughter training programme in Brazil and China, Method of operation

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Summary

The adoption of slaughter and pre-slaughter techniques to improve animal welfare and meat quality and safety is dependent on appropriate information, application and enforcement as well as information ownership by local people. The World Society for the Protection of Animals (WSPA) trains and assists local veterinarians in different countries in developing humane slaughter training programmes. The primary aim of the protocol is to improve the welfare of animals slaughtered in Brazil and China through a three-pronged approach: (a) by training core Brazilian and Chinese veterinarians to be humane slaughter trainers; (b) by providing guidance on legislation and codes of practice; and (c) by developing and implementing pre-slaughter and slaughter animal welfare curricula for undergraduate veterinarians.

Production of in-country training materials is based on training needs analysis conducted in each country. Comprehensive memorandums of understanding have been signed with key officials and stakeholders. Four Brazilians and six Chinese have completed training and became national level trainers. They are preparing to provide training to 200 slaughter managers and inspectors by the end of 2008 in each country.

Welfare guidelines based on those of the OIE have been adopted in China. Veterinary curriculum development is progressing in both countries. The WSPA continues to work with the Brazilian Ministry of Agriculture and academics from Henan Agriculture University, Zhengzhou, China, on incorporation of animal welfare aspects of pre-slaughter and slaughter into their curricula.

Keywords: Brazil, China, humane slaughter, livestock, slaughter, veterinarians, welfare

Introduction

The World Society for the Protection of Animals (WSPA) incorporated a humane slaughter programme as a key pillar of its long-term farm animal welfare strategy in 2005. This followed several individual humane slaughter training programmes supported by the WSPA in Asia and Latin America, and recognition of a major animal welfare need in these regions. In accordance with the strategy, several countries were selected in Asia and Latin America. After further analysis of the animal welfare situation and feasibility studies in those countries, two pilot countries were selected: Brazil and China

Following those assessments, the main elements of the WSPA humane slaughter programme were decided:

- (a) humane slaughter training provided to slaughterhouse staff and inspectors;
- (b) lobbying and advising on humane slaughter legislation and codes of practice;
- (c) incorporation of animal welfare at pre-slaughter and slaughter into the curricula of undergraduates and postgraduates studying meat science and veterinary science;
- (d) use of OIE guidelines for the slaughter of animals as the main framework for WSPA

policy and source of recommendations for its humane slaughter programme.

To operate legally and successfully in each country, active cooperation on the programme between the WSPA and the in-country competent authority is a crucial premise. In 2007, memorandums of understandings were signed and the capacity building was launched in each country: the Federal Ministry of Agriculture (MAPA) was involved in Brazil and, in China, key stakeholders (Beijing Chaoyang Anhua Animal Product Safety Research Institute, APSRI) cooperated closely with the competent authority (Ministry of Commerce of the People's Republic of China). The Ministry of Commerce of the People's Republic of China has included the humane slaughter training programme in its operational educational plan.

Materials and Methods

Training needs analysis

Brazil and China are both subdivided into geographical and political units. Brazil consists of 26 states and one federal district, with the highest concentration of slaughterhouses in the states of Parana, Rio Grande de Sul, Santa Catarina and Sao Paulo. China consists of 23 provinces, five autonomous regions, four municipalities and two special administrative regions, with slaughterhouses mostly concentrated in central and southern provinces. The pilot training programme was conducted in the Brazilian state of Santa Catarina and in the Chinese province of Henan, both had favourable conditions and infrastructure.

The most challenging area of work related to the humane slaughter training of slaughterhouse staff and inspectors. Brazil and China have two of the three largest slaughter industries in the world. The combined meat production of these two countries is 57 % of that of all developing countries together and 36 % of the world's meat production (FAOSTAT, 2005). In China, the industry has more than 20 000 slaughterhouses and employs more than 1 500 000 workers (Ministry of Commerce of the People's Republic of China, 2007), of which about 150 000 work in pre-slaughter and slaughter. These 150 000 workers were considered the key training audience.

In Brazil, the majority of slaughterhouses are for cattle, pigs and poultry, while in China most of the slaughterhouses process pigs and poultry (Ministry of Commerce of the People's Republic of China, 2007). A fairly small proportion of sheep are slaughtered in both countries, with 90 % of cattle and sheep slaughterhouses in China being run by Muslim minority populations (communication with head of department of livestock slaughtering of the Ministry of Commerce of the People's Republic of China, 2007). The Chinese do not regulate and inspect cattle and sheep slaughterhouses, as no regulations and empowering procedures for such inspection currently exists. The WSPA has, therefore, postponed humane slaughter training for cattle and sheep for the present.

Training needs analysis visits to Brazil and China defined several main animal welfare-related problems.

Animal welfare at the point of slaughter is more advanced in Brazil than in China. One of the reasons for this is the export of meat from several Brazilian processing plants to the European Union (EU) where legislation is more advanced. However, further advances in animal welfare have been limited because of differences between the three standard and inspection systems: federal, state, and municipal (Ludtke, 2007). This system perpetuates large numbers of slaughterhouses with low animal welfare standards at the state and municipal levels, using practices such as use of heavy hammers for stunning cattle, or lack of proper design and handling skills (Ludtke, 2007).

The main animal welfare-related problems in China were: unsuitable design of unloading premises and rough unloading of animals, lack of knowledge of animal behaviour and proper handling, lack of knowledge of proper design of pre-slaughter premises, lack of understanding of efficient stunning or the need for such stunning, and subsequent immediate bleeding of animals slaughtered.

In-country training

Building and supporting in-country capacity in the form of an expert group that would initially work in partnership with the WSPA and, later, independently, was considered a priority.

With limited resources and time, the WSPA considered the most feasible approach to be development of an in-country group of training experts (T1 trainers) responsible for training other trainers (T2 trainers) at each slaughterhouse, who would then train the company staff actually involved in pre-slaughter handling and slaughter. The T2 trainers are provincial slaughterhouse technical managers and inspectors.

To ensure the transfer of all important information through both tiers of the training programme, the WSPA has developed species-specific training packs consisting of technical notes and a training DVD, with an in-country website as the base for most of the information required.

The branded training programme and packs (STEPS®) were developed based of the training needs analysis visits and footage taken from local slaughterhouses. Training packs have been produced in Mandarin and Portuguese and are given to each participant of the training programme. The Mandarin version is also available online (<http://www.steps.org.cn/>).

China

Before the launch of the Chinese pilot training programme in Henan province in March 2008, questionnaires were sent to the slaughterhouses selected by the Henan Commercial department for an initial situational survey. We were informed that under the current reorganisation of the slaughter industry in China about 40 % of old and obsolete plants will be phased out, so training at these slaughterhouses would not be carried out. And approximately 20 % of the remaining plants had dubious legal status with limited ability for improvement. Therefore, in Henan province 309 slaughterhouses (40 %) were recommended by the government as suitable for the training programme.

In 2007, the WSPA and its partner organisation, APSRI, recruited a team of six Chinese T1 trainers with backgrounds in veterinary and meat science and experience in the Chinese slaughter industry. These were then trained by the WSPA and our consultant company, Animal-I, during a period of five

months. At the same time, a syllabus of training for T2 trainers was developed.

The WSPA, APSRI and the Chinese Ministry of Commerce agreed that each training course will:

- be species-specific,
- consist of two days of classroom theoretical training and one day practical in situ training,
- include the following components: basics of animal welfare, animal welfare and meat quality, animal behaviour and its use in handling of animals, handling of animals, design of the selected slaughterhouse premises, lairaging, thermal stress, fitness to slaughter, main principles of stunning, stunning parameters, practical application of stunning, bleeding, and basics of slaughterhouse auditing.

It is expected that this training programme and the related training tools will serve as a basis for the animal welfare-related curricula for undergraduate and postgraduate veterinarians trained for the meat industry.

In 2007, the WSPA's project partner, APSRI, was officially commissioned by the Chinese Ministry of Commerce to prepare and submit drafts of species-specific technical requirements for pre-slaughter and slaughter. The first technical requirements to be developed were for pigs. The WSPA and APSRI have also been working with several Henan province academics on the inclusion of humane slaughter training into student curriculum.

Brazil

Due to logistical problems, training in Brazil is still in its early phase. The WSPA and Animal-I are currently training four T1 trainers. It is expected that the training of the T2 trainers and the full programme in Brazil will start in January 2009.

Results

China

From April to July 2008, humane slaughter training was provided to 582 T2 trainers

(including 158 Ministry of Commerce inspectors) in 309 pig and poultry slaughterhouses in Henan province. On average, nine training courses per month were carried out by three teams of two T1 trainers, with an average of 16 T2 trainers in each course.

In August and September 2008, a two-tier evaluation of short-term results was carried out by distributing questionnaires and collecting information from site visits to 16 slaughterhouses. Based on experience from previous work in China, the WSPA expected positive changes in behaviour towards animals, handling techniques and more frequent use of the humane handling tools. We did not expect major reconstruction changes at the slaughterhouses in the short-term.

Of 309 questionnaires distributed, 182 (60 %) were received back. According to the questionnaires, 3 331 Henan province slaughterhouse staff members were trained by the T2 trainers. From the 182 slaughterhouses, 160 said they changed their handling methods according the training received, while the other 22 slaughterhouses stated that their pre-training handling methods were satisfactory. One hundred and twenty-seven slaughterhouses improved facilities or were planning to make improvements in the near future. Thirty-three of those responding said they had suitable facilities. Ongoing or planned improvements in electric stunning and bleeding were stated by 73 slaughterhouses. The remaining 22 questionnaires were considered to be invalid due to unclear responses in the facilities chapter of the questionnaire.

Based on the summary report from questionnaires, evaluation visits were conducted at 16 slaughterhouses (5 %) that received training in Henan province.

At 15 slaughterhouses, further in-house training had been carried out by technical managers (T2 trainers). The duration of that in-house training varied from 3 to 24 hours.

At 13 of the slaughterhouses, further changes in handling had been introduced, together with new humane handling tools such as rattles and driving boards.

In nine of the slaughterhouses, the duration for which the stunning current was applied

had been prolonged, to achieve effective stunning. In China the usual stunning voltage is 110–150 V.

Two slaughterhouses have designed new unloading ramps and one slaughterhouse had most of its premises redesigned and rebuilt to accommodate animal behaviour and low stress handling. T1 trainers have advised new construction facility design at one newly built plant. This slaughterhouse is now fully functional and the owner expresses satisfaction with the handling facilities.

Three other slaughterhouses informed us that complete reconstruction of their premises is planned in the next 12 months.

Based on the information and data collected during the evaluation period, the WSPA and its partner organisation, APSRI, consider the humane slaughter programme to be a viable project, which has already brought measurable positive results and improvements to the Chinese pig slaughter industry. This project will be expanded in the next four years, to cover the majority of provinces in China.

At the end of 2007, the WSPA and APSRI produced the first of several species-specific technical requirements for pre-slaughter and slaughter. This document, *The Requirements for Pig Humane Slaughter*, was accepted by the Ministry of Commerce in 2008 with minor changes and is now waiting for final approval from the Standardisation Authority of the People's Republic of China.

An agreement with Henan Agriculture University in Zhengzhou was reached to commence the process of inclusion of humane slaughter training into student curriculum. In November 2008, a class in humane slaughter training will be held for 15 Henan Agriculture University professors. This will be followed by close collaboration between the T1 trainers and these 15 professors to embed animal welfare curricula for pre-slaughter and slaughter into relevant courses.

Brazil

The pilot project executed primarily by the WSPA Brazilian office will be carried out in cooperation with the Federal Inspectorate of Ministry of Agriculture of Brazil and its

research institute, Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA). A memorandum of understanding has been signed with the Santa Catarina state inspectorate Companhia Integrada de Desenvolvimento Agrícola de Santa Catarina (CIDASC). It is expected that in 2009, WSPA Brazil will train approximately 600 inspectors and slaughterhouse technical managers.

Discussion and Conclusions

After two years of negotiations and preparation, the WSPA has officially launched ambitious humane slaughter pilot projects in Brazil and China. Preliminary short-term results are showing that the strategy has been based on correct analysis and assumptions. It is undeniable that two circumstances played key roles in the ongoing successful implementation of the project. The first was the diplomatic success in negotiations with governments and willingness of key competent authorities and stakeholders to join and support project. The second was the OIE international initiative in setting up guidelines for the slaughter of animals. These unanimously agreed guidelines had a combined and complementary effect with other humane slaughter initiatives worldwide, which resulted in a suitable environment for WSPA project development and execution. That the OIE guidelines were agreed by authorities of both pilot countries played a very important role in the negotiations with governments.

There are many challenging elements of humane slaughter that affect the WSPA project. Notably, these are the technical aspects of slaughter and availability of suitable and fit-for-purpose equipment. It is clear that these cannot be solved by the WSPA alone, whose programme is aimed to trigger changes in behaviour and attitude within the in-country slaughter industries.

Availability, appropriateness and maintenance of stunning equipment are critical for humane slaughter. An issue specific to the Chinese slaughter industry, with serious welfare implications, is use of low voltage electric stunning equipment. Most Chinese stunners operate on 110–150 V. According to research (EFSA, 2004) this cannot guarantee

immediate loss of consciousness in 100 % of pigs, or a sufficiently long period of stunning from a short application of current. Longer application of lower voltage stunning cannot guarantee fast enough flow of electric current to ensure instantaneous loss of consciousness (EFSA, 2004). However, if the electrodes are placed between the eyes and ears on wet skin for at least seven seconds, loss of consciousness for approximately 30 seconds can be achieved with 110 V (personal observation, MAFF, 1993).

As in many countries, the main reasons expressed by the Chinese are concerns over the contraction of muscle caused by stunning machines operating with higher voltages resulting in broken bones, haemorrhages and ruptures of muscles, which discourage owners of the slaughterhouses from using higher voltages for stunning.

This issue has been discussed with various stakeholders, concluding that there is an urgent need for research in China on use of different electric parameters for stunning and their effects on quality of meat.

At this time, the WSPA strongly encourages a longer application of the electric stunning apparatus (at least seven seconds) to achieve a long enough duration of unconsciousness to avoid possible recovery before or at the time of bleeding. However, we have so far achieved little positive progress in this area.

Additionally, Chinese slaughterhouses are facing many of the same obstacles experienced by slaughterhouses throughout the world. These challenges are opportunities for the WSPA, the OIE and others in the meat industry to address:

- Overall, humane slaughter changes at many slaughter plants are complicated because several poor slaughterhouses are prone to bankruptcy. Therefore, their owners do not have enough resources to change stunning equipment or rebuild facilities, which is an obstacle in the promotion of humane slaughter.
- There is a need for revision of the regulations related to the slaughter industry.

- Due to the low level of education of slaughterhouse staff, it is difficult to improve some operations as the staff are reluctant to change their practices. Therefore, it takes time and effort to improve and change their performance.
- Many Chinese slaughter companies are solely a butchering service and do not sell the carcasses or by-products. In such cases, handling at the farm and during transport is not consistent with slaughterhouse practices and affect the end product quality. Effecting producer change is difficult for these slaughterhouses. Meat quality and humane handling education for consumers and producers is needed to further ensure animal care and quality products.

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IV Posters

Practical Experience Around the World



The Purdue University OIE Database of animal welfare educational and research resources

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Keywords: animal welfare, database, OIE, Purdue

The World Organisation for Animal Health (OIE) has provided global leadership in the development of science-based international standards. From 2005, the OIE has included animal welfare within their standards. In addition, the OIE recognises a need to communicate science-based knowledge in animal welfare. Purdue University, and the USDA Behaviour Unit, are the largest group of animal welfare scientists in the United States, and have established an international reputation in animal welfare research, education and outreach. Recognising the demand for expertise and training in animal welfare, the OIE and Purdue University are collaborating on developing an animal welfare educational and research resources database.

Information for the database is currently being collected from various groups. Organisations within the public sector include veterinary authorities, statutory bodies, OIE reference laboratories, collaborating centres, as well as veterinary and agricultural training institutes. In the private sector, international and regional

veterinary and scientific organisations, as well as organisations that have formal agreements with the OIE have been contacted. Finally, individual experts, identified based on a record of publication in peer-reviewed scientific journals, have been contacted. The web-based interface can currently search three categories: (a) individual experts; (b) opportunities for training; and (c) educational materials. Individual experts, their contact details, area of expertise and their availability to advise on animal welfare topics will be highlighted. Opportunities for training will identify distance education courses, institutions offering courses or other education in animal welfare, institutions offering graduate education (MSc, PhD, etc.) in animal welfare, as well as the opportunity for internships or sabbaticals. Finally, the search of educational materials will focus on scientific periodicals, books, CDs, and DVDs.

This project will result in a searchable database to provide science-based information on animal welfare to educators, governments, veterinarians and others worldwide.

La base de données «Université Purdue OIE» Sur les ressources en matière d'éducation et de recherche sur le bien-être animal

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Mots-clés: bien-être animal, base de données, OIE, Purdue

L'Organisation mondiale de la santé animale (OIE) a joué un rôle directeur à l'échelle mondiale dans le développement de normes internationales sur une base scientifique. À partir de 2005, l'OIE a inclus le bien-être animal dans ses normes. En outre, l'OIE reconnaît le besoin de communication des connaissances scientifiques en cette matière. L'université Purdue et l'unité de comportement du ministère de l'agriculture (USDA) représentent le groupe le plus important de chercheurs spécialisés dans ce domaine aux États-Unis. Ces scientifiques ont acquis une réputation internationale dans la recherche sur le bien-être animal, l'enseignement et le travail de proximité. Reconnaisant l'existence d'une demande de conseil et de formation en matière de bien-être animal, l'OIE et l'université Purdue collaborent à la mise au point d'une base de données sur les ressources éducationnelles et de recherche dans ce domaine.

Les informations destinées à la base de données sont actuellement en cours de collecte auprès de divers groupes. Les organisations du secteur public comprennent les autorités vétérinaires, les organismes statutaires, les laboratoires de référence de l'OIE, les centres collaborateurs ainsi que les instituts de formation vétérinaire et agricole. Dans le secteur privé, les organisations vétérinaires et scientifiques internationales et régionales, ainsi que

celles qui ont des accords officiels avec l'OIE, ont été contactées. Enfin, des relations ont été nouées avec divers experts individuels, identifiés sur la base d'un registre des publications dans des revues scientifiques disposant d'un contrôle par les pairs. L'interface basée sur l'internet peut, à l'heure actuelle, effectuer des recherches dans trois catégories: 1) experts individuels; 2) possibilités de formation; 3) matériaux pédagogiques. L'accent sera mis sur les experts individuels, leurs coordonnées détaillées, leur domaine de compétence et leur disponibilité pour jouer un rôle de conseil sur des questions de bien-être animal. Le répertoire des formations identifiera les cours de téléenseignement, les institutions qui offrent des cours ou d'autres possibilités d'instruction en cette matière, celles qui proposent un enseignement du niveau du troisième cycle (MSc, PhD, etc.) en bien-être animal, ainsi que des perspectives de stage ou d'année sabbatique. Enfin, la recherche de matériaux pédagogiques se concentrera sur les périodiques scientifiques, les CD et les DVD.

Ce projet débouchera sur une base de données interrogeable fournissant des informations scientifiquement fondées sur le bien-être animal aux enseignants, aux pouvoirs publics, aux vétérinaires et aux autres personnes intéressées partout dans le monde.

Universidad de Purdue

Proyecto de la OIE sobre una base de datos de recursos en educación e investigación en bienestar animal

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Palabras clave: bienestar animal, base de datos, OIE, Purdue

La Organización Mundial de Sanidad Animal (OIE) ha liderado la elaboración de normas internacionales con bases científicas. Desde 2005, el bienestar animal forma parte de las normas de la OIE. La OIE reconoce además la necesidad de brindar información con bases científicas sobre el bienestar animal. La Universidad de Purdue y la Sección sobre Comportamiento del Departamento de Agricultura de Estados Unidos (USDA) forman el principal grupo científico sobre bienestar animal en Estados Unidos, y ya se ha ganado una reputación internacional en el ámbito de la investigación, la educación y el alcance del bienestar animal. Consciente de la necesidad de impartir una formación sobre bienestar animal, la OIE trabaja en colaboración con la Universidad de Purdue en la elaboración de una base de datos sobre recursos en educación e investigación en bienestar animal.

Actualmente, varios grupos trabajan en la recolección de información para la base de datos. Las organizaciones del sector público incluyen autoridades veterinarias, cuerpos estatutarios, laboratorios de referencia de la OIE, centros colaboradores, así como institutos de formación veterinaria y agrícola. En el sector privado, se ha contactado a organizaciones vete-

rinarias y científicas internacionales y regionales y a organizaciones internacionales que tengan un acuerdo con la OIE. También se cuenta con la participación de expertos individuales, que tengan publicaciones científicas examinadas por sus pares. Actualmente, la interfaz web permite efectuar búsquedas en tres categorías: 1) expertos individuales; 2) oportunidades de formación, y 3) material educativo. La base se presentará en un formato resaltando a los expertos individuales, sus detalles de contacto, su área de especialidad y su disponibilidad para brindar asesoría sobre bienestar animal. En la parte de oportunidades de formación, aparecerán los cursos de formación a distancia, las instituciones que dispensan formaciones en bienestar animal, las instituciones que ofrecen educación universitaria (M.Sc., Ph.D. etc.) en educación animal, así como las oportunidades de pasantías o períodos sabáticos. Por último, la búsqueda de material educativo se concentrará en publicaciones, libros, CD y DVD científicos.

El resultado de este proyecto será una base de datos que ofrezca información con base científica sobre bienestar animal para educadores, gobiernos, veterinarios y otras personas interesadas en todo el mundo.

Measuring animal welfare, pain and quality of life (QoL)

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Abstract

When you cannot measure it, when you cannot express it in numbers, you have scarcely in your thoughts advanced to the stage of Science, whatever the matter may be. If you cannot measure it, you cannot improve it. (Kelvin, 1893)

The Five Freedoms (FAWC, 2008) define *ideal states for acceptable welfare*, including the animal's physical and mental state. The 'Five Freedoms' are:

- Freedom from hunger, thirst, and malnutrition.
- Freedom from discomfort.
- Freedom from pain, injury and disease.
- Freedom to express normal behaviour.
- Freedom from fear and distress.

Combining the principles of measurement that are reliable and objective with the Five Freedoms requires the development of a welfare and quality of life measurement theory using observer-based observations, and combining behavioural and physiological observation with attributes of the animal's environment. Multiple-item quality of life (QoL) tools are thus required.

Introduction

Animal welfare is a complex and abstract construct. Applied to farm animals, it must encompass that of flocks/herds kept in a wide variety of environments and the welfare of individual animals within these groups, presenting considerable logistical challenges for assessment in either intensive or extensive systems. Good animal welfare can be compromised by many factors including disease, husbandry and management. A major contributor to poor animal welfare is pain, and

inflammatory disease is probably the major source of pain in ruminant species.

Pain is 'an unpleasant sensory and emotional experience associated with actual or potential tissue damage' (IASP). Assessment of the degree of pain which an animal is suffering has typically made use of simple measurement scales, such as the simple descriptive scale (none, mild, moderate, severe), but this is subjective and subject to significant inter-observer variability.

Quality of life (QoL) focuses on the individual's experience of their circumstances, including their physical, mental and social well-being, not merely the absence of disease (WHO, 1948). Often QoL is linked to health status and then is known as health-related QoL. While the focus is on the individual, we have recently defined QoL in farm animals, recognising the impact of the group on this definition and consequently on the approach used to measure QoL in group animals: *Quality of life is the subjective evaluation of circumstances (FF1, FF2, FF4), that include health status (FF3), and the animal's affective response (FF5)* (Wiseman-Orr et al, 2008).

Assessment of welfare and QoL – the psychometric approach

An assessment of abstract concepts such as pain, welfare and QoL can be made by scaling different quantitative and qualitative items. Using approaches adapted from psy-

chometrics, we have established prototype pain and QoL scales, in principal combining behavioural and physiological measures in sheep, pigs and dairy cows.

Methodologies

- (a) **Development:** Phase 1 involves the specifying of measurement goals (and hence the ideal measurement scale), the identification of the patient population, and the development of a pool of potential items for inclusion in the instrument. In Phase 2, suitable items are selected from the item pool and that selection is subjected to expert validation. The validated collection of items is then incorporated into an instrument, with suitable consideration given to layout, response option(s) and instructions, and then pre-tested. Phase 3 involves field-testing the instrument, in order to evaluate its psychometric properties.
- (b) **Validation:** *Face and content validity:* the scale or instrument appears to be assessing the desired qualities, a subjective judgement. *Convergent, criterion and concurrent validity:* the scale correlates to existing tools. *Construct validity:* hypotheses about the attribute (constructs) are formulated and tested.
- (c) **Reliability and utility evaluation:** *Reliability:* the scale is measuring 'something' in a reproducible fashion. *Measurements of individuals on different occasions, or by different observers, or by similar or parallel tests, produce the same or similar results* (Streiner and Norman, 1995). *Responsiveness:* the ability of an instrument to capture changes that are important (statistically and practically) has been termed its responsiveness. *Utility:* Practical and easy to administer, score and interpret (Landgraf and Abetz, 1996).

Results

Assessment of pain and welfare in sheep

Seventy-seven veterinary surgeons and farmers were asked to rate pain intensity of common diseases in sheep using an 11 point numerical rating scale (0–10), where 0 represented no pain and 10 represented the worst

pain imaginable. There was a general agreement that diseases such as 'foot rot' (causing lameness), chronic mastitis and 'fly strike' were associated with some pain, with median pain scores (interquartile range) of 6 (5–7.5), 5 (3–6), 4 (3–6) respectively. The responses to the questions designed to frame a language of pain for sheep indicated that, overall, there were differences between the intensities of pain associated with different routine procedures and diseases in sheep.

A prototype welfare tool was constructed that comprised questions derived from the outputs of 'language of pain' studies, assessment parameters for individual sheep for the main causes of inflammatory disease in sheep, and husbandry information for the flock. The information was compiled and the content validity was examined by an expert group who assessed the relevance and adequacy of the items selected for inclusion in the instrument and suggested any additions (or deletions) they deemed necessary. This process generated the items for inclusion in a prototype welfare questionnaire which collates information on general appearance, skin and fleece appearance, mammary glands, foot lesions and body condition.

Assessment of QoL in pigs

For the valid measurement of QoL in farmed pigs, in addition to observed 'causal' variables that capture circumstances (including health status) which influence QoL, we need to identify 'indicator' variables that can capture the individual's affective response to those circumstances (Fayers and Hand, 2002). To identify all such variables relevant to on-farm pig welfare assessment, instrument development began with 'key informant' interviews with experienced farmers and stockpersons (n = 21). Analysis of transcriptions provided details of a range of relevant observations, including variables that may be indicator for QoL (e.g. playful, alert, inquisitive, not interested, depressed) or causal (e.g. cold, lame, scouring). Evidence for the validity of measurement that requires the respondent to identify an effective response in the pig is provided by the reports of 15 interviewees that they could judge quickly, and largely unconsciously, how a pig is feeling. Instrument development is continuing with the

selection and validation of appropriate instrument items for subscales for affect, health status, and other circumstances. The construct validity, reliability and sensitivity of the prototype instrument thus formed will be tested on-farm and with experimental groups. Instrument utility will be optimised and links will be made from validated instrument scores to a range of welfare intervention points.

Conclusions

The need to assess the severity of disease and associated pain intensity on-farm is widely recognised, since this impacts animal welfare and QoL. There still remains considerable variation in our perceptions of pain intensity in farm animals and their welfare and QoL impact; therefore, objective tools are required combining objective measures of health with behavioural and clinical observations. The psychometric approach adapted to the veterinary circumstances allows the development of composite, multidimensional scales which avoid many of the disadvantages inherent in simple, unidimensional scales. To date, we have developed tools which use the clinical assessment of disease and other health indicators combined with questions on qualitative descriptors of the animals' well-being. We believe that the construction of instruments using a QoL approach as described provides an effective advance in the 'subjective' world of pain and welfare assessment.

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Acknowledgements

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Animal welfare policy in the Netherlands

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Abstract

Animal welfare policy in the Netherlands aims to put the OIE standards to work. This poster explains the Dutch approach to animal welfare policy in correspondence with the different OIE standards: legislation in the EU and in the Netherlands, relevant challenges, techniques in place, research activities, market forces and inspection issues. Special focus will be given on transport and humane killing.

Introduction

Improving animal welfare poses challenges for the Dutch agricultural sector. The agricultural sector is responsible for the housing and care of the animals. At the same time, market demands must be met. This market is becoming more open and internationally oriented. At the same time, citizens and consumers are becoming more critical. The importance of international standards is becoming more evident. It is in the interest of all OIE members to effectively implement these standards. The question is how can we help each other.

Description Of Activities

The OIE identified animal welfare as a priority and has already shown its effectiveness in formulating standards for animal welfare. Implementing and complying with these standards is a challenge for all countries, developed or least developed.

In the Netherlands, the OIE standards are put into legislation mainly by EU directives. The next step is more difficult as those legal standards are put to work. Together, with the agricultural sector and the relevant NGOs, we discuss how this can be done in a proper and feasible way. The commitment of all the parties is important to give support to the implementation of the OIE standards.

The approach chosen in the Netherlands includes a range of activities and tools:

- raising awareness (explaining the needs of animals),
- showing standards are achievable (e.g. demonstration projects),
- integration in market concepts throughout the chain (e.g. private standards),
- but also inspection and enforcement.

Results

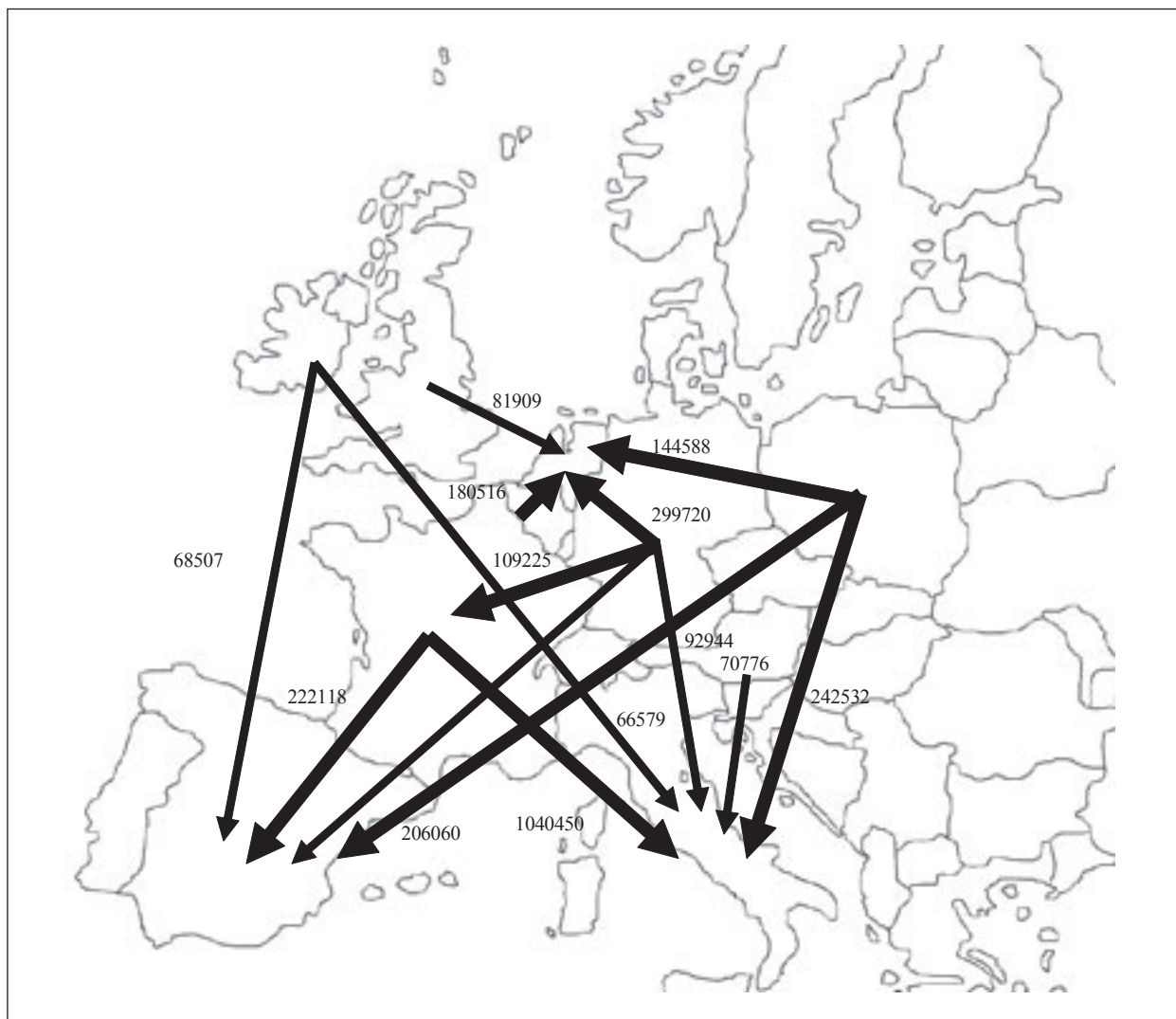
The OIE formulated, inter alia, standards for the transport of animals, the slaughtering of animals and the culling of animals upon the outbreak of diseases. These standards are enforced by EU and national legislation.

Transport

For a range of economic reasons, animals are often transported over long distances. This is especially the case for the Netherlands, being an export-oriented country, and this long-distance transport regularly results in welfare problems. Complying with the welfare standards during transport is, therefore, very important. But it is also challenging. Economic forces are not always in line with the welfare interests, especially for animals transported for slaughter. The inspection and enforcement of the welfare standards is, therefore, very crucial. It is, nevertheless, not easy to effectively operate against non-compliance (although further improvements in

Figure 1:

Main transports of cattle with country of origin and destination in 2006. Divided in transportation of more than 60,000 animals per year → and more than 100,000 animals per year →



the inspection and enforcement can be made). Therefore, other approaches are also explored.

- A fundamental approach is to review the structure of animal production. To prevent long-distance transport, the fattening and slaughter of animals should take place close to the place of birth. The meat could then be transported to wherever it is wanted. To achieve this, the government must limit the total transport time and facilitate a change in the market.
- An approach that could be followed in the meantime is to make the transport sector more responsible. This can be done if the transport sector develops a private system

that incorporates the legal standards and foresees in independent audits and a sanctioning. It is crucial that farmers, slaughterhouses and retail are involved in and committed to such a system. This is needed to ensure economic interdependency.

Gas stunning poultry

Concerning the stunning of poultry, it is interesting to evaluate the welfare interests with economic forces. Until recently, all slaughterhouses used electrical baths as the technique for stunning poultry. However, in practice, the currency/voltage of the electrical bath was decreased to ensure product quality; as a consequence, the birds were not properly stunned. In essence, product qual-

Figure 2:
Gas stunning technique for poultry



ity seemed to counteract the welfare of animals. A new technique that is increasingly used is gas stunning (with CO₂ or argon). This is a more expensive technique. Nevertheless, gas stunning can better guarantee animal welfare and product quality at the same time. Moreover, it can be seen that retailers will have an increased influence on the desired stunning method. It can be expected that the higher costs for the gas stunning technique will be compensated by the demand of the market.

Conclusions

Animal welfare should be regarded as an element of sustainable food production. Complying with the OIE standards is best achieved by a combined action and dialogue between the agricultural sector, NGOs and government. The solution lies in finding a good set of instruments to put welfare standards to work.

Some approaches have been shown to be effective in the Netherlands. In general, it helps to make animal welfare an integral part of the business operation of farmers and other parties in the food chain. Improvements in animal welfare that can be supported by economic forces are achieved relative easily. It is worthwhile exploring how (parts of) the OIE Codes can be embedded in private standards and market concepts. This should be done in addition to the legal framework. Inspection and enforcement by the government is inevitable in putting standards to work.

The Netherlands welcomes the international dialogue to exchange experiences and lessons learned. The decision of the OIE to identify animal welfare as a priority shows the need for continuation and intensification of this dialogue.

Carbon dioxide culling with influenza containment system (ICS) Physiological and ethical considerations

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Abstract

This study evaluates the use of the ICS bag compared to current killing methods for poultry. The ICS culling method was evaluated on several ethical aspects with the 'Animal Disease Intervention Matrix' (ADIM, Aerts 2006). This system provides governments with a tool to take more ethically justified decisions about animal disease. In a series of gassing experiments on a laboratory scale, the changes in the physiological mechanisms and the behavioural changes of birds after exposure to rising CO₂ were investigated. Finally, it was determined if the ICS bag was bio-secure for Highly Pathogenic Avian Influenza (HPAI) over a period of 48 hours. This study was performed by the Istituto Zooprofilattico delle Venezie (IZSVe, Italy).

The results showed that the ICS bag gives: (a) a higher ADIM-score; (b) birds die within 40 seconds; and (c) no dispersion of the virus in the environment within 48 hours.

Introduction

The most commonly used procedures for large-scale emergency depopulation of birds, for example in the case of avian influenza, consist of exposing poultry to gasses. Many different gas types and mixtures are used for stunning and killing poultry. With the exception of CO and HCN killing, gas mixtures contain three important components: CO₂, N₂ and Ar. Gas killing can be done without removing the animals from their housing (whole-house gassing), in an environment containing at least 45 % CO₂ for killing all animals (Gerritzen et al., 2006; Raj et al., 2006; OIE guidelines, 2005). Recently, a new gassing system has been developed in which gassing is performed in an ICS bag by CO₂ gas or dry ice. However, it was not known how the birds would react and how blood acid-base-related parameters change when birds are exposed, immediately or gradually, to an environment with very high CO₂/very low O₂ concentrations. Moreover, information

was lacking on spatial and time distribution of CO₂ in an ICS bag and in the close surroundings of the bag, since safety of the workers has to be guaranteed. These issues were clarified in several experiments.

Materials and Methods

A group of six-week-old broilers was divided into three groups and the broilers were individually killed by direct exposure to high CO₂ (approximately 57 % CO₂) in the ICS bag (exp 1), by means of a gradual rapid build-up of CO₂ in a plexibox (exp 2) and by means of a gradual slow build-up of CO₂ in a plexibox (exp 3). Venous blood samples were taken from the animals' wing vein before and after gassing and immediately analysed using a blood gas analyser. The time of death was diagnosed by measurement of heartbeat, respiration and corneal enlargement. The time and occurrence of the different behaviours during the CO₂ stunning was recorded.

Results

Objective	Classic CO ₂ culling	ICS culling
1 Protecting the health of control personnel and farmers	1,50	1,25
2 Protecting public health	4,33	4,67
3 Protecting animal health	2,33	2,83
4 Ensuring animal welfare	2,44	2,56
5 Respecting the human-animal bond	-1,40	-1,40
6 Limiting environmental damage	4,50	4,50
7 Limiting the psychological impact on the owner	-2,00	-2,00
8 Limiting the psychological impact on the control personnel	2,50	2,50
Total	83,97	95,76

ADIM scores for ICS versus classic CO₂ culling methods in case of avian influenza.

	<i>Deep respiration with gasping and neck stretching¹</i>	<i>Loss of posture</i>	<i>Wing flapping and uncontrolled muscular movement ('convulsions')</i>	<i>Loss of movement ('motionless')</i>
Very rapid gassing in(I.C.S.)Bag (n=6) (exp 1)	/	/	/	<= 40 sec
Rapid gassing in a plexibox (n=7) (exp 2)	12 ± 3 sec <i>O₂ : 19.6 ± 0.1 %</i> <i>CO₂ : 6.2 ± 0.4 %</i>	49 ± 12 sec <i>12.5 ± 0.2</i> <i>40.1 ± 0.8</i>	59 ± 11 sec <i>11.1 ± 0.1</i> <i>46.8 ± 0.7</i>	106 ± 15 sec <i>6.9 ± 0.2</i> <i>66.7 ± 0.9</i>
Slow gassing in a plexibox (n=3) (exp 3)	227 ± 100 sec <i>O₂ : 18.8 ± 0.5%</i> <i>CO₂ : 10.1 ± 2.5%</i> Gerritzen (2004):46 sec, CO ₂ : 6 %	420 ± 176 sec <i>17.7 ± 0.4 %</i> <i>15.7 ± 2.1 %</i> Gerritzen : 172 sec, CO ₂ : 15.7 %	900 ± 101 sec <i>16.0 ± 0.7 %</i> <i>23.6 ± 3.2 %</i> Gerritzen : 177 sec, CO ₂ : 16 %	1209 ± 345 sec <i>14.2 ± 0.2 %</i> <i>32.1 ± 0.9 %</i> Gerritzen : 700 sec; CO ₂ : 31.5 %

Time of reaching a well-defined behaviour after exposure to rising CO₂.

	Very rapid gassing in a I.C.S.-Bag, n=6 (exp 1)		Rapid gassing in a plexibox, n=7 (exp 2)		Slow gassing in a plexibox, n=2 (exp 3)	
	before	after	before	after	before	after
pH	7.34 ± 0.02	7.24 ± 0.03	7.39 ± 0.04	7.24 ± 0.03	7.35 ± 0.01	6.86 ± 0.06
pCO₂ (mm Hg)	37.5 ± 3.0	37.5 ± 2.2	51.8 ± 7.0	62.2 ± 6.3	42.5 ± 4.5	99.5 ± 5.5
pO₂ (mm Hg)	53.8 ± 3.7	47.7 ± 4.8	47.0 ± 1.6	30.2 ± 2.8	50.5 ± 1.5	31 ± 2.0
SO₂ (%)	83.7 ± 3.8	65.2 ± 9.4	81.5 ± 2.6	45.2 ± 7.0	83 ± 1.0	22.0 ± 0.0
Glucose (mg/dl)	207.3 ± 10.5	186.8 ± 14.4	202.3 ± 7.5	181.0 ± 8.0	211.5 ± 5.5	181.5 ± 30.5
Lactate (mmol/l)	4.4 ± 0.5	5.7 ± 0.5	4.3 ± 0.8	7.0 ± 0.6	4.2 ± 0.3	11.4 ± 2.6
Haematocrit	25.5 ± 0.7	23.8 ± 1.8	30.2 ± 1.3	33.8 ± 0.7	26.5 ± 2.5	25.0 ± 4.0
HCO₃⁻ (mmol/l)	20.3 ± 1.6	16.5 ± 1.6	30.7 ± 2.3	25.5 ± 1.6	23.7 ± 1.7	17.8 ± 1.5
Base excess (blood) (mmol/l)	-4.9 ± 1.5	-9.9 ± 1.8	5.66 ± 1.8	-5.3 ± 3.9	-1.7 ± 1.3	-15.3 ± 2.9
Na⁺ (mmol/l)	132.5 ± 2.9	118.5 ± 4.1	147.8 ± 1.8	151 ± 1.0	133.5 ± 0.5	129.5 ± 2.5
K⁺ (mmol/l)	5.23 ± 0.1	5.73 ± 0.17	/	/	5.3 ± 0.3	5.7 ± 0.2
Ca₂⁺ (mmol/l)	1.22 ± 0.05	0.99 ± 0.07	1.39 ± 0.03	1.36 ± 0.03	1.23 ± 0.02	1.29 ± 0.01

Blood gas values taken before and after exposure to rising CO₂.

* Slow gassing in a plexibox simulates the 'whole-house gassing' concept.

Conclusions

Based on this analysis using ADIM (Aerts, 2006), relevant ethical differences between the classic CO₂ gassing method, CO gassing, electrical culling and the ICS method, with respect to animal welfare objectives at method level results in a better position for the ICS bag.

Slow gassing showed the same sequence of behaviour-related changes as the ICS bag killing, but over a longer period. Death occurred very fast with the ICS gassing method (40 seconds).

Slow gassing showed significant differences in several blood parameters (high metabolic acidosis) in comparison to the ICS bag.

After 48 hours, no virus particles were found outside the ICS bag. The ICS bag was closed as mentioned in the user guide.

The CO₂ level outside the bag did not exceed the Threshold Limit Values (TLV) for CO₂.

Acknowledgement

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Animal Welfare Group Universidad Austral de Chile

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Abstract

The Animal Welfare Group-UACH is the result of the consolidation of over 10 years' research and training in animal welfare at the Veterinary Sciences Faculty of the Universidad Austral de Chile (UACH). It is a reference centre for animal welfare in Chile dealing mainly with animal species used for production and work; it produces scientific research, trains human resources and disseminates information that promotes animal welfare.

Introduction

Since the mid 1990s, many studies in animal welfare have been undertaken at the Veterinary Sciences Faculty of the Universidad Austral de Chile (UACH). Its scientific achievements have given the Faculty a recognised leadership in animal welfare at national and international level. During 2007, research and training activities in animal welfare were consolidated through the creation of the Animal Welfare Group-UACH, supported by the Fundación para la Innovación Agraria (FIA-Chile).

Description Of Activities

The objectives of the Animal Welfare Group-UACH are to act as a reference centre in areas related to animal welfare, to develop and manage research projects, to train human resources, to transfer technology and update knowledge on animal welfare, with an emphasis on the species used in production and work.

The main tasks include: (a) research in animal welfare and scientific support for national legislation; (b) the training of human resources at different levels (animal handler up to postgraduate) on the use and handling of animals in production and work; (c) involvement with international institutions dedicated to the promotion of animal welfare (the World Organisation for Animal Health (OIE), the World Society for the Protection of Animals (WSPA),

the Humane Slaughter Association (HSA)); (d) technical consultancies in animal welfare; and (e) the promotion of an ethical approach towards animals and of the teaching of animal welfare at universities.

Results

Placing priority on research into the welfare of animals used for production and work has generated projects and publications in the following areas: (a) animal welfare and productivity in dairy cattle in the South of Chile: lameness and mastitis; (b) transport and ante-mortem handling of different species (cattle, sheep, equines) and their effects on animal welfare and meat quality; (c) the welfare of urban draught horses; (d) animal welfare strategies during transport and slaughter for improving meat quality in ruminants; and (e) the welfare and meat quality in salmon.

These projects have generated many undergraduate and postgraduate theses, publications and presentations at national and international conferences. Reports are available on the group website (<http://www.bienestaranimal.cl>).

Conclusions

The creation of the Animal Welfare Group-UACH has promoted an understanding of animal welfare and humane handling of animals among students, academics, farm animal handlers, transporters, slaughtermen and other people who use animals for work.

Immuno-contraception to control roaming dog populations

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In many countries, problems caused by over abundant populations of free-roaming dogs (also referred to as stray dogs) range from risks to public health (i.e. zoonotic diseases such as rabies) to fouling in urban areas, attacks on people, other animals and livestock, removal of litter and road accidents. In addition, these dogs are often emaciated and in poor condition.

Traditional methods employed to manage these populations, such as culling, use of toxicants, capture and kill, are often ineffective, socially unacceptable, and may affect non-target species. Alternative solutions, such as responsible ownership coupled with surgical or chemical sterilisation require long-term commitment of funding and personnel. Paradoxically, countries that are economically underprivileged and are also characterised by the highest numbers of stray dogs cannot sustain these commitments. In addition, surgical sterilisation is relatively expensive and constrained by the number of dogs that a vet can sterilise in a set time, while chemical sterilisation has side effects and requires re-administration at regular intervals.

Novel immuno-contraceptive vaccines, such as the GnRH vaccine Gonacon™ can induce infertility for several years after a single injection. Gonacon™ causes the production of antibodies that bind to the GnRH hormone, reducing its ability to stimulate the release of sex hormones. Thus, an animal remains in a non-reproductive state as long as sufficient

antibodies are present. GnRH vaccines have been tested in many mammals and are currently being evaluated in dogs and other carnivores.

Potential advantages of immuno-contraception include:

- *ease of administration*: dogs can be caught, injected with the contraceptive and the rabies vaccine and released,
- *animal welfare*: immuno-contraceptives block reproduction but have few side effects on physiology, surgical sterilisation is invasive and might have health complications,
- *costs*: immuno-contraceptives are less expensive than surgical sterilisation which requires specialised staff, facilities and use of anaesthetics,
- *biological specificity*: immuno-contraceptives target only the reproductive system are likely to be safer than many chemosterilants,
- *effectiveness*: single-dose immuno-contraceptives can induce infertility for several years.

Future research should evaluate the potential to integrate immuno-contraception into dog rabies management, compare feasibility and costs of immuno-contraception and alternative options to controlling dog populations and model the impact of fertility control on dog population dynamics.

Meat retailers' perception of animal welfare

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Summary

The animal welfare of farm animals is a priority in the European Union. Livestock production under intensive conditions has received considerable criticism from various segments of the society. The strong social claim in favour of animal welfare has produced important changes in the European legislation controlling livestock industries. As a consequence, the current production systems must undergo important modifications which could then affect production costs.

The question to answer is whether people in southern European countries, such as Spain, would be prepared to pay more for products in order to improve animal welfare. The meat retailers are the connection between the producers and the consumers. This privileged position in the production chain allows them to form an objective opinion on the perception of animal welfare by their customers. This knowledge is important in the design of an appropriate decision support system to improve the information provided to consumers about the animal welfare of farm animals.

The objective of this study was to assess the attitude and perception of farm animal welfare of farm animals of meat retailers. The commercialisation of Welfare-Friendly Products (WFP) was also analysed. A total of 359 meat retailers (210 butchers' shops and 149 supermarkets) in the city of Saragossa (Aragón Region NE Spain) took part.

The survey included questions about the following aspects: perception of welfare issues; level of information about welfare regulations; commercialisation of welfare-friendly products (WFP). The data were processed and frequencies of responses were calculated for further analysis using the Freq procedure of SAS.

Sample description: Location: Saragossa; total participants: 359 (210 butchers' shops and 149 supermarkets). The persons surveyed were 58 % male and 42 % female. The age distribution was < 35 years old (27 %); 35–50 years old (55 %) and > 50 years old (18 %). The results indicate that the level of concern about animal welfare issues of meat retailers is medium/high. This interest is higher in the supermarkets than in the butcher's shops ($p = 0.05$).

According to the meat retailers, the level of concern of their customers about animal welfare issues is medium/low. In the supermarkets, the level is medium. The meat retailers perceive that the treatment of the farm animals is good. The opinion of the supermarket managers is more critical than the butchers. More than 80 % of the meat retailers answered that their customers do not ask about animal welfare in their shops. More than 60 % of the meat retailers answered that they know the European welfare regulation. This proportion is significantly higher ($p = 0.05$) in the supermarkets than in the butcher's shops. The majority (> 60 %) of the meat retailers consider the EU regulations about animal welfare useful and necessary for Spain.

This opinion is more remarkable in the supermarkets. A similar proportion say that they receive some information about these regulations. More than 70 % of the meat retailers surveyed believe that their customers will not pay more for a product to improve animal welfare. Approximately half of the meat retailers answer that they sell some type of WFP. This proportion is higher (60 %) in the supermarkets. However, these types of products represent less than 10 % of the total commercialisation. Among meat retailers, 60 % answered that their customers demand free-range chicken. However, the main reason for this demand is meat quality and not welfare. A similar figure was observed for free-range pig or free-range eggs.

Introduction

The animal welfare of farm animals is a priority in the European Union. Livestock production under intensive conditions has received considerable criticism from various segments of the society. The strong social claim in favour of the animal welfare has produced important changes in the European legislation controlling livestock industries. As a consequence, the current production systems must undergo important modifications which could then affect production costs. The question to answer is whether people in southern European countries, such as Spain, would be prepared to pay more for a product in order to improve animal welfare. The meat retailers are the connection between the producers and the consumers. This privileged position in the production chain allows them to have an objective opinion about the perception of animal welfare in their customers. This knowledge is important in the design of an appropriated decision support system to improve the information provided to the consumers about the animal welfare of farm animals.

Aim

The aim of this study was to assess the attitude and perception of farm animal welfare of farm animals of meat retailers. The com-

mercialisation of Welfare-Friendly Products (WFP) was also analysed.

Method

A total of 359 meat retailers (210 butchers' shops and 149 supermarkets) in the city of Saragossa (Aragón Region, NE Spain). The survey includes questions about the following aspects:

- perception of the welfare issues,
- level of information about the welfare regulations,
- commercialisation of welfare-friendly products (WFP).

Sample description:

Location:	Saragossa
Total surveyed:	359
Butchers' shops:	210
Supermarkets:	149
♂♂:	58 %
♀♀:	42 %
< 35 years old:	27 %
35–50 years old:	55 %
> 50 years old:	18 %

The data were analysed using the frequency procedure of SAS (χ^2).

Results

Figure 1:
Your concern about animal welfare is:

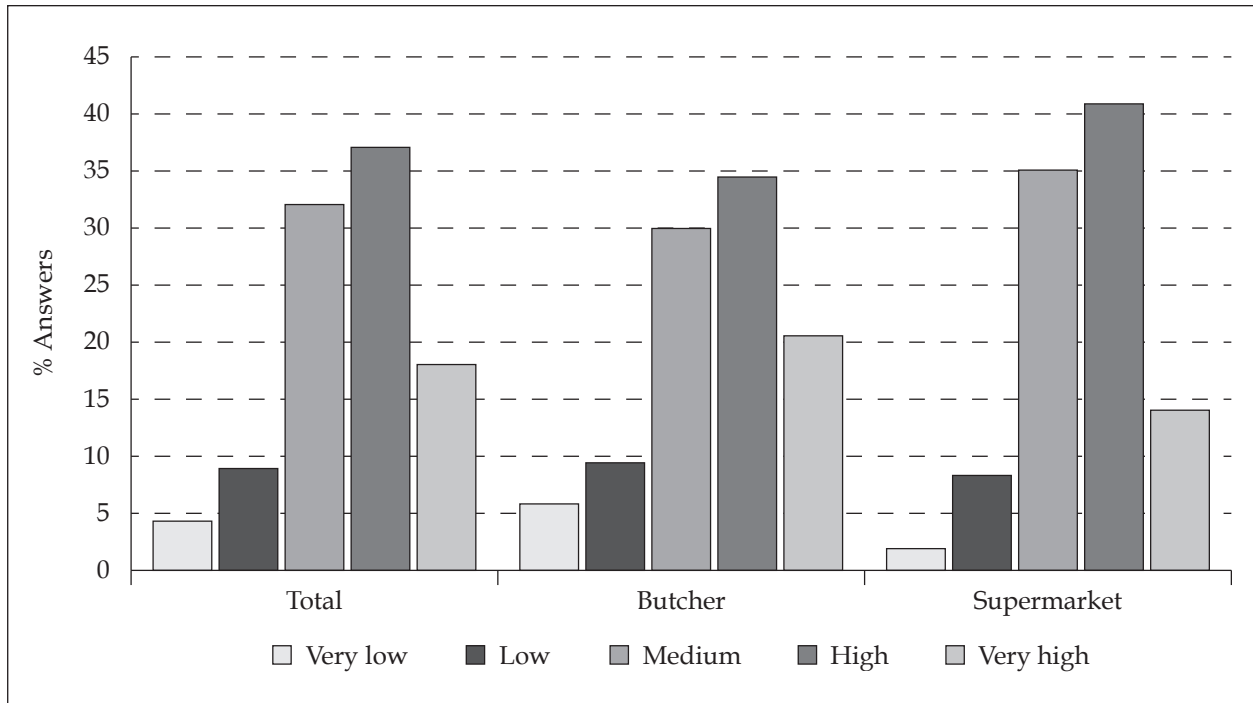


Figure 2:
The concern of your customers about animal welfare is:

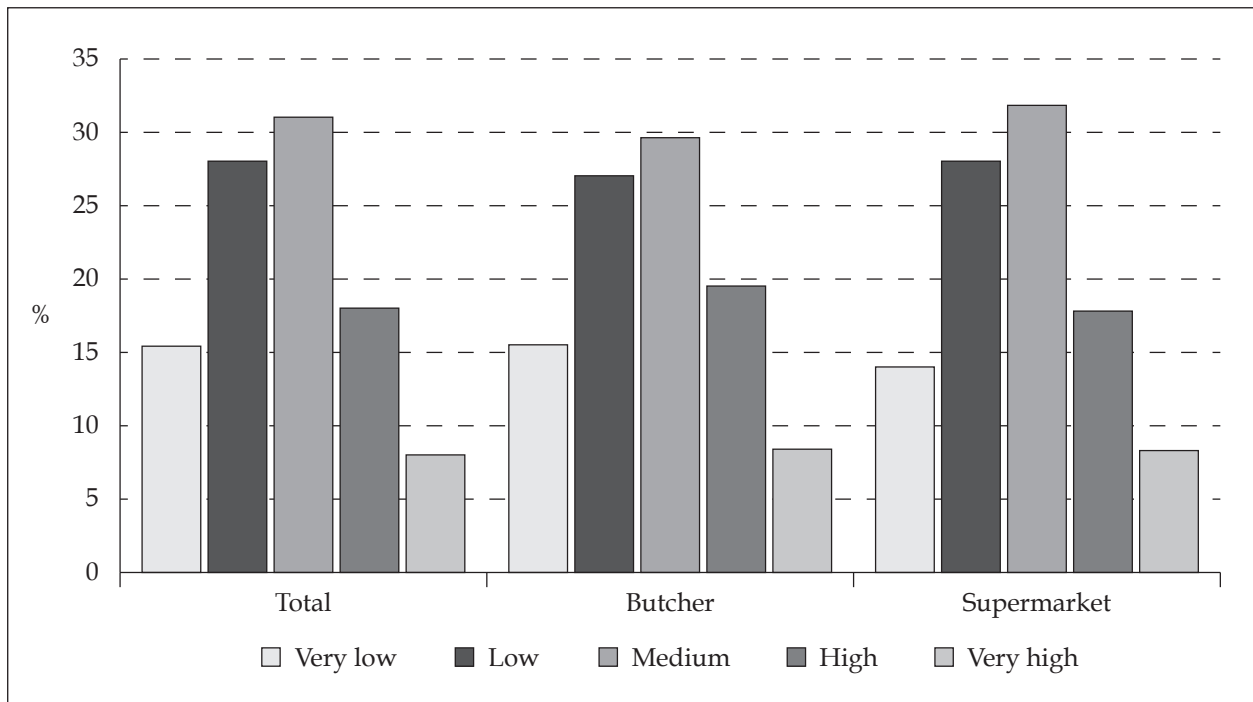


Figure 3:
The perception of animal treatment at farm level is:

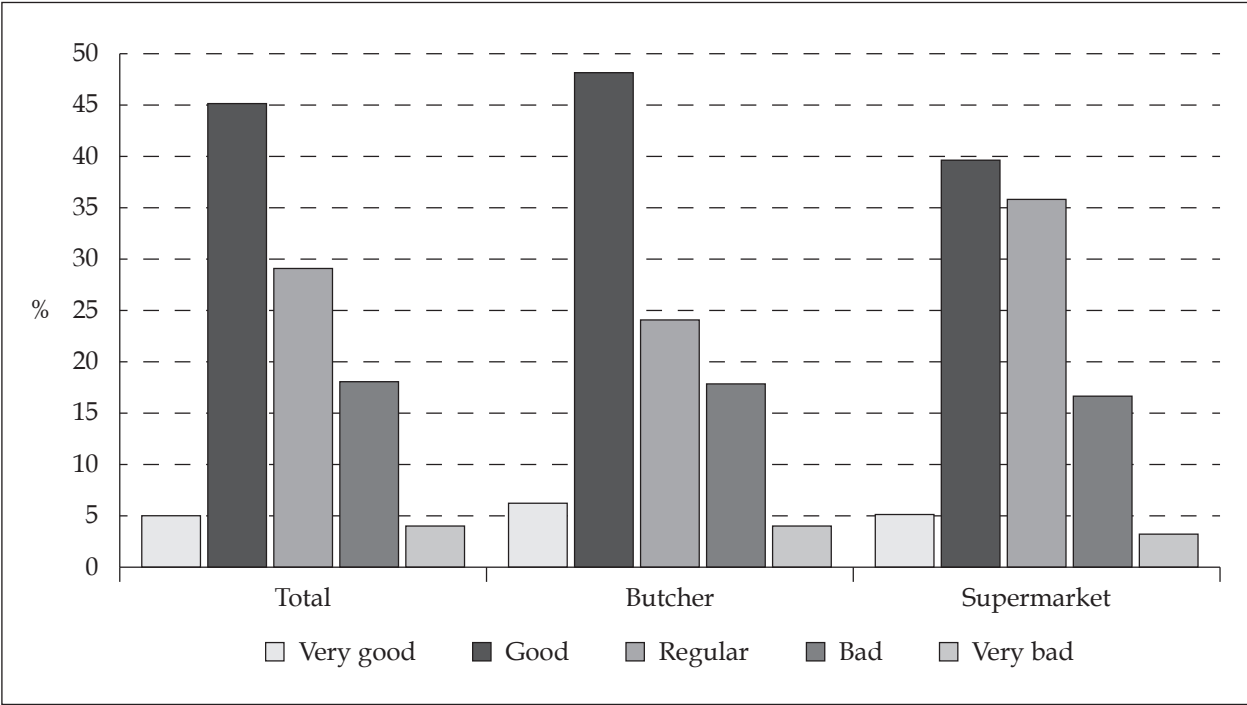


Figure 4:
Your customers ask about the welfare of animals?

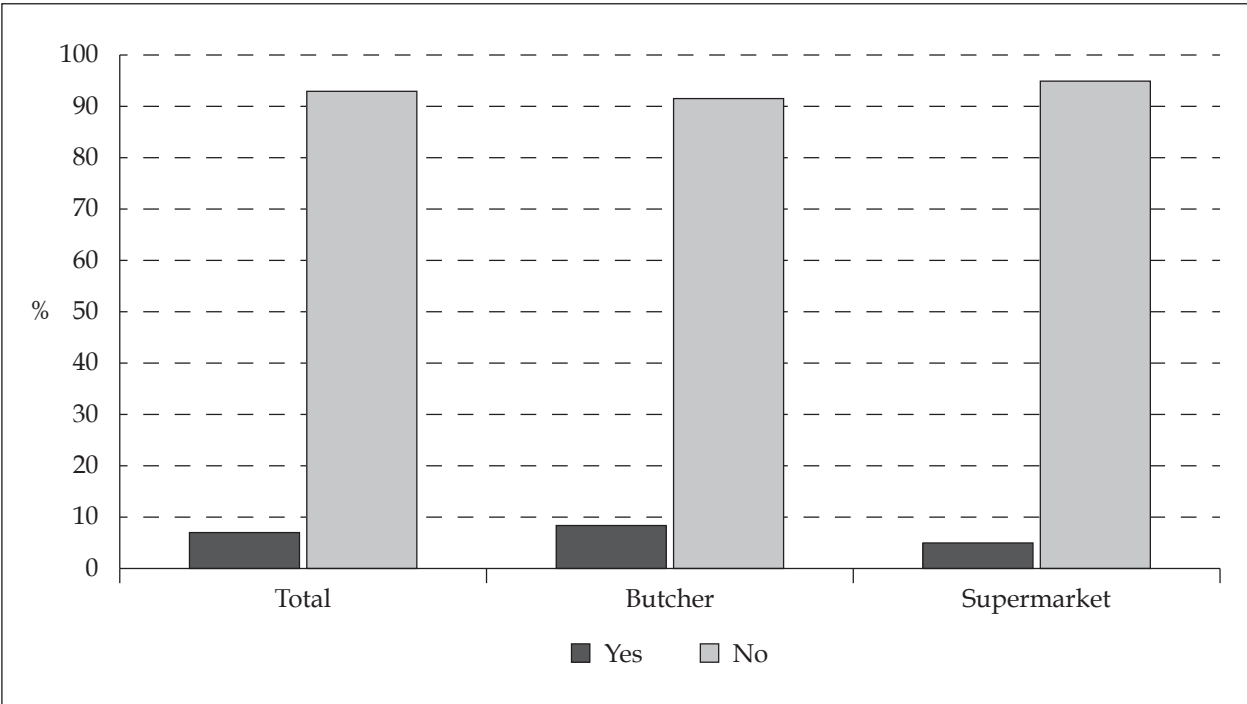


Figure 5:
Do you know the European regulations about animal welfare?

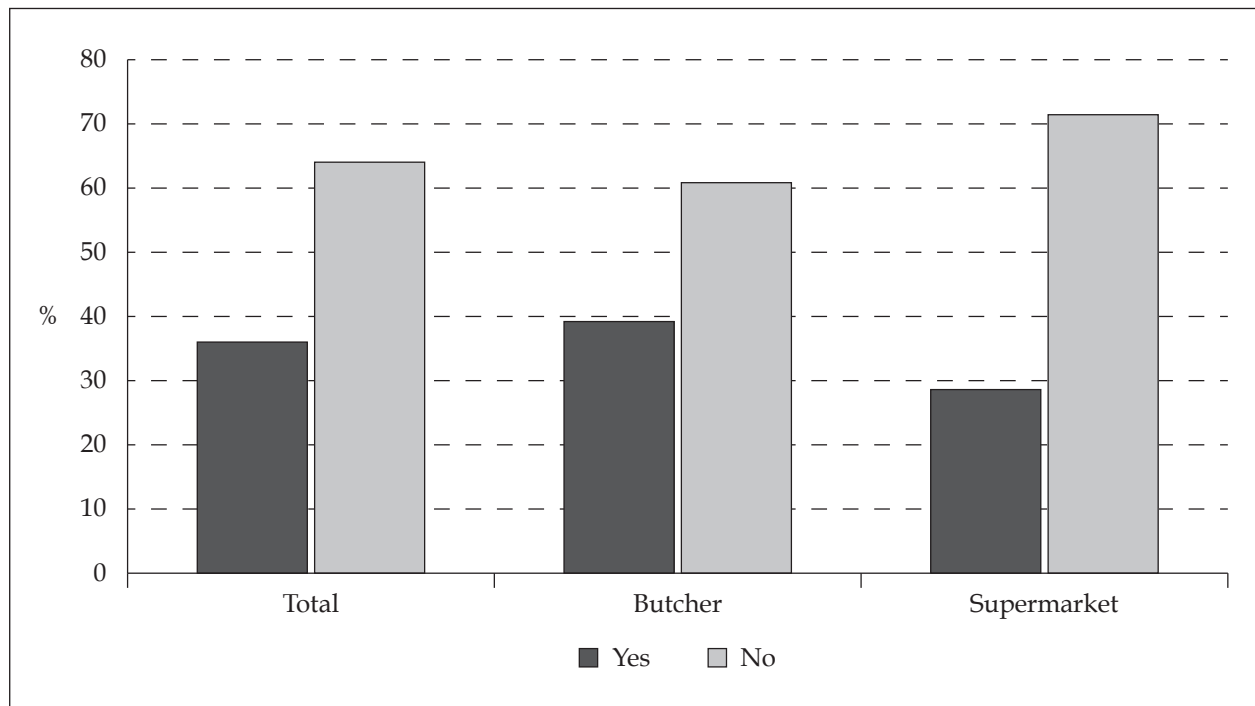


Figure 6:
European regulations about animal welfare are useful and necessary in Spain?

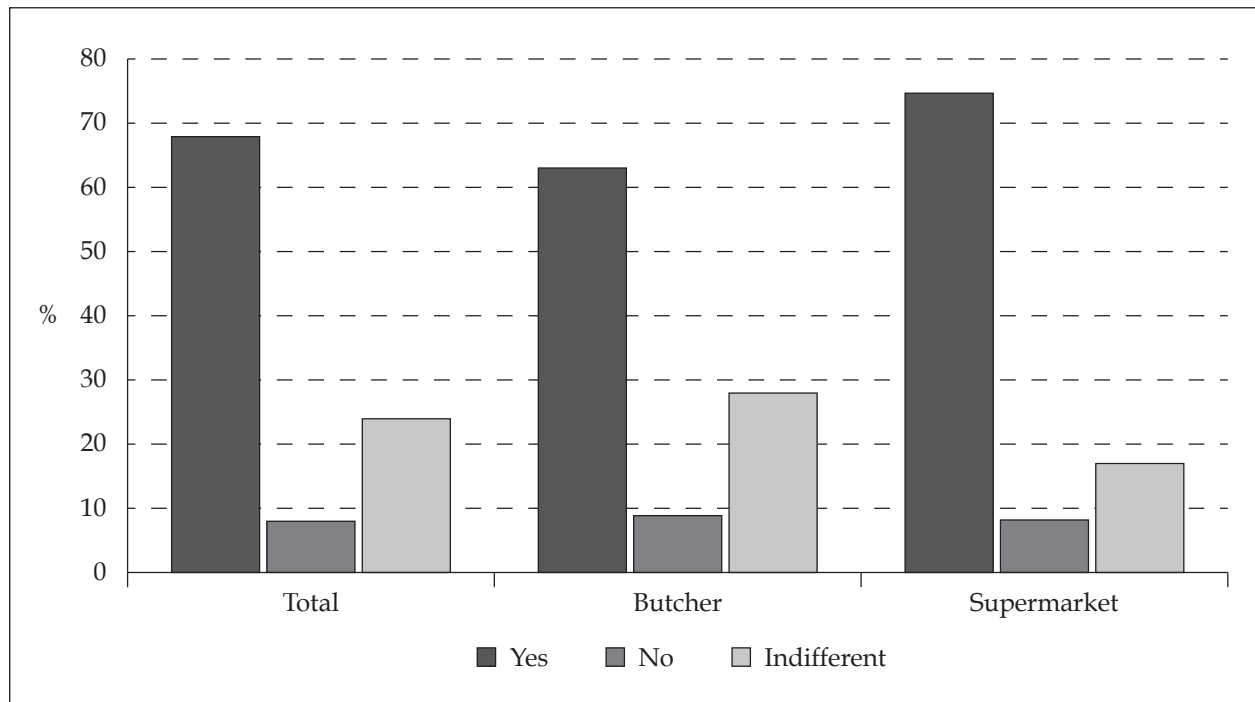


Figure 7:
Do you receive information about the European regulations about animal welfare?

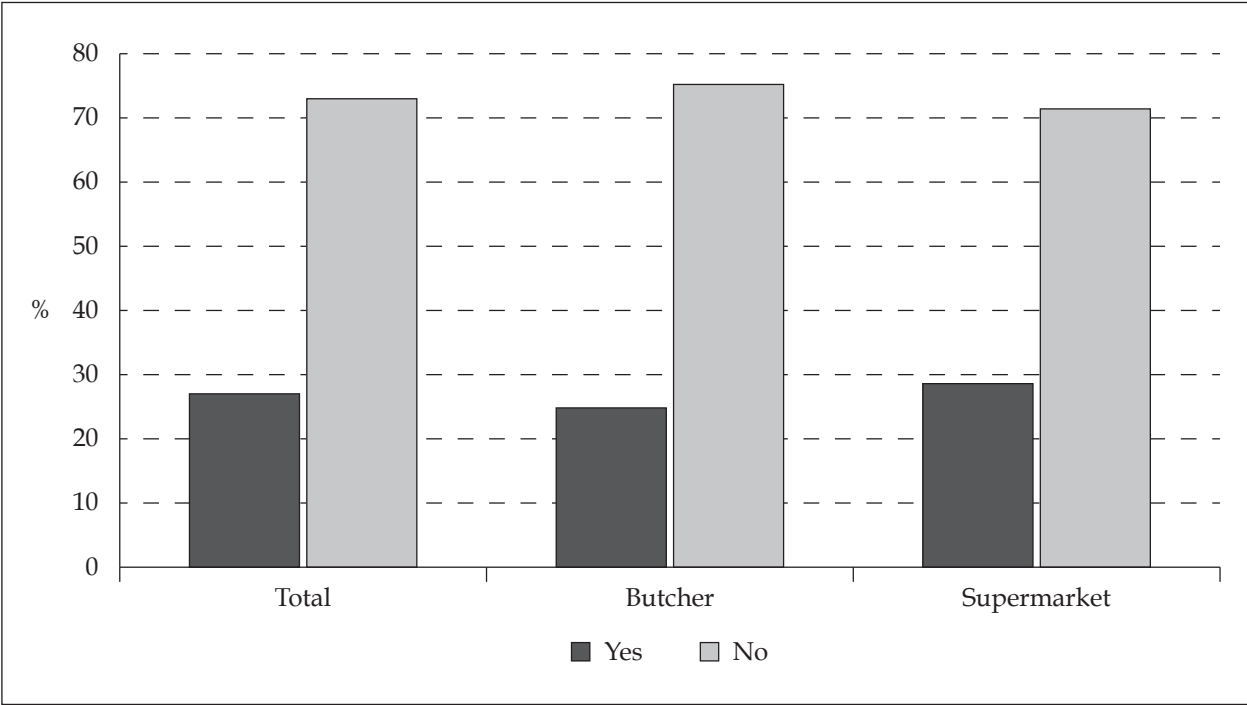


Figure 8:
Your customer will agree to pay more for a product to improve animal welfare?

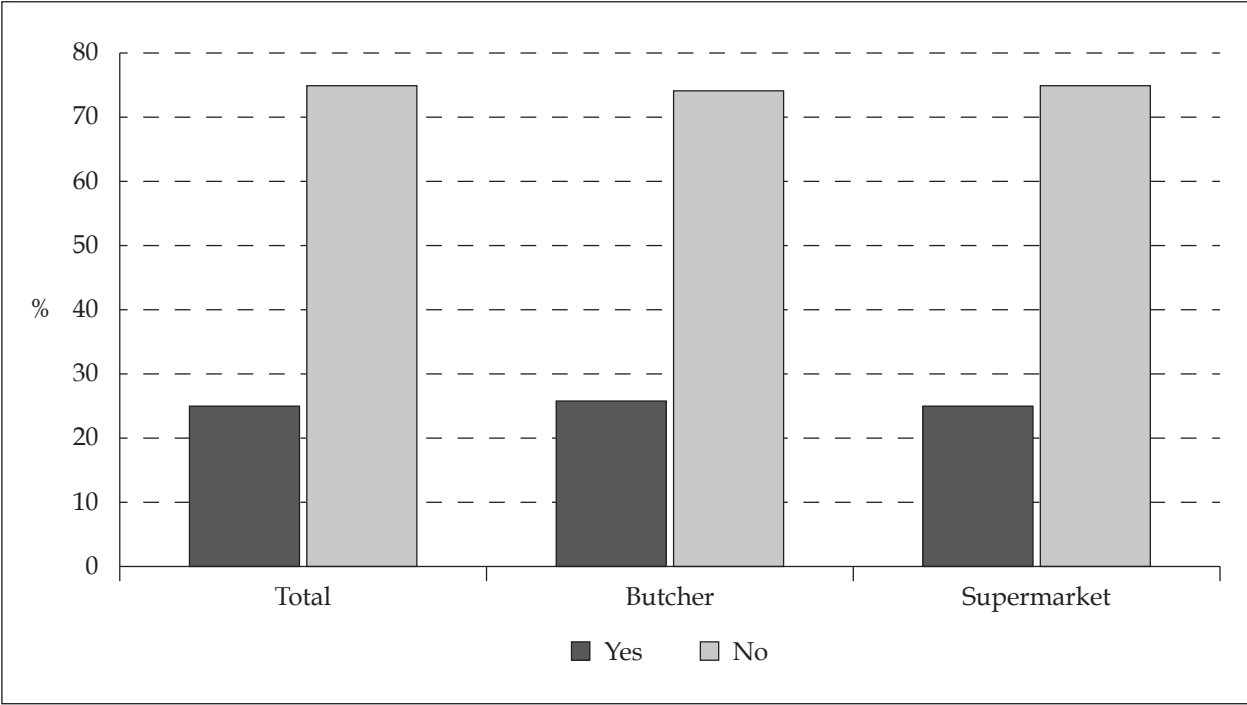


Figure 9:
Do you sell welfare friendly products in your shop?

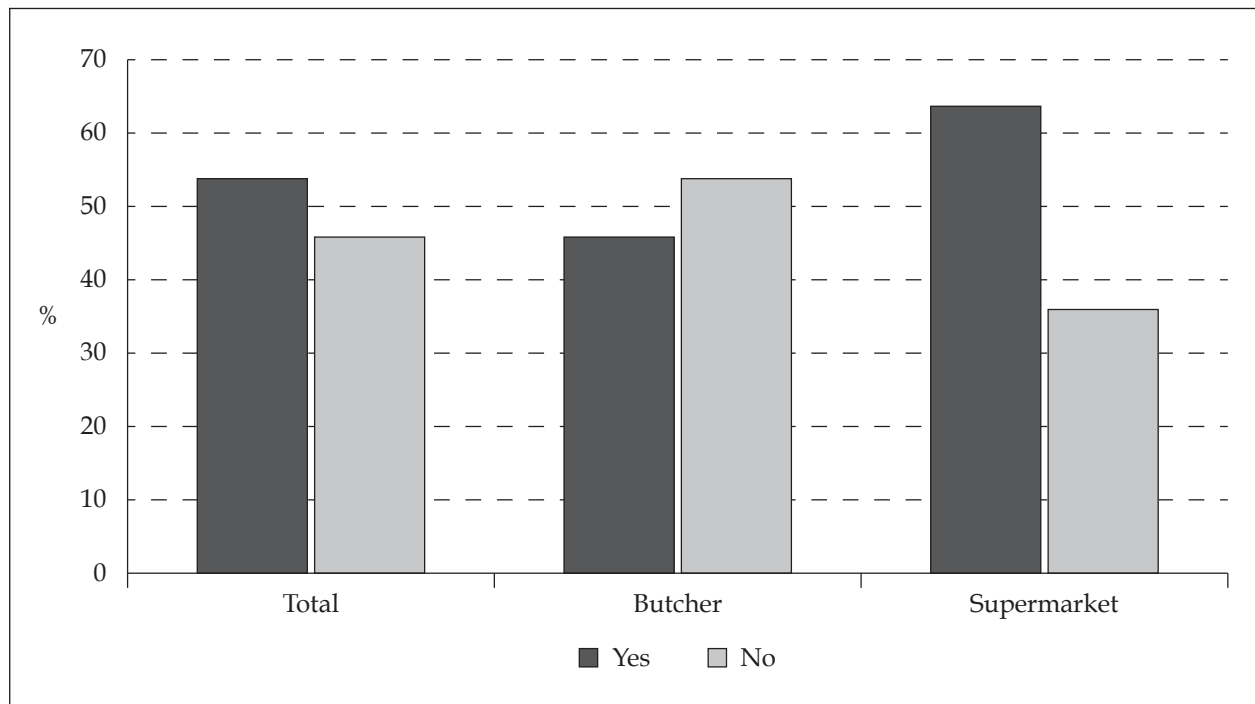


Figure 10:
What proportion of your sells are welfare friendly products?

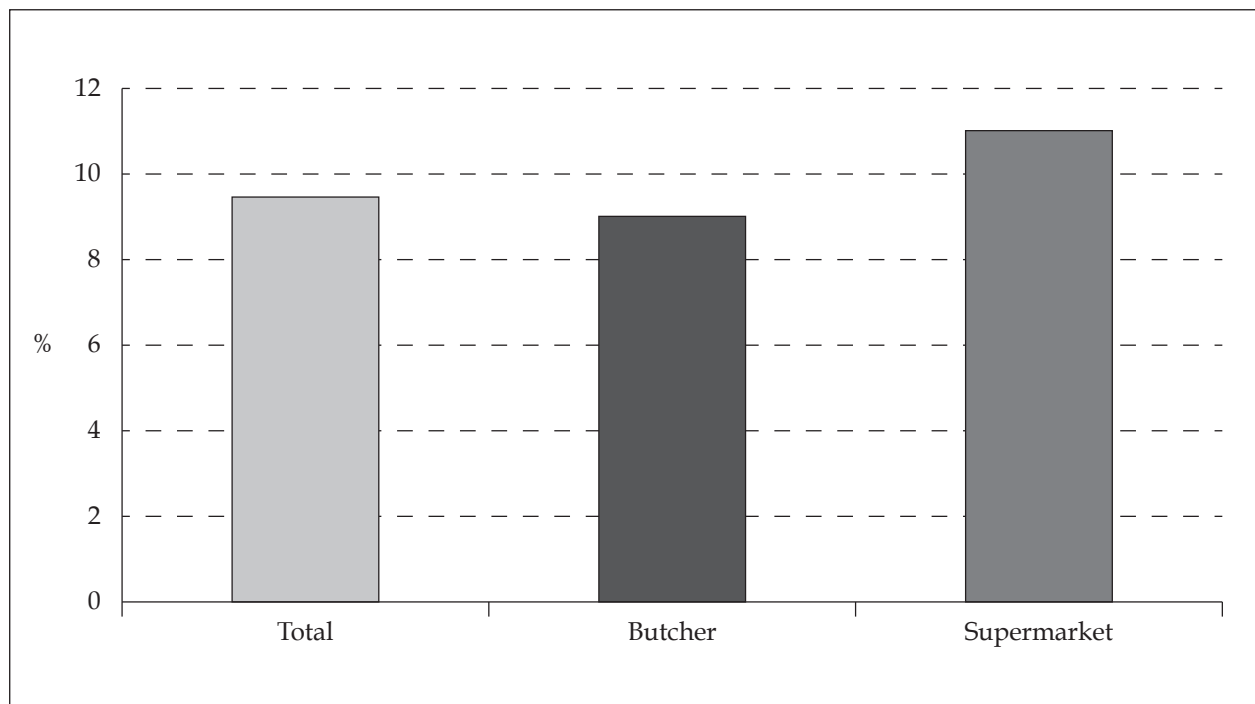


Figure 11:
The trend of the sells of this type of product is:

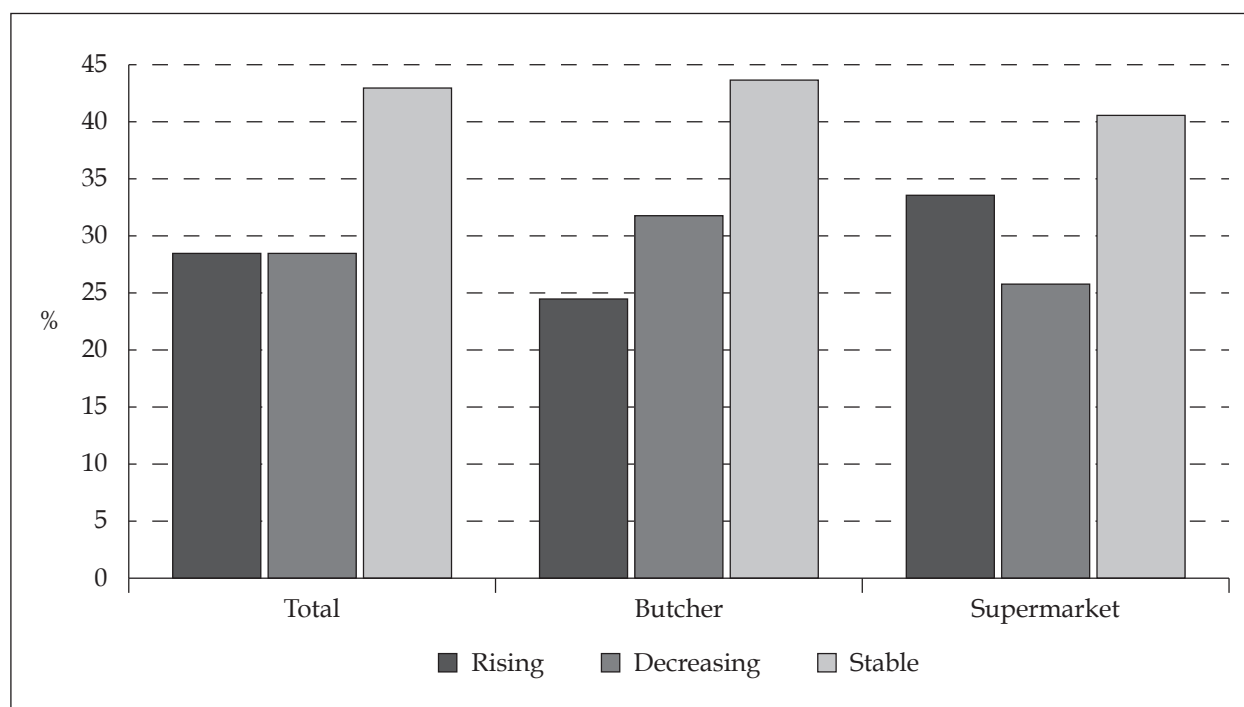


Figure 12:
Your customers ask for free range chicken?
If the answer is 'yes' what is the main reason? (Quality, Welfare, Safety)

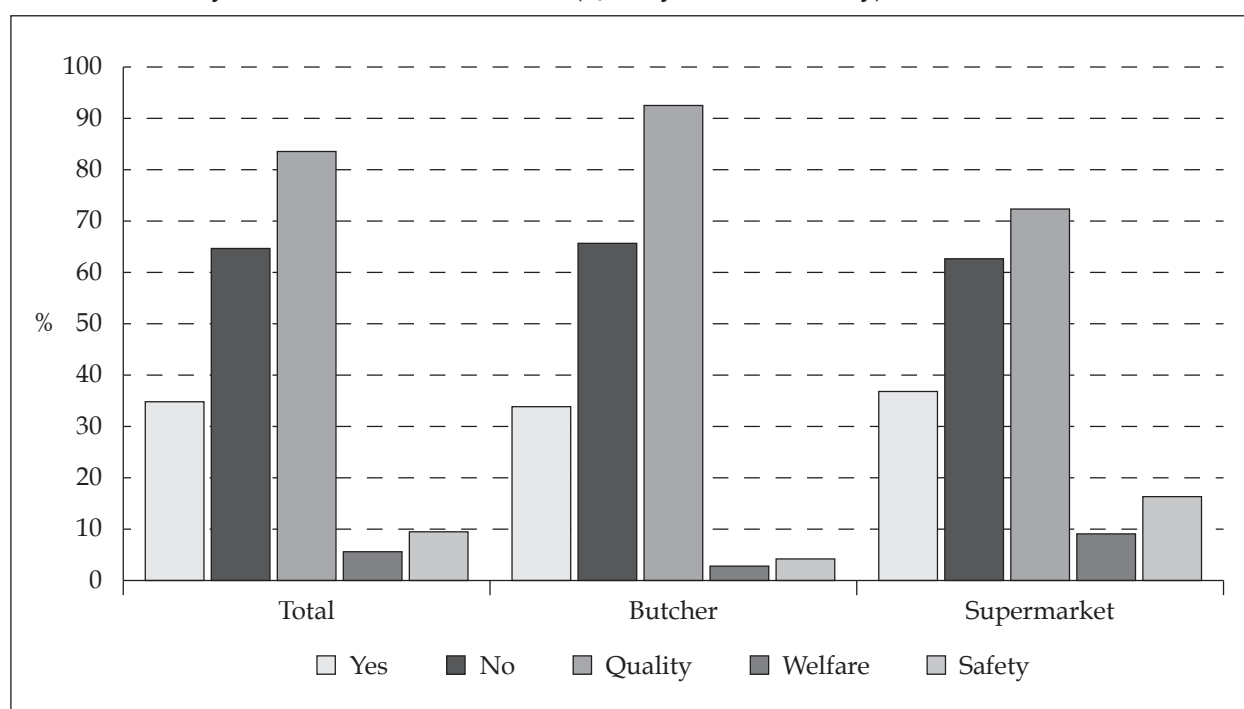
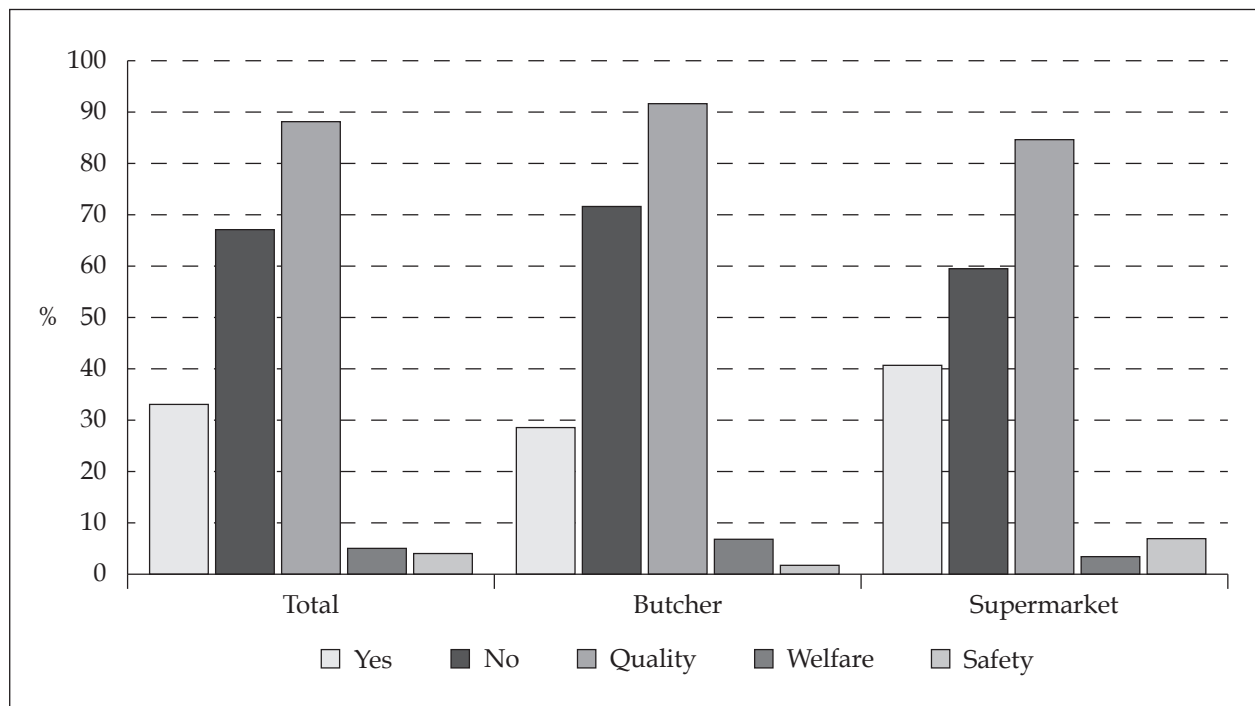
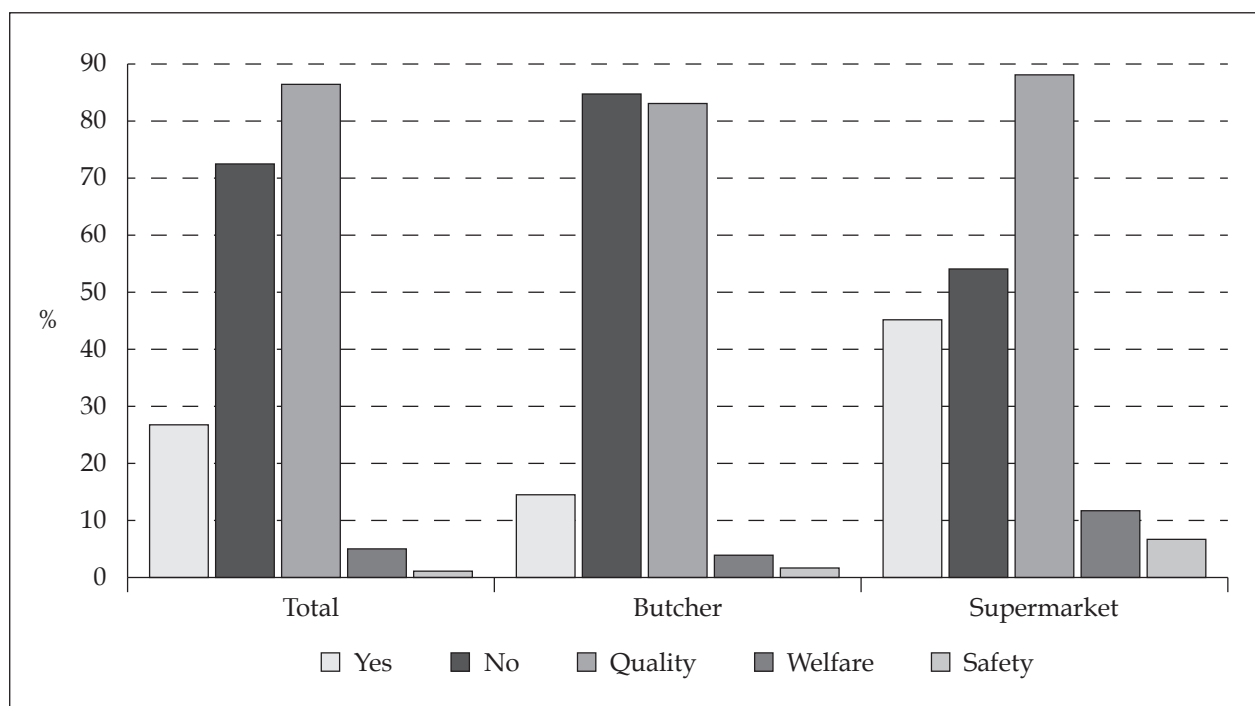


Figure 13:**Your customers ask for free range pig?****If the answer is 'yes' what is the main reason? (Quality, Welfare, Safety)****Figure 14:****Your customers ask for free range eggs?****If the answer is 'yes' what is the main reason? (Quality, Welfare, Safety)**

Conclusions

The level of concern about animal welfare issues of meat retailers is medium/high. The interest is higher in the supermarkets than in the butchers' shops ($p \leq 0.05$).

According to the meat retailers, the level of concern of their customers about animal welfare issues is medium/low. In the supermarkets, the level is medium.

The meat retailers perceive that the treatment of the farm animals is good. The opinion of the supermarket managers is more critical than the butchers.

More than 80 % of the meat retailers answered that their customers do not ask about animal welfare in their shops.

More than 60 % of the meat retailers answered that they know the European welfare regulation. This proportion is significantly higher ($p \leq 0.05$) in the supermarkets than in the butchers' shops.

The majority (> 60 %) of the meat retailers consider the EU regulations about animal welfare useful and necessary for Spain. This opinion is more remarkable in the supermarkets. A similar proportion says that they receive some type of information about these regulations.

More than 70 % of the meat retailers surveyed believe that their customers will not pay more for a product to improve animal welfare.

Approximately half of the meat retailers answer that they sell some type of WFP. This proportion is higher (60 %) in the supermarkets. However, these types of products represent less than 10 % of the total commercialisation.

Among meat retailers, 60 % answered that their customers demand free-range chicken. However, the main reason for this demand is meat quality and not welfare. A similar figure was observed for free-range pig and free-range eggs.

Animal welfare education in the Netherlands

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Abstract

The Animal Welfare Lectorate at Van Hall Larenstein, part of Wageningen UR, aims to support the application and the exchange of knowledge contributing to the welfare of animals. Current animal welfare education activities and products involve three main themes: knowledge infrastructure, awareness, and governance. The Dutch animal welfare education programme may serve as a necessary link between the development and implementation of future (OIE) worldwide standards and practical implications raised by various stakeholders in society.

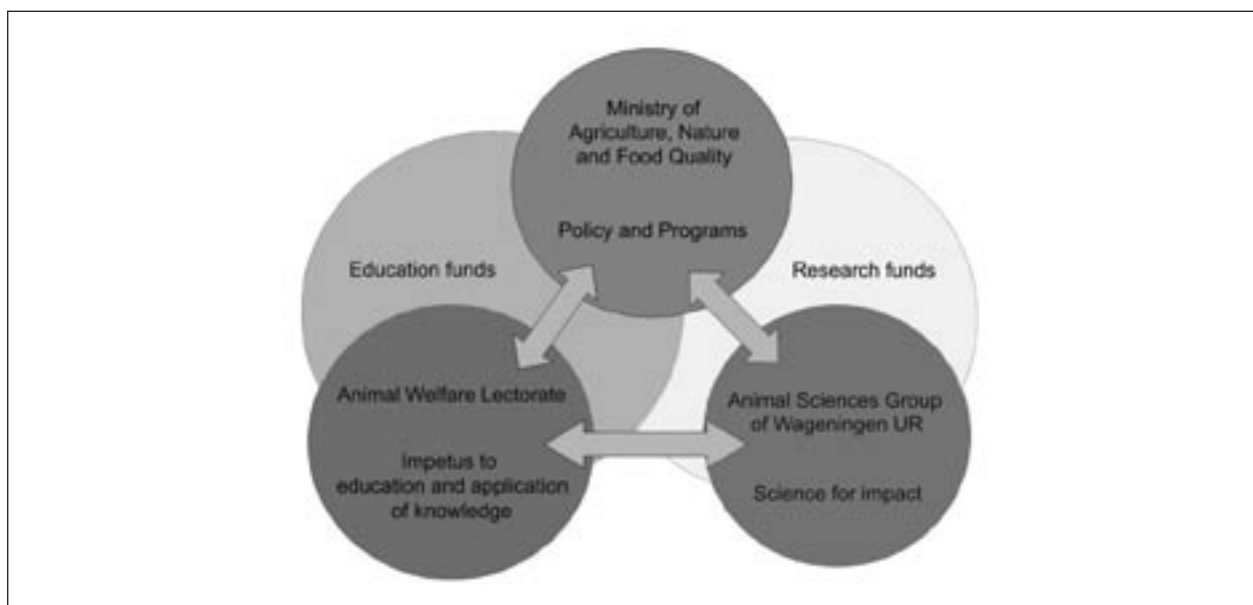
Introduction

In the Netherlands, education in agricultural and related sciences is funded by the ministry of Agriculture, Nature and Food quality. Societal interests in animal welfare issues recently inspired this ministry to support the animal welfare chair – the Animal Welfare Lectorate – at Van Hall Larenstein.

Van Hall Larenstein is part of Wageningen University and Research Centre and includes agricultural education at professional level. The Animal Welfare Lectorate is asked to play a coordinating role in improving the quality of animal welfare education at various levels, including secondary and professional education.

Figure 1:

Institutional framework of animal welfare education in the Netherlands



Description of Activities

The Animal Welfare Lectorate aims to support the application and exchange of knowledge contributing to the welfare of animals and promotes close networking between students, lecturers, scientists and animal welfare stakeholders in society. This is to be constituted in a Knowledge and Innovation Centre of Animal Welfare in which science and education serve practice and society by disclosure, development and dissemination of actual scientific and practical knowledge. Main activities of the Knowledge and Innovation Centre of Animal Welfare are:

- the development and implementation of a national knowledge infrastructure centre serving the disclosure and dissemination of up-to-date animal welfare knowledge in the field of (international) rules and regulations, science and society,
- the organisation of exhibitions and one-day events together with professional experts, innovative entrepreneurs, lecturers and students to raise awareness on animal welfare and societal issues,
- the development of educational materials, assignments and cases in the field of entrepreneurship and animal welfare to support lecturers in professional education,
- the development of animal-friendly and innovative concepts in the field of animal husbandry and animal care in cooperation with different knowledge centres,
- to match requests from practice with education programmes in different knowledge centres through practical training programmes and specific knowledge arrangements.

Results

Table 1 illustrates current animal welfare education activities and products initiated by the Animal Welfare Lectorate and supported by participants of the Knowledge and Innovation Centre of Animal Welfare.

Table 1:

Current animal welfare education activities and products initiated by the Animal Welfare Lectorate

Theme	Current education programme	Description	Participants
Knowledge infrastructure	Animal Welfare Practical Guide	Toolbox with background information, various cases for professional education	<ul style="list-style-type: none"> ✓ Van Hall Larenstein ✓ Dutch professional universities
	Animal Welfare Web	Information desk	<ul style="list-style-type: none"> ✓ Van Hall Larenstein ✓ Dutch professional universities ✓ Secondary schools

Theme	Current education programme	Description	Participants
Awareness	Animal Event	Exhibition and one-day events	✓ Animal welfare stakeholders ✓ Government
	Pet's Day	Exhibition and one-day events	✓ Van Hall Larenstein ✓ Secondary schools
	Stray dogs in Romania	Exhibition and one-day events	✓ Wageningen UR ✓ University of Utrecht ✓ Animal Association Romania
Governance	Animal Welfare Quality Management	Professional education programme on animal welfare auditing and quality management	✓ Van Hall Larenstein ✓ Dutch professional university
	Cows in motion	Practical interactive CD for training how to prevent claw and leg disorders in dairy cattle	✓ Van Hall Larenstein ✓ Animal welfare stakeholders ✓ Businesses
	Veal calf welfare monitor	Web-based training tool for on-farm monitoring of veal calf welfare	✓ Van Hall Larenstein ✓ Wageningen UR ✓ Professional universities in France and Italy ✓ Animal welfare stakeholders ✓ Businesses

Conclusions

During the last four years, the Animal Welfare Lectorate has successfully developed an animal welfare education programme in line with current policy and research through the application and exchange of knowledge within a

network of relevant stakeholders and knowledge centres. The Dutch animal welfare education programme may serve as a necessary link between the development and implementation of future (OIE) worldwide standards and the practical implications raised by students, lecturers, scientists and society.

The importance of global recognition of the sentience of animals

Joyce D'Silva

Ambassador for Compassion in World Farming

Abstract

The OIE has recognised the need for humane treatment of sentient animals. Sentience includes animals' health status and their social and psychological well-being.

OIE Member Countries can support the concept of animal sentience by implementing the OIE guidelines on animal transport and slaughter, requiring relevant universities and colleges to include animal welfare in their curricula, and by persuading their governments to support the Universal Declaration on Animal Welfare.

Introduction

At its May 2007 General Session, the OIE passed a resolution which recognised 'the need for humane treatment of sentient animals' and stated that 'it is important to achieve acceptance worldwide of animal welfare as an issue of common concern and importance.'

What is animal sentience? What are the implications of recognising that animals are sentient beings?

Professor John Webster, former Head of the Veterinary School at Bristol University, says: 'A sentient animal is one for whom feelings matter.'

Description of Activities

In 1988, Compassion in World Farming launched a campaign to have animals recognised as sentient beings in the European Union. We achieved success in 1997, when the legally binding Protocol on Improved Protection and Respect for the Welfare of Animals, which recognises animals as sentient beings, was adopted into the European Treaty.

In 2005, in response to the increasing global interest in animal sentience, Compassion in World Farming held an international conference on the science and implications of animal sentience, which was attended by over 600 delegates from 50 countries. Dr David Bayvel, the Chair of the OIE Animal Welfare Working Group, presented the paper, *The international animal welfare role of the OIE*.

Results

The proceedings of Compassion's sentience conference resulted in two publications: a special edition of *Applied Animal Behaviour Science*, 2006, 100, pp. 1–2, and the book *Animals, Ethics and Trade*, Turner, J., and D'Silva J. (eds), Earthscan, 2006.

Dr David Bayvel's OIE paper was published in this book.

As a result of the EU Protocol on animal sentience, all new EU directives and regulations regarding farm animal welfare refer to the Protocol. Several of these directives have radically improved the ways in which EU Member States rear, transport and slaughter animals.

In 2006, the International Finance Corporation adopted the Good Practice Note on Animal Welfare in Livestock Operations which referred to the EU Sentience Protocol and said: 'Farm animals can feel, experience and suffer.'

In 2007, the OIE passed a resolution which recognised the need for humane treatment of sentient animals and stated that: 'It is important to achieve acceptance worldwide of animal welfare as an issue of common concern and importance'. The resolution also agreed: 'To support, in principle, the development of a universal declaration on animal welfare which calls on countries to acknowledge the importance of animal welfare.'

The development of OIE guidelines on various aspects of animal welfare show how this Resolution can be implemented in practice by OIE members.

Investigating and implementing OIE welfare standards in the United States of America

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Abstract

Investigations conducted by the Humane Society of the United States (HSUS) in 2007–08 at a California cattle slaughter plant and several livestock auctions in four US states uncovered numerous violations of OIE animal handling guidelines and identified egregious maltreatment of animals, increased risks to human health, and significant flaws in US regulations regarding the handling and processing of non-ambulatory cattle. Led by the HSUS's efforts and with pressure from legislators, trading partners, the scientific community, NGOs, and the general public, resultant actions were both far-reaching and significant in scope: slaughter plant workers pled guilty to criminal animal cruelty charges for their mistreatment of cattle; the largest-ever meat recall was issued in the United States – 143 million pounds (approximately 65 million kg) of raw and frozen beef – affecting more than 1 billion pounds (approximately 450 million kg) of commingled or processed foodstuffs; several US Congressional hearings were held on food safety and slaughter plant inspection and oversight; a multimillion dollar slaughter facility was closed; and the US Secretary of Agriculture issued a commitment to change Department of Agriculture (USDA) policy regarding the slaughter of non-ambulatory cattle for human consumption.

Introduction

US Department of Agriculture policy on the slaughter of non-ambulatory cattle

The slaughter of non-ambulatory animals for human consumption may adversely affect both animal welfare and public health, as recumbent cattle have been found to have higher rates of food-borne zoonotic infections such as *E. coli* O157:H7, *Salmonella* spp., and bovine spongiform encephalopathy.

On 30 December 2003, one week after public disclosure of the first detected US case of BSE, the USDA announced: 'Effective immediately, the USDA will ban all downer cattle from the human food chain.' Less than two weeks later, on 12 January 2004, the USDA published its official interim policy, which specified that all non-ambulatory disabled cattle, identified as those who 'cannot rise from a recumbent position or ... cannot walk, including, but not limited to, those with broken appendages, severed tendons or ligaments, nerve paralysis, fractured vertebral column, or metabolic

conditions' would be excluded from the human food supply, 'regardless of the reason for their non-ambulatory status or the time at which they became non-ambulatory. Thus, if an animal becomes non-ambulatory en route to the establishment due to an acute injury, it must be humanely removed from the truck, humanely euthanised, and the carcass properly disposed of. Likewise, cattle that become non-ambulatory on the establishment premises, such as an animal that breaks its leg as it is unloaded from the truck, are also required to be humanely moved, humanely euthanised, and the carcass properly disposed of.' However, that same day, the USDA also issued Notice 5-04, instructing federal inspecting veterinarians on the protocol for carrying out the regulations. In contrast to both the public claims by USDA and the interim rule itself, the agency instructed inspectors to allow some downed cattle to be slaughtered for human consumption. This loophole in the so-called ban on slaughtering downers for food was particularly significant, as the first US BSE-infected cow had initially

been identified by a USDA veterinarian as downed due to calving injuries and only later tested positive for BSE.

Two years after the first US BSE-infected cow was identified, USDA's own Office of the Inspector General (OIG) chastised the agency for its inconsistent application of policies and regulations related to downed animals after observing downers processed at two facilities, in its report issued January 2006. The OIG found that 29 downer cattle were slaughtered for human food at a sample of 12 slaughter plants checked during a 10-month period and noted the lack of documentation on the animals' fitness for consumption. No corrective actions were taken by the USDA in light of the OIG's findings. In July 2007, however, the USDA finally made permanent its interim policy on slaughtering downer cattle, yet rather than closing the loophole identified by the OIG and decried by NGOs, the agency chose to codify it, acknowledging that some downer cattle have been, and will continue to be, processed for human food. USDA's final rule specified that 'FSIS inspection personnel will determine the disposition of cattle that become non-ambulatory after they have passed ante-mortem inspection on a case-by-case basis.'

Activities

Documentation, congressional hearings, and policy change

In late 2007, an HSUS investigator worked for approximately six weeks at the California-based Hallmark Meat Packing Company, a federally inspected slaughter plant affiliated with Westland Meat Company. Hallmark/Westland had a documented history of mistreating downed cattle. The USDA's Food Safety and Inspection Service (FSIS) cited Westland in 2005 for mishandling animals, and the USDA had been notified by local humane organisations about possible violations in 1996 and 1997. However, according to USDA records, Westland was the second-largest supplier of beef in 2007 to USDA's Agricultural Marketing Service (AMS), which purchases and distributes beef to needy families, the elderly, and schools. As well as that,

the USDA had awarded Westland as their 'supplier of the year' for the 2004-05 academic year.

The HSUS investigator documented that recumbent cattle too sick or injured to stand or ambulate were dragged with chains pulled by heavy machinery, excessively shocked with electric prods in sensitive areas, lifted by their tails, pushed by forklifts, and, in one case, endured simulated drowning when water from a high-pressure hose was flushed down her throat and up her nostrils, all in efforts to force them up to pass federal inspection.

The findings of the investigation were released on 30 January 2008, after which the USDA first suspended Westland as a supplier to the national school lunch programme and other federal nutrition programmes, and subsequently removed its inspectors, effectively shutting down the slaughter plant, citing 'egregious violations of humane handling regulations'. Two slaughter plant employees were charged with criminal animal cruelty counts on 15 February 2008, two days before the USDA announced the recall of 143 million pounds (approximately 65 million kg) of raw and frozen beef, the nation's largest-ever recall to date. In the following months, several US congressional hearings were held, spurred by the investigation and beef recall. The cattle industry continued to argue that a comprehensive downer ban was unnecessary until 22 April 2008, when three industry groups petitioned the USDA to ban all downers from slaughter, 'in an action that reversed some prior industry policies,' according to *Feedstuffs*.

During this time, in April and May 2008, HSUS investigators visited livestock auctions in four states — Maryland, New Mexico, Pennsylvania, and Texas — and videotaped downers at each location. Details from the investigation, which was released to the public on 7 May 2008, include downed cows hanging from their legs by chains attached to heavy machinery, abandoned outside of the auction barn, and sick and injured animals unable to stand left neglected.

After years of pressure from the HSUS and recent, highly compelling investigative find-

ings, US Agriculture Secretary Ed Schafer announced on 20 May 2008 that the federal agency is in the process of drafting an 'expedited final rule' that would ban the slaughter of any non-ambulatory animals, yet the rule will not be published 'for some months'. The rule would remove the loophole in existing regulations that allows USDA Food Safety and Inspection Service veterinarians to re-inspect and allow the slaughter of non-ambulatory animals that go down after the initial ante-mortem inspection at slaughter plants.

Documented violations of OIE guidelines

The HSUS investigations into the treatment of cattle at slaughter facilities and livestock auctions in the United States revealed the infringement of the following guidelines from Article 2 of the OIE slaughter standards:

- injured or sick animals, requiring immediate slaughter, should be killed humanely at the site where they are found,
- the use of instruments which administer electric shocks ... (should never be used) on sensitive areas such as the eyes, mouth, ears, anogenital region or belly,
- (g)rasping or lifting such animals only by their wool, hair, feet, neck, ears or tails causing pain or suffering should not be permitted ...,
- conscious animals should not be thrown or dragged,
- under no circumstances should animal handlers resort to violent acts to move animals.

Conclusion

Efforts led by the HSUS to improve the welfare of farm animals in the United States uncovered serious violations of handling guidelines set forth by the OIE. As a member country of the OIE, the United States, like all others, has a responsibility to both implement and enforce the promulgated welfare stand-

ards. The HSUS investigations into the treatment of cattle at slaughter plants and livestock auctions resulted in international publicity that led to shaken domestic consumer confidence and pressure from beef export partners. Combined with legislative and litigative strategies, a change in national policy was achieved, moving the United States closer towards fulfilling OIE humane handling slaughter standards. The OIE can support similar efforts globally by developing, promoting, and ultimately incentivising member countries to fully embrace commitments and practices to adhere to all OIE welfare guidelines.

The Humane Society of the United States and Humane Society International

(<http://www.humanesociety>)

The Humane Society of the United States (HSUS), one of the largest animal protection organisations in the world, is supported by approximately 10.5 million constituents. With its headquarters in Washington DC and maintaining offices in Asia, Australia, Europe and the Americas through its international arm, Humane Society International, HSUS works to achieve a humane and sustainable world for all animals, including those on farms, in research, in the wild or as companions, with an understanding that human and animal health and welfare are inextricably linked. The work of HSUS includes direct care for thousands of animals in sanctuaries and rescue facilities, wildlife rehabilitation centres, and mobile veterinary clinics. In remote areas underserved by veterinarians, HSUS gave more than 30 000 medical treatments to needy animals in 2007 alone. In parallel to its field work, HSUS also contributes to academic progress on animal welfare, with dozens of papers and articles published on topics such as the animal health and welfare implications of agricultural breeding practices, handling and transport systems, and the role of animal agriculture intensification in the emergence of zoonotic disease.

Animal welfare teaching in European veterinary faculties

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Abstract

The veterinarian is expected to be the animal welfare professional par excellence, having the full range of knowledge and skills required to assess animal welfare, identify problems and make recommendations for improvements. Consequently a veterinarian should be well educated in all aspects of both animal welfare and ethics. This study examined how and to what extent animal welfare is being taught during veterinary education in EU veterinary schools and faculties. Evaluation reports from 43 veterinary schools in 24 countries were analysed. Overall, the study illustrates that the way animal welfare is taught differs greatly from school to school. In some of the evaluated schools, animal welfare teaching is firmly embedded throughout the whole curriculum. In other schools, however, animal welfare is almost exclusively presented in terms of legislation rather than from an applied perspective. From these findings, it is recommended that animal welfare is taught from an applied perspective (e.g. practical aspects of welfare on farms, during transport, or at slaughter) instead of addressing only the legislative aspects. Part of the teaching should be done in an interactive way promoting critical analysis of situations from different perspectives.

Introduction

The promotion and protection of animal welfare is one of the core competences of a well-educated veterinarian. The veterinary profession, in particular, is in an excellent position to assess animal welfare, to identify causes of suboptimal welfare and to make recommendations for its correction. To do so, veterinarians need to be taught during their undergraduate training the full range of knowledge, critical thinking and skills to assess animal welfare. The OIE, the World Organisation for Animal Health, urged all Veterinary and Agricultural Science Faculties to include the teaching of animal welfare in their curriculum (OIE ref SK/CC 60.2448). This study examined to what extent and how animal welfare is taught during undergraduate veterinary education in EU veterinary faculties.

In about 100 establishments in Europe, of which 73 are in the European Union, it takes

five to six years' study to become a veterinary surgeon. Within the EU, mutual recognition of veterinary diplomas has been established by law. This means that EU citizens, who have obtained their veterinary degree and the right to practice in their country of residence, may also practice in other Member States without the need for further examination. Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications¹ provides a list of the subjects – among which are animal ethology and protection – that must be taught within the veterinary curriculum to make the veterinary qualification eligible for 'automatic' recognition. In order to verify that veterinary teaching establishments satisfy the necessary criteria (as defined by the above mentioned Directive), an evaluation system has been in operation since 1986; for some years now, it has been administered jointly by the European Association of Establishments

¹ <http://europa.eu.int/eur-lex/lex/LexUriServ/LexUriServ.do?uri=CELEX:32005L0036:EN:HTML>

for Veterinary Education (EAEVE) and the Federation of Veterinarians of Europe (FVE).

Methodology

Most of the veterinary faculties in the European Union and several non-EU countries have been evaluated at least once under the system. Each evaluation team prepares a detailed evaluation report which looks into all the relevant aspects of undergraduate teaching.

Evaluation reports from 43 faculties were examined in order to analyse the relevance given to animal welfare in the objectives/mission statement of the establishment and the presence of animal welfare teaching in the curriculum (number of hours contributed, in which semester(s), form of teaching, content of teaching). All comments given by the evaluation team regarding the animal welfare culture in the establishment were also taken into account. This approach allowed the description and quantification of animal welfare teaching aspects in veterinary teaching establishments and enabled certain conclusions to be drawn, regarding both the teaching of animal welfare in European veterinary faculties and the importance of animal welfare teaching in the evaluation system.

Results

Results evaluation

According to the latest update (June 2008) of the evaluation of veterinary schools in Europe, 46 European teaching establishments from 23 European countries have been evaluated and approved (fully or conditionally), 20 have been visited but were not approved and more than 30 have not been visited in the last 10 years.



Reviewing Animal Welfare Teaching in the 43 faculties examined, the following conclusions can be reached:

- attention paid to animal welfare teaching differs greatly between schools, for example

the number of hours specifically dedicated to it in the curriculum varies from none up to 56 hours (average 23),

- many schools have increased their efforts in animal welfare teaching in recent years,
- animal welfare teaching is firmly embedded throughout the whole undergraduate study in some EU veterinary faculties (mentioned in core objectives; special Ethics and Animal Welfare Committee; specific department/unit and dedicated teaching staff),
- however, in a substantial number of other EU veterinary faculties, animal welfare science does not feature prominently; often it is presented principally in terms of legislative aspects given in a theoretical manner, not from an applied perspective (e.g. practical aspects of welfare on farms, during transport, or at slaughter) neither in an integrated way (linking animal health, welfare and public health together),
- in a small number of EU schools, animal welfare is addressed in an inadequate and/or fragmented manner in teaching (number of hours and/or in quality of education),
- in addition, in a small number of teaching establishments, housing, husbandry and disease control provisions at the farm(s) and clinics associated with the Faculty need to be improved.

It should be noted that comparing evaluation reports – which give a snapshot view – can be quite difficult. Only a limited number of parameters on animal welfare are systematically recorded in every veterinary faculty, while other issues are only recorded when one of the evaluators has a special interest in animal welfare teaching.

Recommendations

- Teaching establishments should include a reference to animal health and welfare in their core objectives and mission statement.
- Animal welfare – and the interrelation between animal health, animal welfare and public health – should be taught in an integrated manner throughout the whole curriculum (not only in the pre-clinical courses).

- Animal welfare teaching should not only address the legislative aspects but be approached from an applied perspective (e.g. practical aspects of welfare on farms, during transport, or at slaughter). Part of the teaching should be done in an interactive way promoting critical analysis of situations from different perspectives.
- Animal welfare teaching should take a risk assessment approach, including animal-based and outcome-based parameters.
- The farm(s) and clinics associated with the faculty should function as role models, exhibiting current best practice in regard to animal welfare in order to demonstrate these concepts to students.
- A specific evaluation of the animal welfare and ethics teaching per faculty including the suggestion of recommendations for improvement could be beneficial.

List of European veterinary schools with evaluation status

(approved, not approved/visited) and date of last evaluation (December 2008)

- Approved schools
- Schools not yet evaluated or showing major deficiencies

1. Albania

- Agricultural University of Tirana

2. Austria

- Veterinärmedizinische Universität Wien (2006)

3. Belgium

- Université de Liège Faculté de médecine vétérinaire (2000)
- University of Ghent Faculty of Veterinary Medicine (2004)

4. Bosnia-Herzegovina

- University of Sarajevo

5. Bulgaria

- Trakia University
- University of Sofia

6. Croatia

- University of Zagreb Faculty of Veterinary Medicine (2002)

7. Czech Republic

- University of veterinary and pharmaceutical medicine Brno (2004)

8. Denmark

- Royal Veterinary and Agricultural University (2001)

9. Estonia

- Estonian Agricultural University Faculty of Veterinary Medicine Tartu (2004)

10. Finland

- University of Helsinki Faculty of Veterinary Medicine (1999)

11. France

- École nationale vétérinaire d'Alfort (ENVA) (2001)
- École nationale vétérinaire de Lyon (ENVL) (1998)
- École nationale vétérinaire de Nantes (ENVN) (2005)
- École nationale vétérinaire de Toulouse (ENVT) (1997)

12. Former Yugoslav Republic of Macedonia

- Faculty of Veterinary Medicine Skopje

13. Germany

- Veterinärmedizinische Fakultät der Freien Universität Berlin (2007)
- Fachbereich Veterinärmedizin der Universität Giessen (2004)
- Tierärztliche Hochschule Hannover (2008)
- Veterinärmedizinische Fakultät der Universität Leipzig (2008)

- Tierärztliche Fakultät der Ludwig-Maximilians Universität München (2002)

14. Greece

- Aristoteles University – Thessaloniki (2001)
- University of Thessaly

15. Hungary

- University of Veterinary Science in Budapest (2004)

16. Ireland

- University College Dublin Faculty of Veterinary Medicine (2004)

17. Italy

- Facoltà di Medicina Veterinaria Bari (2001)
- Università di Bologna Facoltà di Medicina Veterinaria (2005)
- Università di Camerino (2000)
- Università di Messina Facoltà di Medicina Veterinaria (2001)
- Università di Milano Facoltà di Medicina Veterinaria (1988)
- Università di Napoli Federico II Facoltà di Medicina Veterinaria (2002)
- Facoltà di Medicina Veterinaria Università degli studi di Padova (2008)
- Università di Parma Facoltà di Medicina Veterinaria (2001)
- Università di Perugia Facoltà di Medicina Veterinaria (2006)
- Università di Pisa Facoltà di Medicina Veterinaria (1999)
- Università di Sassari Facoltà di Medicina Veterinaria (1998)
- University of Teramo (conditional approval 2007)
- Università di Torino Facoltà di Medicina Veterinaria (1999)

18. Latvia

- Latvijas Lauksaimniecības universitāte (Latvia University of Agriculture) – Veterinārās medicīnas fakultāte (2003)

19. Lithuania

- Lithuanian Veterinary Academy Kaunas (2002)

20. Netherlands

- Universiteit Utrecht Faculty of Veterinary Medicine (2008)

21. Norway

- Norwegian school of Veterinary science Oslo (2004)

22. Poland

- Akademia Rolnicza w Lublinie (2006)
- Uniwersytet Warmińsko-Mazurski w Olsztynie – Wydział Medycyny Weterynaryjnej (1999)
- SGGW – Warsaw Agricultural University Faculty of Veterinary Medicine (1999)
- Akademia Rolnicza we Wrocławiu – Wydział Medycyny Weterynaryjnej (1999)

23. Portugal

- Escola Universitária Vasco da Gama – Coimbra
- Universidade de Évora
- Universidade Lusófona de Humanidades e Tecnologias – Lisboa
- Universidade Técnica de Lisboa – Faculdade de Medicina Veterinária
- Universidade do Porto (2002)
- Universidade de Trás-os-Montes e Alto Douro

24. Romania

- University of Agricultural Sciences and Veterinary Medicine Bucharest (2000)
- Faculty of Veterinary Medicine, Cluj-Napoca (2004)
- University of Agronomy and Veterinary Medicine Iasi
- Faculty of Veterinary Medicine, Timisoara

25. Serbia

- Veterinarski Fakultet – Beograd
- Faculty of Agriculture in Novi Sad

26. Slovak Republic

- University of Veterinary Medicine in Kosice (2005)

27. Slovenia

- University of Ljubljana (1998)

28. Spain

- Universitat Autònoma de Barcelona – Facultat de Veterinària (2005)
- Universidad de Córdoba – Facultad de Veterinaria (1999)
- Facultad de Veterinaria de Cáceres (1995)
- Universidad de León – Facultad de Veterinaria (2002)
- Universidad de Murcia – Facultad de Veterinaria (2006)
- Facultad de Veterinaria de Las Palmas de Gran Canaria (2000)
- Universidad Complutense de Madrid – Facultad de Veterinaria (2005)
- Universidade de Santiago de Compostela – Licenciado en Veterinaria (Lugo) (2008)
- Universidad Politécnica de Valencia – Departamento de Ciencia Animal (2004)
- Universidad de Zaragoza – Facultad de Veterinaria (2006)
- Universidad Alfonso X, el Sabio de Madrid

29. Sweden

- University of Agricultural Sciences Faculty of Veterinary Medicine Uppsala (2007)

30. Switzerland

- Vetsuisse (2007)

31. Turkey

- Adnan Menderes University

- Ankara University Faculty of Veterinary Medicine (2007)
- Firat University Elazig (2007)
- Uludag University Bursa (2004)
- University of Mustafa Kemal
- University of Istanbul (2008)
- University of Kafkas Kars (2008)
- Erciyes University School of Veterinary Medicine Kayseri
- University of Selcuk Konya (2008)
- University of Yzyncu Yil Van
- Kirikkale University
- Harran University Urfa
- Mehmet Akif Ersoy University (MAKU) Burdur
- Ondukuz Mayis University Samsun

32. Ukraine

- National Agricultural University Kiev
- Bila Tserkva State Agrarian University

33. United Kingdom

- University of Bristol (conditional approval 2008)
- University of Cambridge Veterinary School (2005)
- University of Edinburgh Royal (Dick) School of Veterinary Studies (2005)
- University of Glasgow Faculty of Veterinary Medicine (2002)
- University of Liverpool Faculty of Veterinary Science (2005)
- Royal Veterinary College London (2000)
- University of Nottingham

OIE Questionnaire on dog population control Results of a survey in 81 countries

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Abstract

A questionnaire on dog population control was sent to all OIE countries; 81 correctly completed questionnaires were returned and analysed in order to identify the different national approaches to the issue. The intensity of the free-roaming dog problem was found to be negatively correlated with the value of the UN's Human Development Index recognised for each country (Spearman's rho coefficient = - 0.605, significant for $p < 0.01$). Bites/dog attacks and rabies were the main problems associated with free-roaming dogs, mostly in poorer countries. Dog population control programmes are strongly influenced by the different country's budgets, and were more widely used among the more developed countries. On the contrary, in less developed countries, these programmes (when they existed at all) tended to employ killing/euthanasia methods, some of which are not recommended on animal welfare grounds, including the use of poisoned baits. International guidelines on dog population control should address these national differences, and propose strategies that emphasise animal welfare while taking into account each country's budgetary and practical limitations.

Introduction

Free-roaming dogs are a worldwide problem, and a number of different programmes have been implemented by competent authorities or NGOs to manage them. Serious public health concerns arise from this issue: dog bites and attacks cause a number of hospitalisations each year all over the world (De Keuster and Butcher 2008, Morgan and Palmer 2007), while rabies and other zoonoses (such as leishmaniasis) find important reservoirs in uncontrolled stray dog populations (OIE, 2007; Cortes et al., 2007). For ethical, ecological and economic reasons, it is no longer acceptable to control and eradicate disease outbreaks mainly by applying mass slaughter of animals (OIE 2005). Even if the OIE recognises the importance of controlling stray dog populations (OIE 2008), the extent to which control programmes are present within the member countries depends on local attitudes to free-roaming dogs and the availability of financial resources to deal with the problem. There is a correlation between the level of development of a country and its capacity to manage stray dog populations:

international guidelines about dog population control could consider these differences, suggesting diverse strategies according to the countries' actual possibilities. The aim of the study was to analyse the results of a questionnaire elaborated by the OIE ad hoc group on dog population control and sent to all OIE Member Countries, in order to investigate the actual situation of free-roaming dog phenomenon throughout the world and to verify the different approaches to dog population control.

Materials and methods

Questionnaire design

A questionnaire on dog population control, written in Microsoft Word format and translated into three languages (English, French, Spanish), was sent to all OIE members via e-mail. Official responses were provided by the State Veterinary Services. The survey comprised 17 questions, divided into two sections: I. General information on the dog population (questions about the presence of free-roaming dogs as a problem and the kind of problems produced by this phenomenon, distribution of

the phenomenon on urban, rural and wildlife areas); and, II. Stray dogs control (questions about the presence of official dog population control programmes and the employment of different methods of control). According to the type of question, the answers could be given through a three-possibility multiple choice (Yes/No/In some areas), the intensity of the problem was graded on a number scale (from 1 to 3) or giving specific numeric data.

Data analysis

Data were exported into Microsoft Excel (Version 2002, Redmond WA) and the SPSS 16.0 (SPSS Inc., Chicago, USA) statistical analysis package was used. Descriptive data analyses were performed. Countries were divided into three groups according to the Human Development Index classes defined in the United Nations' Human Development Report 2007/08 (high development: $HDI > 0.800$; medium development: $0.500 < HDI < 0.800$; low development: $HDI < 0.500$). Bivariate chi-square analyses were performed to evaluate the presence of differences between the three classes, where a $p < 0.05$ was considered significant. In order to calculate the existence of correlations between the HDI value and the intensity of some problems, Spearman's rho was calculated. Multiple choice answers were coded as a number scale from 1 to 3 (e.g. 'No' was coded as 1, 'In some areas' as 2, 'Yes' as 3). Significance was evaluated for $p < 0.01$ and $p < 0.05$.

Results/Discussion

Eighty-one OIE countries returned correctly completed questionnaires (e.g. with at least 80 % of the questionnaire correctly answered). According to the United Nations' Human Development Report 2007/08, 42 Nations (51.8 %) were classified as 'high human development' countries, 29 (35.8 %) as 'medium human development' countries, six (7.4 %) as 'low human development' countries. Four respondent countries (5 %) had not been classified in the Human Development Report. A number of countries (precisely 91, i.e. 52.9 % of all OIE members), probably in the absence of clear programmes for the stray dog control, did not return correctly completed questionnaires: most of these (63) were medium or low human development countries

(69.2 %), the others were high human development countries (24.2 %) and not indexed countries (6.6 %).

Section I of the questionnaire showed the existence of correlations between the degree of economic development of a country and the presence of a 'free-roaming dog' problem. Particularly, Question 1 (Are free-roaming dogs a problem? (Figure 1)) highlighted differences in answers between the different HDI groups ($\chi^2 = 18.17$; $P = 0.001$). HDI was significantly negatively correlated with the presence of the problem of free-roaming dogs (Spearman's rho coefficient = -0.605 , significant for $p < 0.01$).

Free-roaming dogs were always considered a problem in medium and low human development countries (100 % of all countries with $HDI < 0.800$ answered that stray dogs are a problem on their whole territories or, at least, in some areas). Among high human development countries, free-roaming dogs were also a problem in many cases (42.9 % on whole territory, 26.2 % in some areas); although a substantial number of countries of this group (30.9 %) answered that on their territories free-roaming dogs were not a problem. Moreover, the majority of 'No' answers (76.9 %) came from countries with $HDI > 0.940$, a threshold that identifies the 33 nations of the highest HDI ranks in the world.

Dog bites/attacks were the most frequently reported problem caused by free-roaming dogs (Figure 2): 85.3 % signalled this as a problem, and 61.8 % considered it a very important problem. Infectious disease was also considered a major problem related to stray dogs: 70.6 % of countries that responded 'Yes' to Question 1 reported rabies as a problem caused by stray dogs, 64.7 % reported other infectious diseases (different from rabies) as a problem related to stray dogs. A negative correlation was found between the HDI and the intensity of the problem 'dog bites/attacks' (Spearman's rho coefficient = -0.357 , significant for $p < 0.01$). Similarly, there was a negative correlation between the HDI and the severity of rabies as a problem associated to stray dogs (Spearman's rho coefficient = -0.403 , significant for $p < 0.01$). Small towns and villages were identified as the most affected areas (Figure 3).

Answers to Section II questions addressed the different tools used to control free-roaming dogs. Dog registration and identification proved to be the most frequently employed tool of dog control in highly developed countries. Although the presence of free-roaming dog problems throughout the less developed countries, dog population control programmes were more likely to be implemented in more developed countries as showed in Figure 4 (40.5 % of high human development countries v 27.6 % of medium human development countries and 16.7 % of low human development countries). Annual budgets were provided by only 19 countries (23.4 %): nine high developed countries (mean EUR 799.333), seven medium developed countries (mean EUR 150.571), no low developed countries and three non-indexed countries.

The difficulties encountered by less developed countries in terms of affording the costs of dog population control programmes are obvious, so Question 11 was particularly interesting in order to evaluate the use of less expensive (but probably not better) ways of managing free-roaming dogs: killing/euthanasia. This method is still widely used in many countries, including in developed countries (Figure 5). However, it appears to be mostly employed where the human development index is lower: a significant negative correlation was found between HDI level and the employment of killing/euthanasia as an official tool of dog population control (Spearman's $\rho = -0.283$, significant for $p < 0.05$). Concerns arise from this issue, particularly considering the wide employment of poisoned baits and shooting in medium and low developed countries (Figure 6).

Further corroboration of this situation was given by Question 13: dog population control measures, other than killing/euthanasia, were far more likely to be employed in developed countries than in medium and low developed ones (Figure 6). Dog shelters are important tools in the control of free-roaming dog populations. They also represent an expense that many countries are not able to afford; indeed the questionnaire results suggest that they are almost exclusively confined to high developed countries: 38 human development indexed countries provided the number of kennels located on their territories, and 27 of these

(71 %) were highly developed countries. Of the total number of 3 867 dog shelter/pounds reported, only 265 (6.8 %) were located in medium or low developed countries. The percentage of dogs adopted from shelters each year ranged from 2.5% to 100 % (mean 35.9 %), but no significant differences between high, medium and low developed countries were found with respect to adoption rates.

Conclusion

The findings from the OIE questionnaire highlighted significant differences in the approach to dog population control used by responding countries. In many of the more developed countries, stray dogs are no longer considered to be a problem (presumably because there are now few uncontrolled free-roaming dogs). This should also be the goal for the rest of the world. Unfortunately, this objective is still very far from being achieved; low cost but humane and efficient control programmes should be identified for use in poorer countries where free-roaming dogs are more prevalent.

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Figure 1:

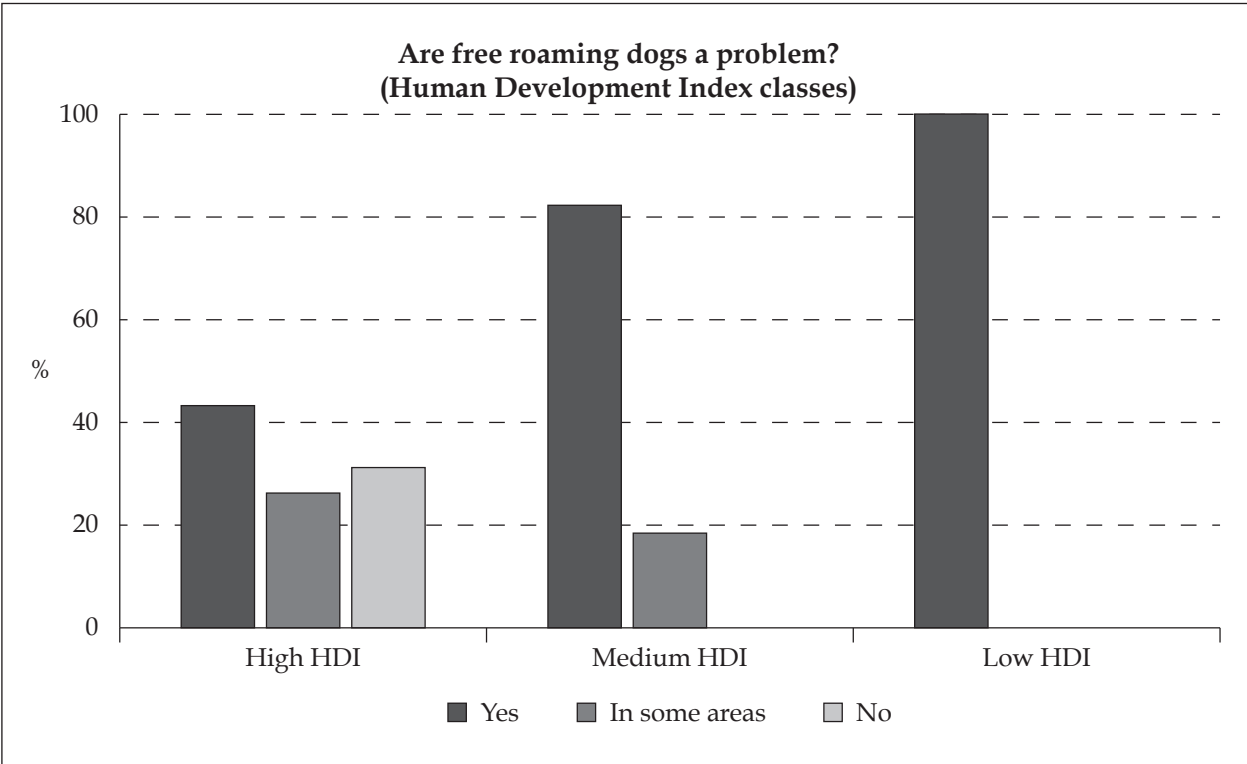


Figure 2:

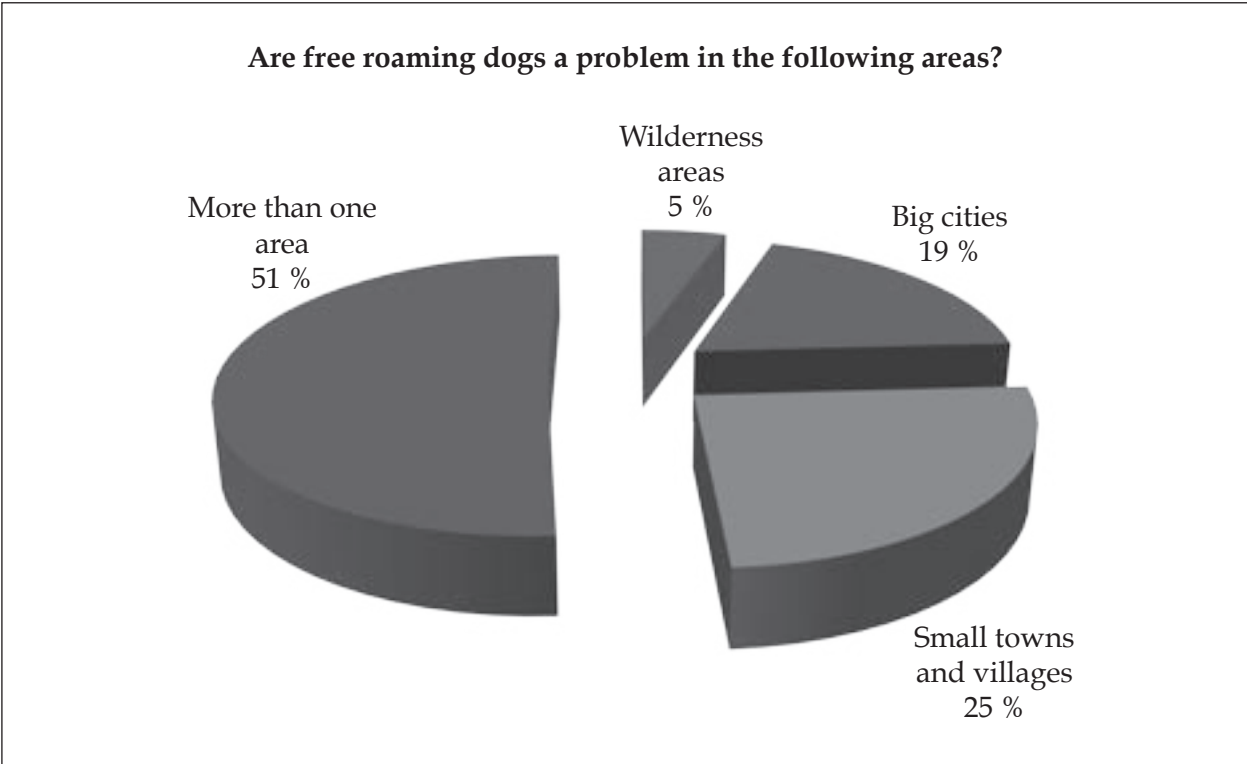


Figure 3:

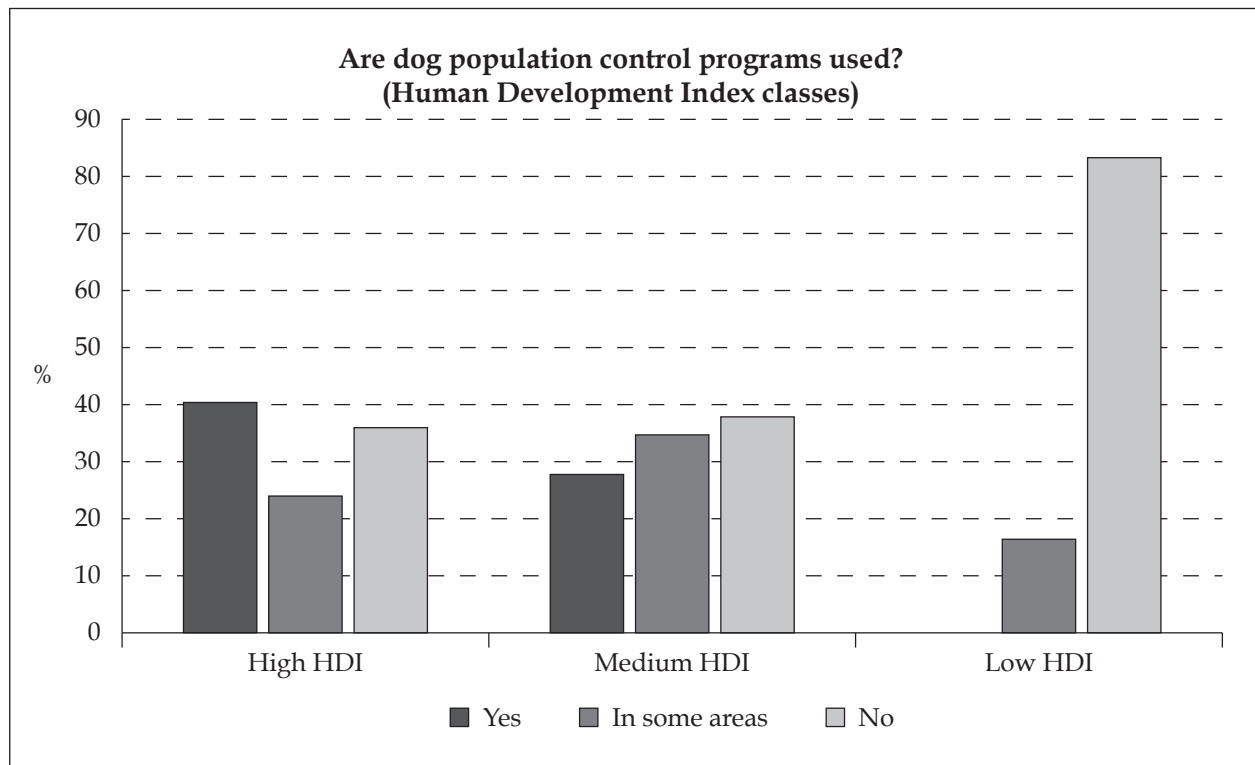


Figure 4:

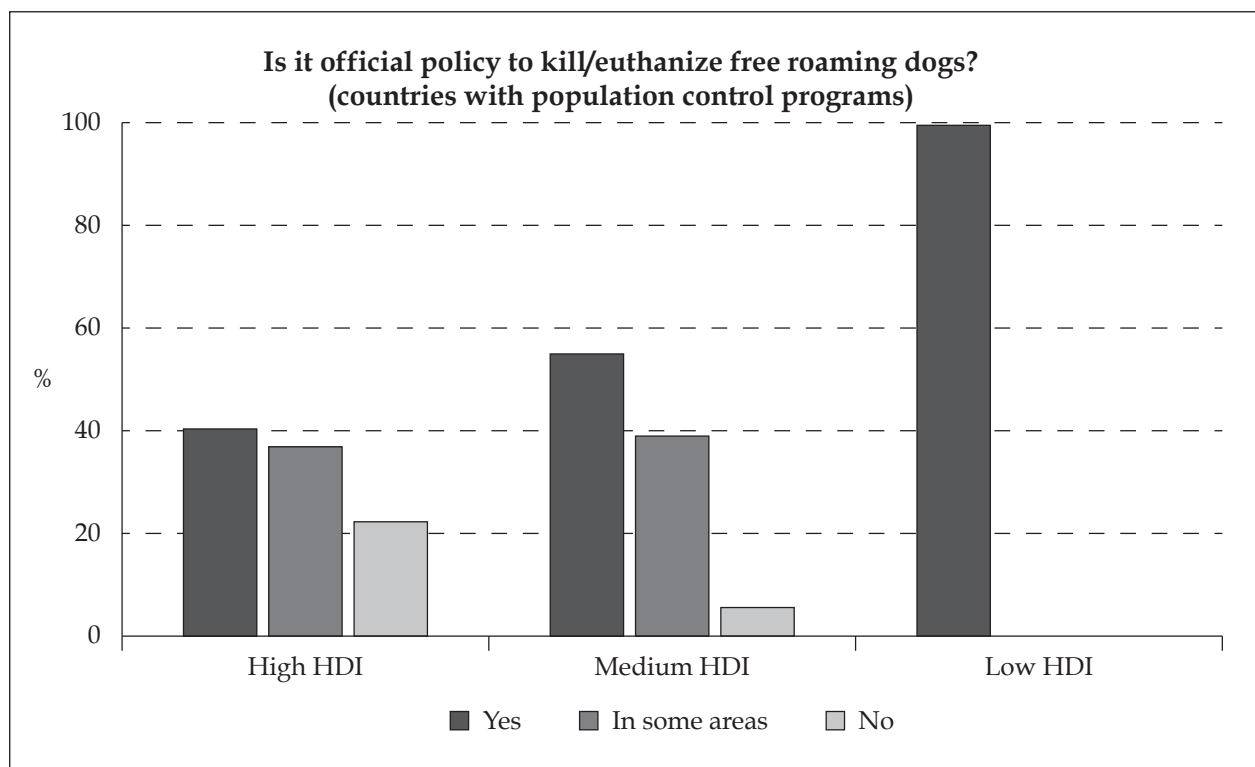


Figure 5:

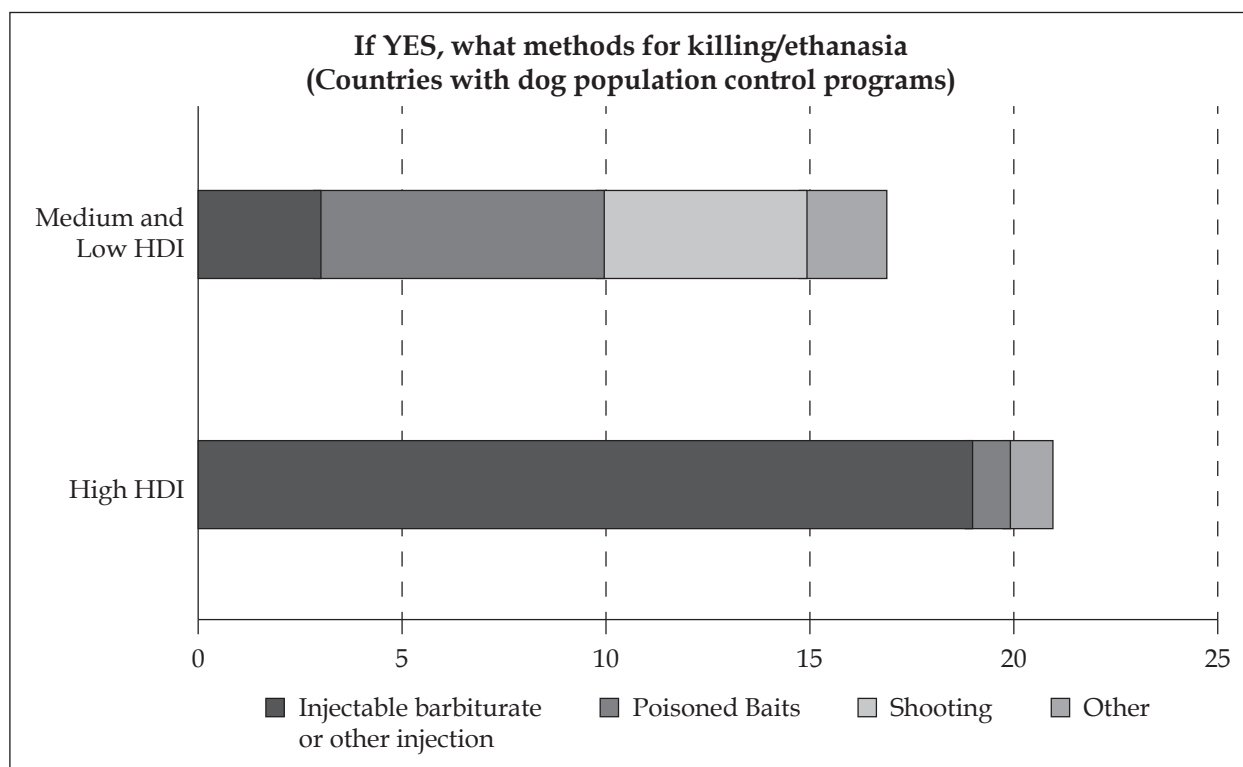
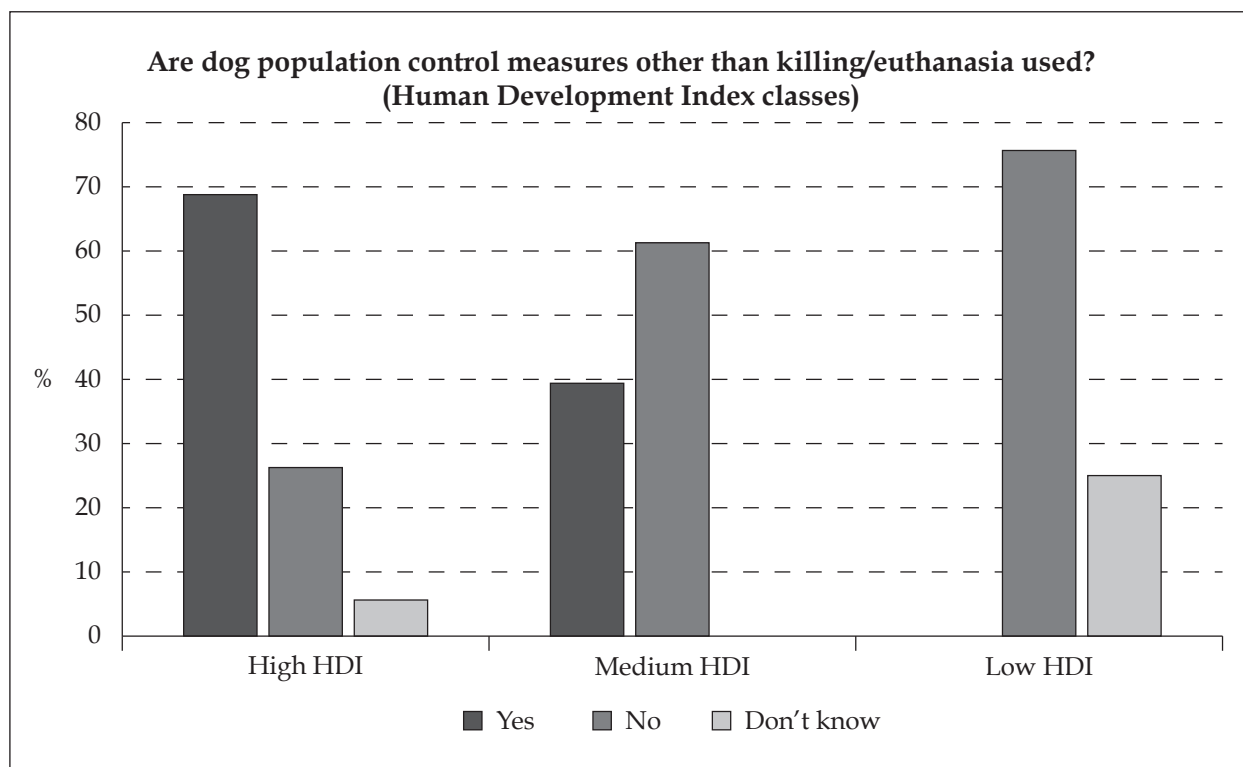


Figure 6:



Working for the animal welfare of livestock agricultural and livestock service of Chile

S. Jerez

Servicio Agrícola y Ganadero, CHILE

The Gobierno de Chile, Ministerio de Agricultura (SAG) has made progress in improving animal welfare through the formation of public and private partnerships. It has also conducted an assessment on the following subjects: humane slaughter, killing of animals for disease control purpose and animal transport. In addition, it is working to incorporate the OIE standards into the national legislation.

SAG, as the organisation responsible for safeguarding the animal health situation and supporting the production and exporting efforts of Chile is carrying out activities to make progress in the subjects related to animal welfare of livestock.

The activities being performed include:

- capacity building through training of professionals involved in animal welfare, and the proposal a higher education institution as an OIE collaborator centre for OIE,
- coordinating the development of public-private partnerships,
- improving animal welfare training through eLearning tools.

Results

- A proposal to amend national regulations on livestock transport, which will go into administrative and legal formalities, was prepared.
- A web page on animal welfare, as part of the institutional website, will be added.
- Organisation of international seminars and workshops with the support from EC.
- Publication of papers presented during seminars.

Conclusions

Animal Welfare is a new challenge for us. We must make progress together with the private sector to incorporate OIE international guidelines in the improvement of the regulations of our country.

Socialisation is essential in order to sensitise authorities and private representatives of the whole production line, from primary producers to consumers.



Comparison of the OIE transportation and euthanasia animal welfare guidelines with those of the US pork industry

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Introduction

In 2007, the United States was the third largest pork producing country in the world (USDA). United States Pork producers recognise their obligation to protect and provide for the well-being of the animals within their care.

Objective

To demonstrate the similarities and differences between the OIE and the US transportation and euthanasia animal welfare guidelines for the US pork industry.

Materials and Methods

- Comparison of the OIE's recommended Guidelines for the transport of animals by

land with the USDA Regulation for animal handling at USDA inspected slaughter plants and length of transport and US Pork Checkoff's Transport Quality Assurance™ (TQA™) programme.

- Comparison of the OIE's recommended Guidelines for the killing of animals for disease control purposes with the USDA Guidelines for mass euthanasia and US Pork Checkoff's 'On-Farm Euthanasia of Swine – Options for the Producer' brochure.



Results

Tables 1 and 2 summarise the comparison between the OIE guidelines and those used by the US pork industry. There may be additional specific similarities and differences between the two.

Table 1:

Summary of comparison for the handling and transport of pigs by land

Comparison point	Details/explanation
Animal behaviour	OIE and US guidelines both explain basic pig behaviour and physical characteristics and how these should be used to aid in the movement of the pig.
Responsibilities	USDA enforces regulation that is the standard for humane handling of swine in federally inspected slaughter plants. USDA also enforces the regulation that designates 28 hours as the maximum length of transport before animals must have rest, food, and water before continuing their journey. The US Pork Checkoff's TQA programme has established guidelines for handling, loading, facilities, transport, and unloading of all sizes of swine and tests the competence of animal handlers.
Competence	To become a TQA programme certified animal handler, individuals must attend a class taught by a certified instructor and complete and pass an examination.
Documentation	US Pork Checkoff guidelines address the use of pre-journey, loading, and unloading checklists, having an emergency management plan, and information needed on a bill of lading. Because transportation of pigs within the United States is usually regional or relatively time-limited, US Pork Checkoff guidelines do not address documentation specific to the period of rest and access to feed and water prior to the journey or a journey log as described in the OIE guidelines.
Pre-journey period	The TQA programme does not recommend providing feed prior to a journey for finishing pigs, even if the journey is longer than the normal feeding interval. Feed withdrawal prior to transport is a good management practice to reduce the risk of carcass contamination with bacteria (Isaacson et al., 1999; Nattress and Murray, 2000; Morrow et al., 2002).
Loading, travel, and unloading and post-journey handling	All three of these sections are addressed in the TQA programme including details about facilities, goads, truck conditions, and biosecurity.

Table 2:
Summary of comparison for the euthanasia of pigs for disease control

Comparison point	Details/explanation
Organisational structure and responsibilities and competencies	The US Pork Checkoff guidelines address on-farm euthanasia of individual animals that are ill or injured and are typically completed by on-farm caretakers. Similar to the OIE guidelines, the USDA has guidelines that address euthanasia in the case of a large scale disease outbreak that would require mass euthanasia of animals.
Considerations in planning euthanasia	OIE and US guidelines both emphasise the importance of developing a euthanasia plan and the considerations that should be made in doing so.
Summary of methods	<p>OIE and US guidelines both recommend carbon dioxide, gunshot, captive bolt, electrocution, anaesthetic overdose, and blunt trauma as humane methods to euthanise specified age ranges.</p> <p>For recommended methods using gas inhalants, the US guidelines only discuss carbon dioxide and have not included inert gases. US Pork Checkoff is in the process of revising its guidelines by reviewing existing scientific literature.</p>

Conclusions

While there are many similarities and sometimes some differences between the transport by land and killing for disease control guidelines followed by the US pork industry and those recommended by the OIE it is important that the guidelines continue to be based on sound science.

Perceptions of animal welfare principles by responsible for public and animal health veterinarians in Santa Catarina, Brazil

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⁽¹⁾ CIDASC

⁽²⁾ CCA/UFSC

⁽³⁾ Independent Consultant

Abstract

The purpose of this research was to identify knowledge and perceptions on the application of OIE's Animal Welfare Standards by the body of veterinarians in the animal health service in the State of Santa Catarina (Brazil). The results show that veterinarians consider the OIE should be the institution responsible for the standardisation of the world's animal welfare principles. They feel unprepared on the subject and request specific legislation that can support their work. The analysis of their speeches identified three basic types of approaches to animal welfare: the humanitarian, the physiological and productivity-motivated. The speeches reveal concern about poor welfare conditions, reflected in the productivity of animals, the health of consumers and animals themselves.

Introduction

Brazil is one of the foundation members of OIE and, although some federal and state laws approach the question, there is a lack of specific legislation in order to attend the OIE Animal Welfare Standards. In Santa Catarina (Brazil), CIDASC is the animal health state control institution. In this work hygienists veterinarians of CIDASC were sounded about their knowledge and perceptions on the application of OIE's Animal Welfare Standards on transport, slaughter and sanitary sacrifice and on the consequences of animal welfare deficiencies.

Activities

Structured Interviews were carried out with 42 veterinarians from CIDASC. From this total, 10 veterinarians were selected to be approached with a methodology of qualitative research known as Analysis of the Collective Subject Discourse (Lefèvre, Lefèvre, 2005), that can be characterised as a tool that synthesises and classifies individual speeches through the key expressions in a single speech according to the main ideas. In the present case, depending on the question, the 10 replies resulted in two or three main ideas.

Results

Analysis of the data collected from the structured interviews showed that the veterinarians:

- have information about the international principles of animal welfare, but their knowledge is predominantly superficial;
- perceive OIE as the organisation responsible for the elaboration of animal welfare guiding principles;
- agree that international rules must be comprehensive, including all phases of the animal production systems;
- show the desire to participate in refresher courses;
- perceive as necessary the elaboration of state legislation in animal welfare.



Side covered fences (left) are perceived as better by the veterinarians

Analysis of the collective subject discourse presented subsequently includes the answers of questions which encompasses these themes:

The consequences of animal welfare neglect and to consider the best conditions to transport and slaughter animals taking into account animal welfare and public health.

had shown these results:

The analysis of their replies identified three basic types of approaches to animal welfare: humanitarian, physiological and productivity-motivated which may emerge distinctly or in a composed manner. The interviews reveal concern about poor welfare conditions, reflected in the productivity of animals, the health of consumers and animals themselves. This public health perception is present in several arguments. The question of killing for disease control is discussed in two percep-

tions: a humanitarian, more utopian, and in a public health approach, more realistic and consistent with the recommendations of OIE.

Conclusions

Humanitarian, physiological and production-motivated approaches to animal welfare were found among the veterinarians. They perceive that OIE should be the institution responsible for standardisation of the world's animal welfare principles, and that these standards must be comprehensive in terms of steps, purposes and types of farming and should include all species reared by man. They feel unprepared on the subject and request specific legislation that can support their work. In order to increase awareness they seek to participate in postgraduate courses on animal welfare.

The influence of the environmental microbial population on animal welfare in three different housing systems of the Iberian pig

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Summary

Environmental micro-organisms present in pig facilities and equipment are thought to be a source of potential infection for animals in pig farms. This study was carried out in a pig farm of Iberian sows. The aim of this study was to evaluate samples of microbial population (mesophilic aerobic micro-organisms (MAM) and enterobacteriaceae) collected from three rearing systems: intensive, traditional, and outdoor systems, and then establish a relationship with animal welfare.

Staphylococcus spp., Streptococcus spp., coryneform bacteria and arcanobacteria were identified by biochemical tests in high amounts of inside the mesophilic aerobic micro-organisms (MAM), as well as other saprophytic bacteria and yeasts. High amounts of Escherichia coli were also identified.

Materials and Methods

Experimental procedures

The study was performed at a pig farm of Iberian sows. To evaluate the microbial population (mesophilic aerobic micro organisms (MAM) and enterobacteriaceae), samples were collected from four specific locations in the three above mentioned rearing systems (Figures 1, 2, 3). The animal handling sequence was similar in each system: introduction of sows five days before farrowing and then piglets received additional food from the 15th day.

The sample collection covers a complete suckling period between September and December 2007 in four periods: (a) before sows enter the facilities and when the cleaning and disinfection procedure has been applied (P); (b) after the entry of sows (EA); (c) at the beginning of the solid feeding (SL); (d) when the piglets are weaned (D).

Sampling method

Samples were collected from approximately 1 cm² area using swabs and transport media kits (Eurotubo® Deltalab). All the samples were refrigerated (4 °C, 24 hours maximum) until they were analysed in a laboratory (Figure 4). The four specific locations were:

- Intensive system: heating plate (S1), feeding-place of sows (S2), birthing cage (S3), partial stall floor (S4).
- Traditional system: inside floor (CH1), outside floor (CH2), drinking trough of piglets (CH3), feeding trough of piglets (CH4).
- Outdoor system: back of the pig shelters (C1), front of the pig shelters (C2), feeding trough (C3), artificial pool (C4).

Laboratory analysis

Serial decimal dilutions of each sample were performed and 100 µL of each serial decimal dilution were plated onto blood agar and McConkey agar (Figure 4). Each kind of bac-

Figure 1:
Intensive system



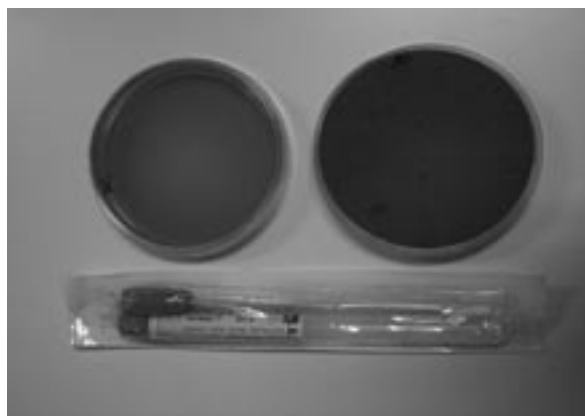
Figure 2:
Traditional system



Figure 3:
Outdoor system



Figure 4:
Materials



teria was identified by biochemical tests. To estimate the number of colony forming units (CFU), only the plates with a minimum of 25 CFU/plate were taken into account.

Results

Staphylococcus spp., *Streptococcus* spp., coryneform bacteria and arcanobacteria were identified by biochemical tests in high amounts inside the mesophilic aerobic micro organisms (MAM), together with other saprophitic bacteria and yeasts. High amounts of *Escherichia coli* were also identified.

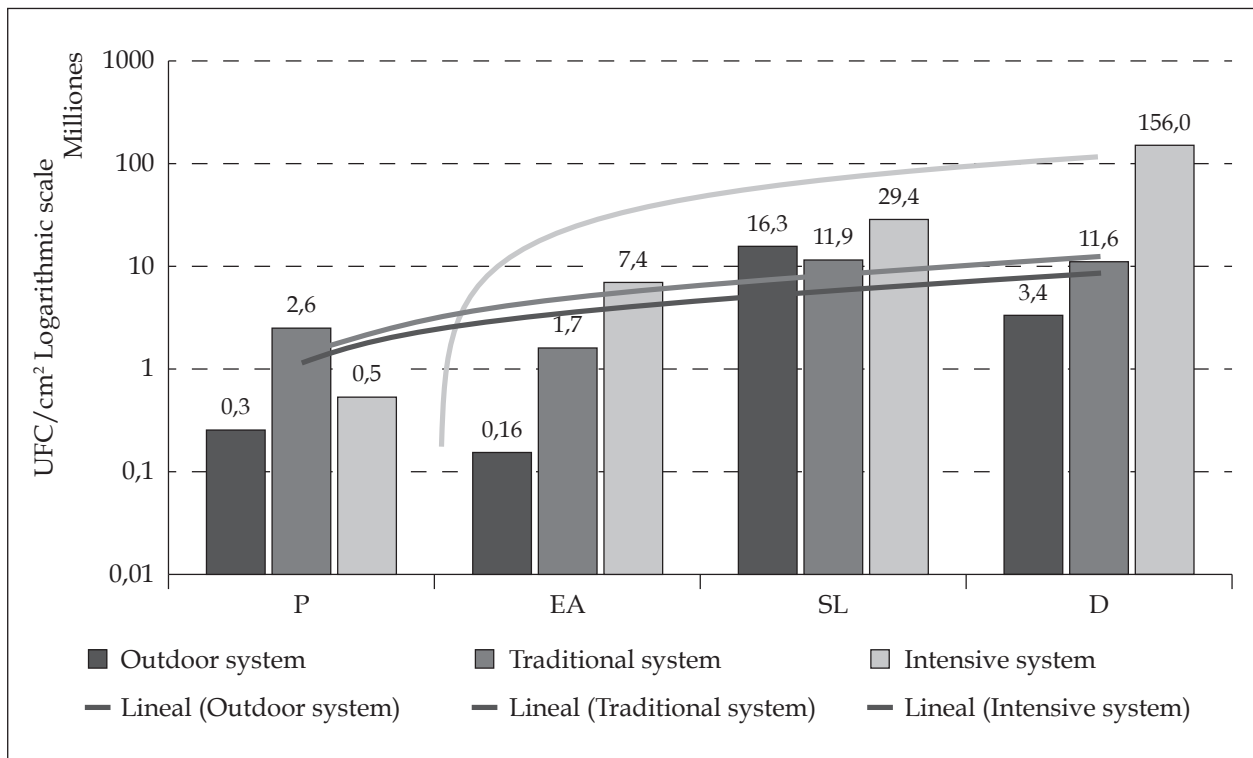
Comparison of different rearing systems (Graphs 1 and 2)

MAM: In the P sample, high amounts of bacteria were found in all the rearing systems.

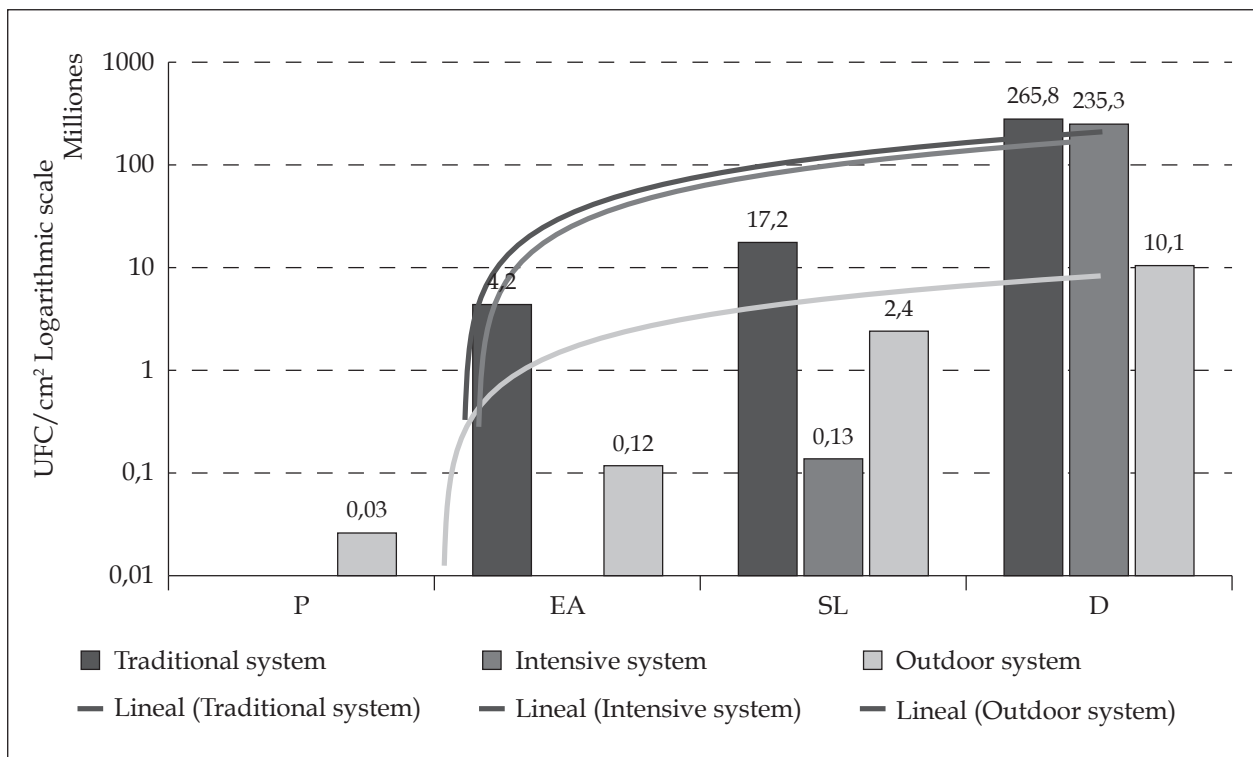
This fact shows the high resistance of these bacteria to the cleaning and disinfection procedure (Sanitas® 2.5 ml/l; Finvirus® 2.5 ml/l) in the facilities, especially in the traditional system ($P = 2.6 \times 10^6$ UFC/cm²). In the outdoor system, the increase of the bacteria count is the lowest during the suckling period ($P = 2.6 \times 10^5$ UFC/cm² \diamond $D = 3.4 \times 10^6$ UFC/cm²). The highest counts of bacteria were found at the end of the sampling period in the intensive system (1.6×10^8 UFC/cm²).

Enterobacteriaceae: In the P sample, no growth of bacteria using the McConkey agar medium were found. This means that the cleaning and disinfection procedure is effective. Only in the outdoor system low counts of bacteria were found in the artificial pool (1.05×10^5 UFC/ml). The increase of bacteria levels is lineal in the outdoor and in the traditional system from the SL sample.

Graph 1:
Average of MAM in the three different housing systems

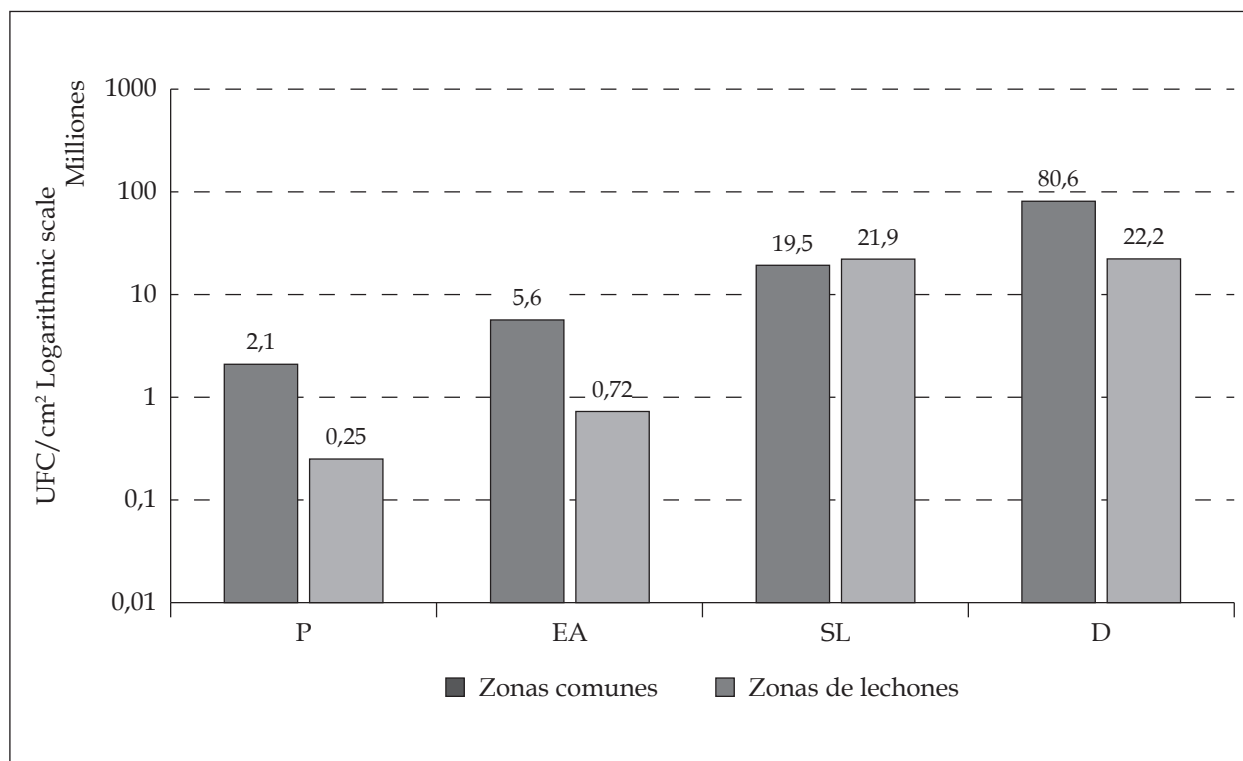


Graph 2:
Average of Enterobacteriaceae in the three different housing systems



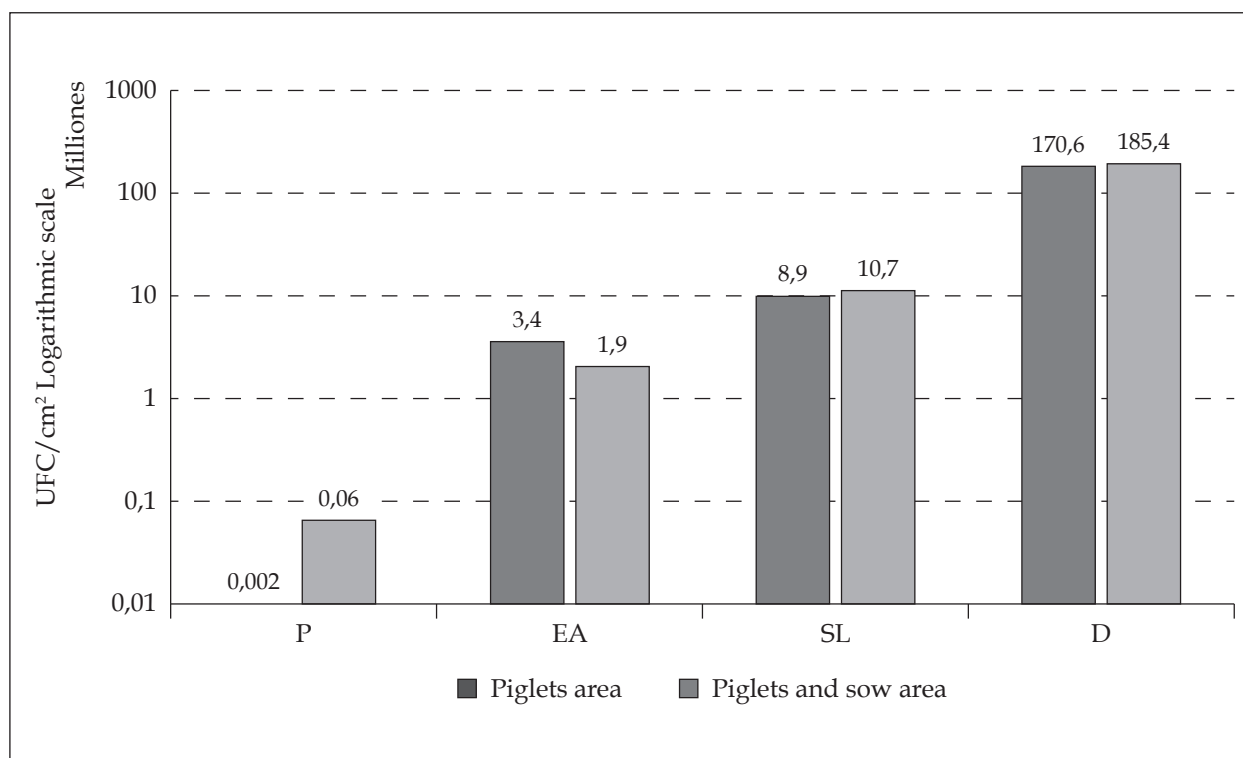
Graph 3:

Average of MAM in the different sampling areas (common area of sows – piglets and area of piglet)



Graph 4:

Average of Enterobacteriaceae in the different sampling areas (common area of sows – piglets and area of piglet)



Comparison of the different samples areas

The common area of sows and piglets and the area of piglets (Graphs 3 and 4)

MAM: In the P sample, the amount of bacteria is high in both areas (2.07×10^6 UFC/cm² and 2.4×10^5 UFC/cm² respectively). The increase found is lineal in the common area and it is also exponential in the area of piglets from the SL sampling (EA = 7.19×10^5 UFC/cm² \diamond SL = 2.19×10^7 UFC/cm²). At the end of the sample period, both areas showed similar counts of bacteria.

Enterobacteriaceae: The bacteria levels in both areas showed a parallel increase until the weaning, so there were no significant differences.

Presence of pathologies related to environmental microbial population

Swine exudative epidermitis (SEE) was the most frequently diagnosed disease in sows in this study, and was related to the presence of *Staphylococcus* spp., probably *Staphylococcus hyicus* (L'Ecuyer, C., et al., 1967; Tanabe, T., et

al., 1996); in this study only the genus has been identified.

Significant differences were found in the number of less serious injuries, serious injuries and the percentages of diagnoses, 90 % of the sows kept in the intensive system; 78 % of sows kept on the traditional system and 40 % of sows kept on the outdoor system were diagnosed with SEE.

Conclusions

- The Iberian sow's traditional facilities, characterised by rough surfaces, right angles, straw beds and high labour requirement, make cleaning and disinfection difficult so the resistance to determined pathogens is reduced.
- Cleaning and disinfection procedures must be applied in the areas containing sows due to the high amounts of MAM which are present there and the risk to piglets.
- High levels of detected pathogens related to diseases (SEE) were found during the sampling period; this indicates a decrease in animal welfare conditions.

Animal welfare research in the Netherlands

M. B. M. Bracke, H. and A. M. Spoolder

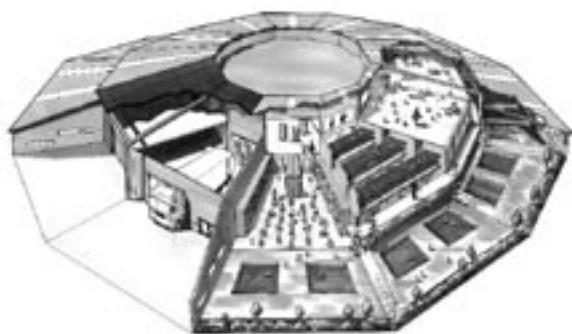
Animal Sciences Group, Wageningen University and Research Centre, PO Box 65, 8200 AB, Lelystad, NETHERLANDS

Introduction

Research at the Animal Sciences Group of Wageningen University and Research Centre aims to provide a scientific basis to support policymaking, education and ethical decision making on animal welfare, including the formulation of regulations and standards at the national, European and world level. Examples of current research activities are given below in relation to housing and management, transport and slaughter, killing for disease control and global research.

Housing and Management

Comfort class for farm animals



Alternative design for poultry (Rondeel)

Dutch society demands the development of sustainable farming. As a consequence, new housing systems are being developed for farm animals involving stakeholders such as

citizens, farmers and chain actors. Nowadays, the Dutch Ministry of Agriculture, Nature and Food Quality, is promoting sustainable development, in part based on research from the Animal Sciences Group.

Tail biting in pigs



Intensive farming involves mutilations, such as tail docking in pigs, which raise welfare concern. Our research showed that to prevent tail-biting in pigs, it is much better to provide straw twice daily on the floor than to provide straw in a rack, rubber hoses or metal chains. Subsequently, such scientific knowledge has been collected in a database model to assess the overall risk of tail-biting in pigs and to evaluate different enrichment materials for pigs. These models can be used in extension, in the design of welfare-friendly housing and in policymaking on animal welfare.

Transport and slaughter

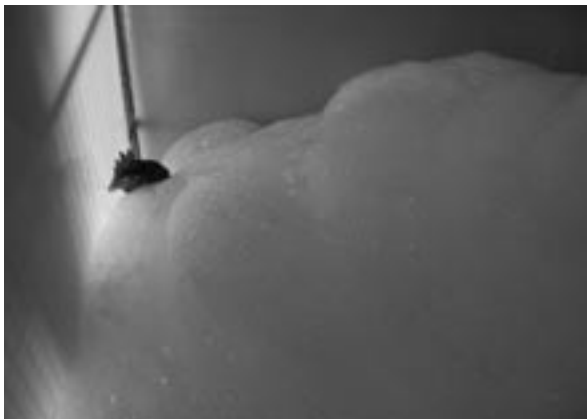
Automated scoring of foot pad lesions in broilers at slaughter



Foot pad lesions are a sign of poor flooring conditions in broilers. To assess the quality of husbandry on farms, video imaging is developed to score foot pad lesions in the slaughter line. The research is conducted as part of the large European Welfare Quality® project, where animal-based systems are developed for on-farm assessment of farm animal welfare, together with strategies to improve welfare.

Killing for disease control – stamping out to control epidemic diseases

Killing large flocks of poultry with CO₂ in foam

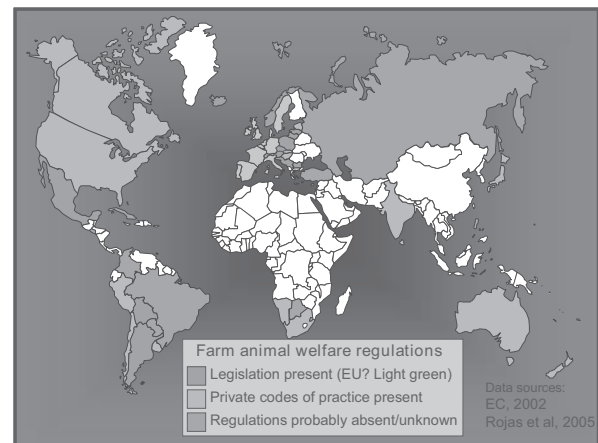


In order to control contagious diseases, stamping out may be required. This involves killing large numbers of animals as quickly and as painlessly as possible. Research at ASG has shown that poultry may be stunned effectively using a mixture of CO₂ and O₂, but this method can only be applied effectively when the poultry house is sufficiently closed. In other cases, mass killing using CO₂ in foam may provide a welfare-friendly alternative.

Global research and decision support

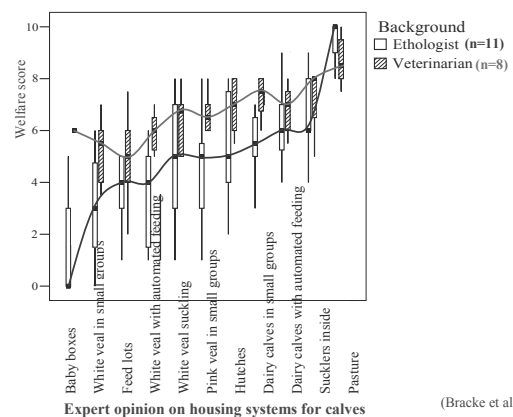
Animal welfare in a global perspective

The Netherlands is a small country, but big in trading and travelling. The issue of animal welfare cannot be solved within national boundaries, and requires working together with other countries, bi- or multilaterally. To this end, an inventory is being made of the practices, regulations and perceptions of animal welfare worldwide, at present by contacting foreign agricultural services of the Ministry of Agriculture, Nature and Food Quality. The OIE meeting in Paris 2004 provided valuable input to this work, which is conducted to support national and international dialogue on animal welfare.



This first inventory on worldwide welfare legislation surely needs updating.

Monitoring and modelling of animal welfare



To assess the level of welfare on farms (e.g. for labelling and certification), protocols using animal-based measures are being developed in the Welfare Quality® project. In addition, so-called semantic models have been

developed to calculate overall welfare scores for cattle, pigs and poultry, based on available scientific information. These models tend to be highly correlated with expert opinion, but experts may differ in their perception of welfare. In a recent study, veterinarians gave higher scores for calf welfare than ethologists, and (European) vets were most concerned about (American) feedlots, whereas ethologists were most seriously concerned about keeping veal calves in so-called baby boxes (during the first weeks of life). This implies that it is important to make underlying val-

ues explicit when supporting ethical and political decision making.

Conclusions

Over many years, the Animal Science Group of Wageningen University and Research Centre has successfully conducted policy-relevant research; this experience can benefit the development of present and future worldwide (OIE) standards on animal welfare and may assist in the implementation of these standards at national level, and beyond.

Training experience to improve animal welfare in Uruguay

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Summary

This poster describes training activities carried out in Uruguay since 2004. The goal of this training was to educate relevant actors in the Uruguayan meat chain. A different approach was taken to the different stakeholders and discussions are ongoing on how to include this subject in veterinary curricula.

Introduction

Worldwide, in this century, animal welfare has become a concern to consumers of animal products. Respecting the life of animals is of fundamental importance in developed societies, and could become a non-tariff barrier for exporting countries. The Uruguayan meat chain recognises that animal welfare and meat quality are linked. In this context, the training of stakeholders becomes critical to improve awareness and support the implementation of the OIE animal welfare standards and to improve the quality of Uruguayan animal products.

meat chain. A day of training was developed for herd-keepers. The training focuses on practical and theoretical aspects, particularly animal behaviour, problems in transport and good management. For veterinary students, optional courses have been developed, introducing the international relevance of animal welfare and the ethical and professional responsibilities of veterinarians. In 2007, Uruguay introduced the training of teachers and the development of materials for use in schools. At academic and professional levels, there has been strong collaboration and the creation of for discussion, such as the Technical Commission on Animal Welfare.

Description of Activities

Since 2004, steps have been taken to train the different actors involved in the Uruguayan

Results

More than 1 500 herd-keepers have been trained nationally in about 100 different activ-

	Number of persons	Number of activities	Types of activities
Herdsperson	1 000	160	One-day seminar on practical and theoretical activities
Veterinary student	120	8	Optional course on animal welfare in food animals
School teacher	1 000	20	Training and elaboration of didactic records and exercises of understanding
Academic and professionals	500	5	Regional and international seminars

ities. Veterinary students can take an optional course on food animal welfare twice a year. To date, more than 100 students have taken the course. The inclusion of animal welfare in the veterinary curricula is now being discussed. More than 1 000 teachers have received training on animal welfare. For veterinarians and other professionals, five regional and international seminars were held, with participation of many national and international institutions and organisations.

Conclusion

Uruguay is actively involved in animal welfare training. We take this approach as it is the quickest and most sustainable route to meet the ethical and commercial requirements of consumers on a worldwide basis and to achieve sustainable improvements in meat quality.

Religious slaughter in Europe

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Abstract

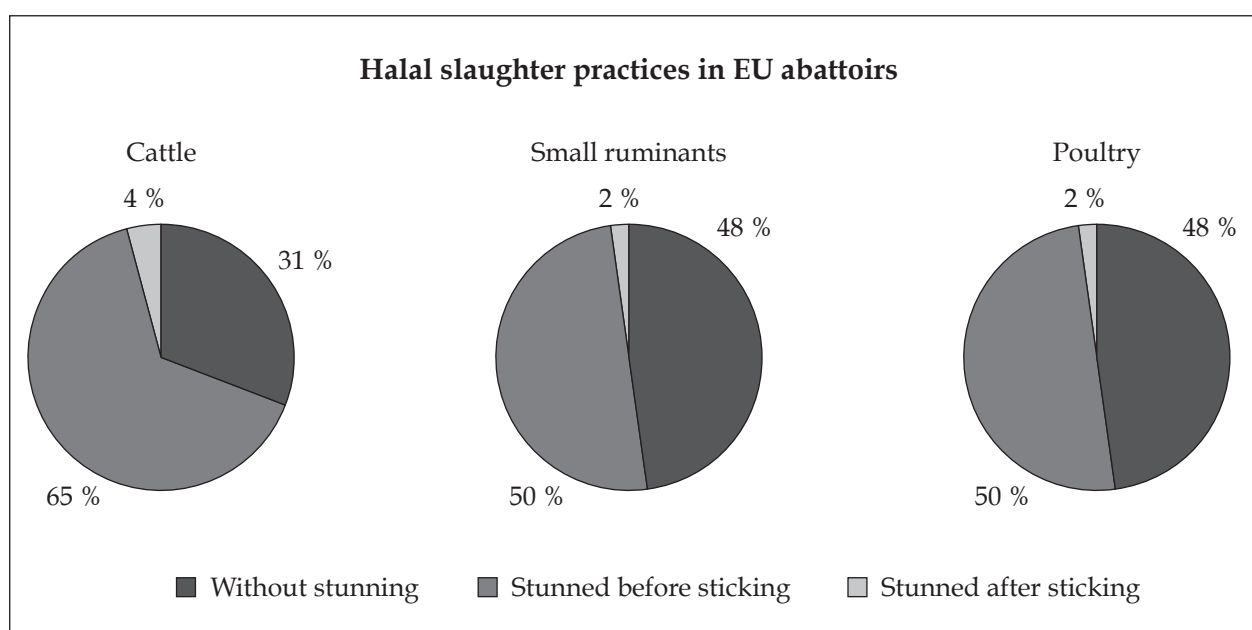
Halal and Shechita slaughter were assessed in 135 European abattoirs. Shechita is carried out without stunning in all abattoirs, while 65 % of cattle abattoirs, 50 % small ruminants and 50 % poultry abattoirs use pre-slaughter stunning for halal slaughter.

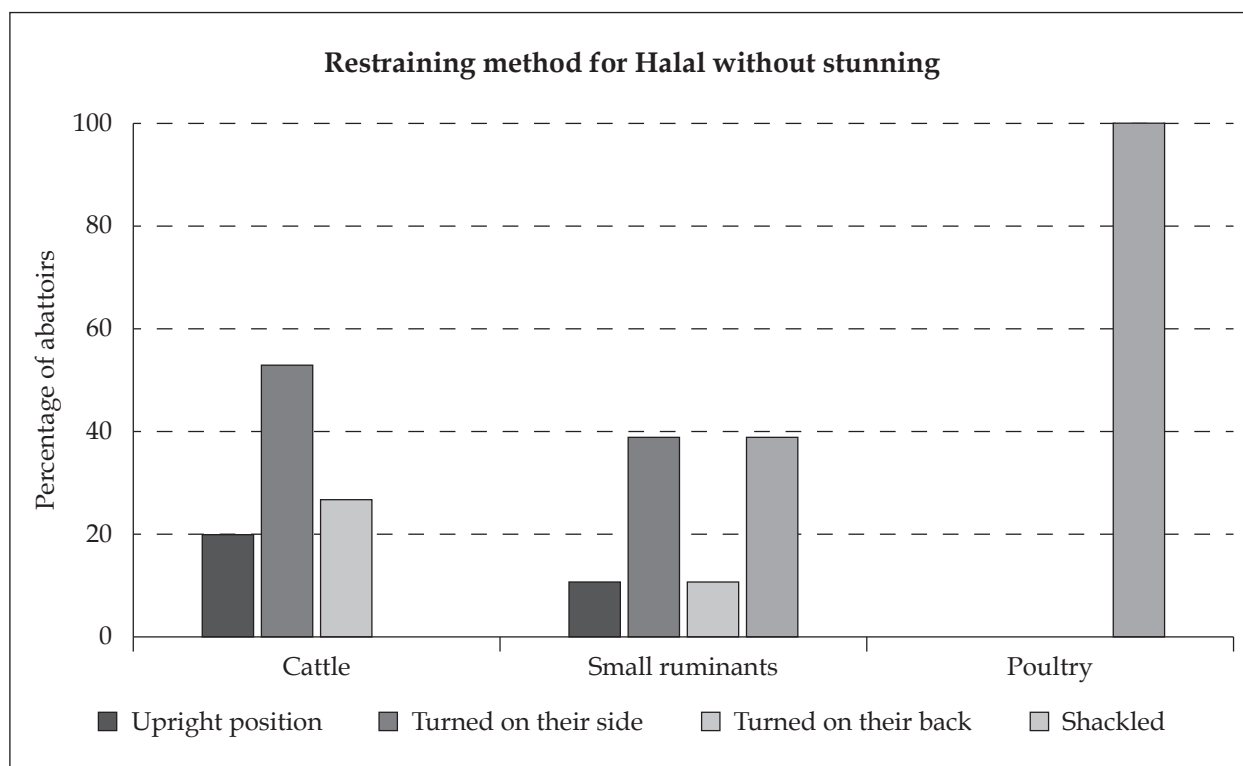
Introduction

Stunning before slaughter is a statutory requirement in Europe and is performed to induce unconsciousness in animals so that slaughter can be performed without causing the animals any avoidable anxiety, pain, suffering or distress. In some countries, religious slaughter is exempt from pre-slaughter stunning, but some religious authorities accept certain stunning methods. The DIALREL project (<http://www.dialrel.eu>) aims to address issues relating to religious slaughter

by encouraging dialogue between stakeholders and interested parties.

An objective of DIALREL is to evaluate the incidence and the scale of practices of religious slaughter (halal and Shechita) in cattle, small ruminants (sheep and goats) and poultry. Data on the incidence of animals being religiously slaughtered, the application of pre-slaughter stunning, the restraining and stunning methods used were collected using questionnaires answered by 19 abattoirs in France, 30 in Germany, 22 in Italy, 42 in Spain,





two in the Netherlands and 14 in the United Kingdom.

Results

No official data on the incidence of animals slaughter using for halal and kosher methods in Europe are available at present.

Shechita

Animals are slaughtered without stunning. Before slaughter, all cattle are restrained and mechanically turned on their back and all poultry shackled.

Halal

Survey results show that 65 % of cattle abattoirs, 50 % of small ruminant abattoirs and 50 % of poultry abattoirs carry out pre-slaughter stunning. When stunning is carried out, 75 % of the cattle abattoirs use penetrating captive bolt, 85.7 % of the small ruminant abattoirs use head-only electrical stunning, and 90 % of the poultry abattoirs use electrical stunning. When slaughter is carried out without stunning, cattle abattoirs restrain the

animals in upright position (20 %), or turned, either on their side (53 %) or on their back (27 %). Small ruminants are mainly turned on their side (39 %) or shackled, and all poultry are shackled.

CONCLUSIONS

- Shechita is carried out in all the abattoirs without pre-slaughter stunning.
- Certain pre-slaughter stunning methods are accepted by some Islamic authorities, improving welfare of the animals.
- Some restraining methods that may induce stress (turning cattle on their sides or backs and shackling poultry) are used to slaughter animals without stunning.

Acknowledgments

DIALREL is co-financed by the European Commission, within the sixth framework programme; Contract No FP6-2005-FOOD-4-C. The text represents the authors' views and does not necessarily represent the position of the Commission who will not be liable for the use made of such information.

Appendix



Recommendations of the Second OIE Global Conference on Animal Welfare

Considering That:

- economic and social development must be addressed in parallel with animal welfare and that a progressive implementation of OIE standards, adapted to the economic situation and capacities of members, is appropriate,
- animal health is a key component of animal welfare,
- that one of the objectives of the OIE is to facilitate international trade in animals and animal products,
- that the OIE is the unique reference organisation globally for the elaboration of international animal welfare standards,
- the OIE Strategic Plan has included animal welfare since 2001 and that the current Strategic Plan contains provisions for action, coordination and integrated planning on terrestrial and aquatic animal welfare at the national, regional and global level,
- it is of concern that some private standards for animal welfare are not consistent with the OIE standards,
- OIE regional strategies, based on global animal welfare standards, represent a shared vision between government and the private sector, built upon collaboration between the various sectors, including animal health, public health, industry (production, transport and processing), academic and research sectors,
- animal welfare standards should be democratically and transparently adopted and both science and ethics-based, bearing in mind the production systems and uses of animals of each member and the relevant environmental, regional, geographic, economic, cultural and religious aspects,
- scientific information should be the basis for the preparation of international standards and that these should be appropriately evaluated and validated taking into account the different circumstances and contexts relevant to the members,
- the need to promote scientific research, capacity building, education and communication in the animal welfare area,
- the ongoing work of the OIE in reinforcing the capacity of veterinary services, using the OIE Tool for the Evaluation of Performance of Veterinary Services (OIE PVS Tool) with the legal base in the OIE *Terrestrial Animal Health Code* (Terrestrial Code),
- the continuing support of the OIE for twinning programmes involving OIE Collaborating Centres,
- a number of important and relevant topics and issues were identified at the Second OIE Global Conference on Animal Welfare.

OIE Members are requested to:

- create or update, where necessary, legislation that prevents cruelty to animals as well as legislation that establishes a legal basis for complying with OIE standards for animal health, safety of animal products for human consumption and animal welfare, as well as supporting guidelines for the use of good practice to encourage compliance with OIE standards,
- support the development of programmes for education and scientific research relevant to animal welfare; education programmes should be directed at key players, particularly veterinarians, livestock owners and animal handlers, NGOs and other key target categories, such as women and children,
- promote the adoption by the United Nations of a declaration addressing animal welfare, including compliance with OIE animal health and welfare standards,
- nominate OIE animal welfare national focal points, under the authority of the OIE Delegate and to develop national programmes,

- encourage the private sector to respect OIE standards and not to adopt private standards that are in conflict with the OIE standards, particularly for the importation of animal products from developing countries.

The OIE is requested to:

- provide appropriate technical support to members in the implementation of the OIE standards, including through the provision of tools relevant to (1) veterinary legislation (2) veterinary education on animal welfare (3) good governance of Veterinary Services,
- describe veterinary services' responsibilities for animal welfare in the Terrestrial Code and to include appropriate references in the OIE PVS Tool,
- work closely with donors and international organisations that have a commitment to animal welfare to help veterinary services and their partners in developing countries to implement the OIE animal welfare standards,
- continue collaboration at the regional level, with involvement of the OIE Regional and Sub-Regional Representations to support the development of strategies to address regional needs and priorities,
- advocate the role and responsibility of the veterinary services, including public and private sector veterinarians, in animal welfare and promote technical support to veterinary education and the provision of information on animal health and welfare, particularly to animal owners and handlers,
- collaborate and form partnerships with organisations representing all relevant sectors of the production and distribution chain for animals and animal products to develop and promote the OIE animal welfare standards as the key reference for national, regional and international trade and to urge the private sector to adopt private standards for animal welfare that are consistent with the OIE standards,
- influence those responsible for making decisions on scientific research to develop new programmes addressing animal welfare priorities,
- promote the development of twinning programmes between OIE Collaborating Centres in the field of animal welfare,
- continue to work on the standard setting priorities established by the OIE International Committee as well as the priorities for standard setting on humane methods for controlling stray dog populations¹ and free-ranging cats and wild invasive species,
- consider establishing a procedure for determining priorities for future standards development.

¹ Programmes for controlling stray dog populations can include culling in some countries.

Recommandations de la deuxième conférence mondiale de l'OIE sur le bien-être animal

Considérant:

- que le développement économique et social doit être réalisé parallèlement au bien-être animal, et qu'il convient de procéder à une application progressive des normes de l'OIE, adaptée à la situation économique et aux capacités des membres;
- que la santé animale est une composante-clé du bien-être animal;
- que l'un des objectifs de l'OIE est de faciliter les échanges internationaux d'animaux et de produits d'origine animale;
- que l'OIE est la seule organisation de référence à l'échelle mondiale compétente pour l'élaboration de normes internationales de bien-être animal;
- que le Plan stratégique de l'OIE inclut le bien-être animal depuis 2001, et que le Plan stratégique actuel comporte des dispositions relatives à l'action, à la coordination et à la planification intégrée portant sur le bien-être des animaux terrestres et aquatiques aux niveaux national, régional et mondial;
- qu'il est préoccupant que certaines normes privées en matière de bien-être animal ne soient pas compatibles avec les normes de l'OIE;
- que les stratégies régionales de l'OIE, fondées sur des normes mondiales de bien-être animal, représentent une vision partagée entre pouvoirs publics et secteur privé, construite sur la base d'une collaboration entre les divers acteurs, y compris ceux du secteur de la santé animale, de la santé publique, de l'industrie (production, transport et transformation) et les milieux universitaires et de la recherche;
- que les normes de bien-être animal doivent être adoptées de manière démocratique et transparente, et fondées sur la science comme sur l'éthique, en tenant compte des systèmes de production et des utilisations des animaux dans chaque membre, ainsi que des aspects environnementaux, régionaux, géographiques, économiques, culturels et religieux;
- que l'information scientifique doit être la base de la préparation de normes internationales, et que celles-ci doivent être évaluées et validées de manière appropriée en prenant en compte les diverses circonstances et les différents contextes pertinents pour les membres;
- le besoin de favoriser la recherche scientifique, l'accumulation des compétences, l'enseignement et la communication dans le domaine du bien-être animal;
- les travaux en cours de l'OIE pour le renforcement de la capacité des services vétérinaires, faisant appel à l'outil de l'OIE pour l'évaluation des performances des services vétérinaires (Outil PVS de l'OIE), dont la base légale se trouve dans le *Code sanitaire pour les animaux terrestres* de l'OIE (le Code terrestre);
- le soutien constant de l'OIE aux programmes de jumelage auxquels participent les centres collaborateurs de l'OIE;
- un certain nombre de questions et problèmes importants et pertinents identifiés lors de la seconde conférence mondiale de l'OIE sur le bien-être animal.

Il est demandé aux membres de l'OIE de:

- créer ou mettre à jour, si nécessaire, la législation interdisant la cruauté envers les animaux, ainsi que les lois établissant une base légale pour se conformer aux normes de l'OIE en matière de protection de la santé animale, de sécurité des produits d'origine animale destinés à la consommation humaine et de bien-être animal, tout en soutenant l'usage de lignes directrices de bonnes pratiques afin d'encourager la mise en conformité avec les normes de l'OIE;
- soutenir le développement de programmes d'éducation et de recherche scientifique pertinents pour le bien-être animal.

Les programmes d'éducation doivent viser les acteurs-clés, en particulier les vétérinaires, les propriétaires de bétail et les opérateurs qui manipulent les animaux, les organisations non gouvernementales et autres catégories cibles-clés, comme les femmes et les enfants;

- promouvoir l'adoption par les Nations unies d'une déclaration relative au bien-être animal, incluant la mise en conformité avec les normes de l'OIE en matière de santé et de bien-être des animaux;
- désigner des points focaux nationaux en matière de bien-être animal pour l'OIE, sous l'autorité du Délégué auprès de l'OIE, et élaborer des programmes nationaux;
- encourager le secteur privé à respecter les normes de l'OIE et à éviter d'adopter des normes privées qui soient en conflit avec les normes de l'OIE, en particulier pour l'importation de produits d'origine animale en provenance de pays en développement.

Il est demandé à l'OIE de:

- fournir un soutien technique approprié aux membres dans l'application des normes de l'OIE, y compris par le moyen d'outils relevant: 1) de la législation vétérinaire; 2) de l'éducation vétérinaire en matière de bien-être animal; 3) de bonne gouvernance des services vétérinaires;
- décrire les responsabilités des services vétérinaires en matière de bien-être animal dans le Code terrestre et inclure les références appropriées dans l'outil PVS de l'OIE;
- travailler en liaison étroite avec les bailleurs de fonds et les organisations internationales engagées en faveur du bien-être animal afin d'aider les services vétérinaires et leurs partenaires dans les pays en développement à appliquer les normes de bien-être animal de l'OIE;
- poursuivre la collaboration au niveau régional, avec la participation des repré-

sentations régionales et sous-régionales de l'OIE, dans le but de soutenir le développement de stratégies ciblées sur les besoins et priorités des diverses régions;

- plaider en faveur du rôle et de la responsabilité des services vétérinaires, qui incluent les vétérinaires des secteurs public et privé, dans la promotion du bien-être animal, et apporter un soutien technique à l'enseignement vétérinaire et à la diffusion d'informations sur la santé et le bien-être des animaux, en particulier en direction des propriétaires d'animaux et des professionnels qui les manipulent;
- collaborer et former des partenariats avec des organisations représentant tous les secteurs pertinents de la chaîne de production et de distribution des animaux et des produits d'origine animale, afin de développer et promouvoir les normes de bien-être animal de l'OIE en tant que référence-clé pour le commerce national, régional et international, et d'inciter le secteur privé à adopter, en matière de bien-être animal, des normes qui soient compatibles avec celles de l'OIE;
- encourager les responsables de la recherche scientifique à élaborer de nouveaux programmes axés sur les priorités du bien-être animal;
- promouvoir le développement de programmes de jumelage entre les centres collaborateurs de l'OIE dans le domaine du bien-être animal;
- poursuivre les travaux sur les priorités en matière d'établissement de normes, conformément aux décisions du Comité international de l'OIE, ainsi que sur les priorités en matière d'élaboration de normes de contrôle des populations de chiens errants¹ et de chats en liberté ainsi que d'espèces sauvages invasives;
- envisager la mise sur pied d'une procédure permettant de déterminer les priorités pour l'élaboration des normes à l'avenir.

¹ Les programmes de contrôle des populations de chiens errants peuvent comporter leur abattage dans certains pays.

Recomendaciones de la segunda Conferencia Mundial de la OIE sobre Bienestar Animal

Considerando que:

- el desarrollo económico y social debe tratarse de forma paralela con el bienestar animal y que es conveniente proceder a una aplicación progresiva de las normas de la OIE, adaptadas a las condiciones económicas y a las capacidades de los miembros,
- la sanidad animal es un componente clave del bienestar animal,
- uno de los objetivos de la OIE es facilitar el comercio internacional de animales y de productos derivados,
- la OIE es la única organización de referencia mundial para la elaboración de normas internacionales de bienestar animal,
- el Plan Estratégico de la OIE contempla el bienestar animal desde 2001 y que su actual Plan Estratégico incluye la necesidad de una acción, coordinación y planeación integrada del bienestar de los animales terrestres y acuáticos a escala nacional, regional y global,
- la preocupación de que algunas normas del sector privado no estén en concordancia con las normas de la OIE,
- las estrategias regionales, basadas en las normas mundiales de bienestar animal, representan una visión compartida por el sector público y el sector privado, resultado de la colaboración de diversos sectores, entre ellos de sanidad animal, salud pública, industria (producción, transporte y procesamiento), organismos académicos y de investigación,
- las normas de bienestar animal deben ser aprobadas de forma democrática y transparente y regidas por la ciencia y la ética, teniendo en cuenta los sistemas de producción y la utilización que se hace de los animales en cada miembro al igual que los aspectos ambientales, regionales, geográficos, económicos, culturales y religiosos relevantes,
- la información científica ha de servir de base para la elaboración de normas internacionales que deben ser evaluadas y validadas apropiadamente tomando en cuenta las diferentes circunstancias y contextos propios de los miembros,
- la necesidad de promover la investigación científica, el desarrollo de competencias, la educación y la comunicación en el área de bienestar animal,
- la labor en curso de la OIE en el refuerzo de competencias de los Servicios Veterinarios, por medio de la Herramienta de la OIE para la Evaluación de las Prestaciones de los Servicios Veterinarios (Herramienta PVS de la OIE) cuya base legal se encuentra en el Código Sanitario para los Animales Terrestres de la OIE (Código Terrestre),
- el apoyo constante de la OIE a los programas de hermanamiento en el que participan Centros Colaboradores de la OIE,
- la gran cantidad de temas e inquietudes importantes y pertinentes que se identificaron durante la 2ª Conferencia Mundial de la OIE sobre Bienestar Animal.

Se solicita a los miembros de la OIE:

- crear o actualizar, si es necesario, la legislación que prevenga la crueldad hacia los animales así como una legislación que establezca bases legales para cumplir con las normas de la OIE en las áreas de sanidad animal, seguridad de los productos derivados de animales destinados al consumo humano y al bienestar animal, así como el apoyo al uso de las directrices de buenas prácticas encaminadas a cumplir las normas de la OIE,
- apoyar el desarrollo de programas de educación y de investigación científica relacionados con el bienestar animal. Los programas educativos deben dirigirse a un público clave, particularmente a veterinarios, ganaderos y operarios cuidadores de animales, a organismos no gubernamenta-

les y a otras categorías claves, como mujeres y niños,

- promover la adopción por parte de las Naciones Unidas de una Declaración sobre el bienestar animal, en la que se incluya el respeto de las normas de sanidad y de bienestar animal de la OIE,
- designar puntos focales de bienestar animal de la OIE, bajo la autoridad del Delegado de la OIE, y elaborar programas nacionales,
- alentar al sector privado a respetar las normas de la OIE y a no adoptar normas del sector privado que estén en conflicto con las normas de la OIE en particular para la importación de productos animales provenientes de países en desarrollo.

Se solicita a la OIE:

- brindar asistencia técnica apropiada a los Miembros para la aplicación de las normas de la OIE, por medio de herramientas: 1) de legislación veterinaria; 2) de educación veterinaria sobre bienestar animal; 3) de buena gobernanza de los Servicios Veterinarios,
- describir las responsabilidades sobre el bienestar animal de los Servicios Veterinarios en el Código Terrestre e incluir las referencias apropiadas en la Herramienta PVS de la OIE,
- trabajar de cerca con donantes y organizaciones internacionales que tienen un compromiso con el bienestar animal para ayudar a los Servicios Veterinarios y a sus asociados en los países en desarrollo a poner en práctica las normas de bienestar animal de la OIE,
- seguir colaborando a nivel regional, con la participación de las Representaciones

Regionales y sub-regionales, en apoyar el desarrollo de estrategias que abarquen las necesidades y prioridades regionales,

- abogar en favor del papel y de la responsabilidad de los Servicios Veterinarios, incluyendo a los veterinarios del sector público y privado, en el campo del bienestar animal y favorecer el apoyo técnico para la educación veterinaria y la información sobre sanidad y bienestar animal, en particular a ganaderos y operarios cuidadores de animales,
- colaborar y formar acuerdos con organizaciones que representan todos los sectores pertinentes de la cadena de producción y distribución de animales y de productos derivados para desarrollar y promover las normas de bienestar animal de la OIE como referencia clave para el comercio nacional, regional e internacional y solicitar al sector privado que adopte normas privadas de bienestar animal que sean consistentes con las normas de la OIE,
- animar a los responsables de la investigación científica a elaborar nuevos programas centrados en los aspectos de bienestar animal,
- promover el desarrollo de programas de hermanamiento entre Centros Colaboradores en el campo del bienestar animal,
- continuar trabajando en las prioridades de elaboración de normas establecidas por el Comité Internacional de la OIE y en las prioridades de elaboración de normas para métodos humanos de control de las poblaciones de perros callejeros¹, de gatos en libertad y de especies salvajes invasivas,
- considerar la creación de un procedimiento para determinar las prioridades de elaboración de las normas futuras.

¹ Los programas para el control de la población de perros callejeros pueden incluir la matanza en ciertos países.

European Commission

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