Voluntary schemes supporting the implementation of the OIE Animal Welfare Standards

Private experience – practical vision.

DMV Marcelo Secco
Tacuarembó-Marfrig Group

October 2008
THE URUGUAYAN MEAT CHAIN
Where is Uruguay and what is it like?

“Small and green”

Size: 186,926 sq km
Population: 3.3 million
Rural population: 11%
Literacy rate: 97%
Climate: Temperate
Exports: meat, wool, dairy, rice, soybeans, software, tourism.
Uruguayan meat chain
Importance of the Meat Industry (2007)

- Beef Represents 6% of the Uruguayan GDP.
- It represents 25% of global Uruguayan exports.
- 75% of beef production is exported.
- Cattle farm's area is 87% of total country's surface.
- Highest relation cattle/people in the world (3.7 head/person).
- Uruguay is the 7th beef exporter and the 3rd sheep meat exporter of the world.
Uruguay: a country of cattle farms

- **Cattle Stock:** 11.7 mill. hd
- **Major breeds:** Hereford, Angus
- **Cattle / inhabitant:** 3.8
- **Sheep stock:** 11 mill. hd
- **Major breeds:** Corriedale, Merino
- **Sheep / inhabitant:** 3.3
Production Systems

• Grass-Fed, Free-range
• Extensive Systems
  • 84% native pastures
  • 16% cultivated pastures
• Privileged hydrographic system

“Uruguay is 3rd in a World Environmental ranking that considers 146 countries”

Source: Yale University – University of Columbia, USA, January 2005
www.yale.edu/esi
Production Systems

• Anabolics and growth hormones are banned by law.

• Use of Animal protein is banned by law.

• No cases of *E.coli* 0157:H7

• National Identification Program

• Animal Welfare programs and Humane Slaughter.
Each cattle head enjoys 15,000 m² of natural pastures (2 soccer fields)
URUGUAY: Meat Producer and Consumer
Reduction in steers slaughter age

- 2y4 SD
- 6 D
- 8 D

Years: 1990-2007

Percentage range: 0% - 100%

Graph showing the percentage reduction in steers slaughter age from 1990 to 2007 for different age categories.
Increasing Forage Production

- Natural grasslands
- Coverages
- Fertilized land
- TOTAL

Source: DICOSE
Beef Supply Chain (2007)

- 45,000 farms
- 15.4 million há. (87% of the country)
- 11.7 million cattle head
- 16% improved grasslands, 84% natural grasslands

Slaughterhouses
- 35 Packing plants
- 19 Plants approved to most demanding markets

- 2.2 million head slaughtered
- 20% of the herd
- 51% steers and 46% cows

BEEF PRODUCTION
- 600,000 Ton. CW.

- Domestic M. 20%
  - 150,000 Ton. c.w.

- Export M. 80%
  - 450,000 Ton. c.w.
Animal Health Status

- **FMD Free, with vaccination**
- Uruguay is one of the 4 countries declared **BSE lowest risk** by the OIE (May 2006)
Technology

- Mandatory individual identification and traceability as from 2006 (approved by law).
- Electronic Slaughter Control
- Compulsory HACCP system in every slaughterhouse and packing plant.
- Quality Control, implemented by INAC
Traceability

• Mandatory (by law)
  – All calves from march 2006
  – All herd from 2010.
• Responsible: Livestock Services (MGAP)
• Identification by 2 tags (visual and RFID)
• Identification: before 6 months, at farm 1.
• Movements: electronic reading at the leaving premise and at the arriving one.
• Traceability in the packing plant (electronic slaughter control)
FMD Control

- Vaccination of all beef cattle
- MGAP vaccination control
- Surveillance: blood sample analysis
- 11 million sheep – 11 million “guards”
- Cattle imports are banned
- Auction markets and slaughterhouses have permanent inspection
- Veterinary inspection when shipping cattle to slaughter (certificate issued).
- Regional Strategy
Uruguay offers to the world high quality meat products, coming from a natural and sustainable environment.

- FMD Free (with vaccination)
- BSE lowest risk (OIE)
- Grassland systems / open range / 0,75 head/há
- Hormone free / anabolic free / meat-bone meal free
Uruguayan exports
Beef Products

- **Slaughter 2007:** 2,200,000 hd
- **Exports 2007:** 400,000 ton. cw. 820 million USD.

**Exports Market Share**

<table>
<thead>
<tr>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAFTA</td>
<td>51%</td>
</tr>
<tr>
<td>European Union</td>
<td>23%</td>
</tr>
<tr>
<td>Russia</td>
<td>4%</td>
</tr>
<tr>
<td>Mercosur</td>
<td>7%</td>
</tr>
<tr>
<td>Others</td>
<td>15%</td>
</tr>
</tbody>
</table>
Beef Domestic and Export Markets

- **Domestic market**: 70%
- **Exports**: 30%
- **Domestic Market**: 25%
- **Exports**: 75%

- '80s
- Currently
Sheep Meat Products

- Sheep meat (lamb).
- Live animals.

- Slaughter 2007: 1,530,000 hd

- Exports 2007: 22,000 ton. cw. 49 million USD.

- Live animals exports: 400,000 head

- Exports Market Share 2007:
  - European Union 43%
  - MERCOSUR 31%
  - Other 26%
Marketing Strategy

Supply Confidence
Now, you can take the pleasure to flavor the quality of time.
Beef Supply Chain Strengths

- Commercial Experience with a broad market access (85 markets)
- Responsibility and reliability.
- Country Brand.
- Healthy Product due to the low levels of fatty acids and cholesterol.
- Uruguay: 50-52 kg/capita/year of consumption with a life expectancy of 74 years.
- Safe, natural and high quality product.
TACUAREMBÓ – MARFRIG GROUP
TACUAREMBO MARFRIG _URUGUAY
Tacuarembó: located 398 km from Montevideo, at the intersection of Ruta 5 & 26.

San José: located 91 km from Montevideo, Departament of San José.

La Caballada Salto: located 500 km from Montevideo, City of Salto.

Colonía: located 130 km from Montevideo, Tararías, Colonia.
Summary:

• Tacuarembó / Marfrig operates five Industrial Plants.
• It occupies 3677 people.
• It can slaughter 3200 bovines y 5400 ovines to the day.
• It has a deboned capacity of 494 tons to the day.
OUR MISSION:

To be an efficient producer and a national and international trader recognized by the continuous nutritional products development that facilitates and improves the feeding of the people.
OUR POLICY:

Tacuarembó continuously maintains and improves its System of Management that assures the fulfillment of the legal requirements for the client with the intention of:

- Produce innocuous foods and guarantee its standards of quality.
- Prevent the contamination and diminish the adverse environmental impacts.
- Guarantee the Security and Occupational Health in all processes.
COOKED BEEF

- Nalgas rostizadas
- Cortes cocidos cook-in
  - Pastrami
  - Corned beef
  - Roast Beef
- Carnes compactadas
- Marks:
  - Tacuarembó (bulk)
  - Bernina (foodservice y retail)
  - Marcas privadas

We produce cooked meats, pasteurised, cooked at low temperatures to obtain a tender product and a good flavor. Tacuarembó uses modern technology in its processes with capacity to produce from two plants: Colonia and Tacuarembó.
CURED BEEF

Beef Jerky
Our Beef Jerky is lean and without tendons or aponeurosis. Later they are marinated in a vacuumed massager with the purpose to obtain a strong and lasting flavor. The drying process is verified measuring the loss of weight to receive the rank of wished drying, a final humidity from 30 to 35%.
Mark: Tacuarembo (Bulk) and private marks of the clients.
Destiny: The USA and Japan.

Basturma
It is an ethnic product for the Russian, Armenian, Arab communities. Pressed to obtain a very low humidity product, and it is ripened with paprika, fenugreco and garlic. Cured in industrial dryers.
Mark: Bernina.
Destiny: USA.

Bresaola
It is macerated and seasoned with spices, berries and typical grass of the alpine region of The Valtellina. Finally, the product is aged during a period no smaller than four weeks.
Mark: Bernina and Fratelli Secco.
Destiny: The USA, the EEC, Brazil, Uruguay.

Tasajo
Tasajo Montevideo is a product developed for Latin community, comes from lean bovines cuts of high value, especially selected by its tenderness and its flavor. Chilled meat is put under a process of salt, macerated and cured and soon to a period of ageing to obtain a dehydration of almost a 50% of its original weight.
Mark: Montevideo.
Destiny: USA.
ORGANIC BEEF

USA

CEE

APPROVAL

NATURAL BEEF

HEREFORD BEEF

ANGUS BEEF

WAGYU BEEF

TESCO – FARM ASSURANCE
EUREPGAP – BPA

BRC (BRITISH RETAIL CONSORTIUM)
SUBSECTORS

MARKET

• PERMANENT ANALYSIS AND INVESTMENT
• PRIVATE STRATEGY
• BUSSINES ATTITUD
• PUBLIC SUPPORT
• COUNTRY STRATEGY
• REQUIREMENTS-DEMANDS
• ANALYSIS
• DISTRIBUTION OF RESPONSIBILITIES
• INFORMATION MANAGEMENT

OPPORTUNITIES
AT THE ENTIRE CHAIN
CERTIFIED ORGANIC MEAT PROGRAM
### PROGRAM DATA

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>N° of producers</td>
<td>181</td>
</tr>
<tr>
<td>N° of farms</td>
<td>265</td>
</tr>
<tr>
<td>Certified area</td>
<td>489.598 has.</td>
</tr>
<tr>
<td>Bovines</td>
<td>281.195 heads</td>
</tr>
<tr>
<td>Ovines</td>
<td>453.498 heads</td>
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</table>
INDUSTRIAL PROCESS
MAPA DE PROCESOS

LOCALIZACIÓN DE PROCESOS

GESTIÓN DE DIRECCIÓN

VALORES ESTRATÉGICOS

POLÍTICA DE GESTIÓN Y OBJETIVOS ESTRATÉGICOS

ENFOQUE AL CLIENTE

CUMPLIMIENTO DE REQUISITOS LEGALES

ALIMENTOS INOCOS

PROTECCIÓN DEL MEDIO AMBIENTE

MEJORA CONTINUA

VALORES OPERACIONALES

COMUNICACIÓN

DOCUMENTACIÓN Y REGISTROS

AMBIENTE DE TRABAJO SEGURO

PROCESOS DE CONDUCCIÓN

M.A. Y M.

INVESTIGACIÓN Y DESARROLLO

PRODUCCIÓN

COMPRAS

COMERCIAL

RECEPCIÓN DE HACIENDA

ENFEQUE Y MADURACIÓN

CUERNO Y DESOJO

ENFRÍADO

CONGELADO

CARNE RESTRINGIDA Y ELABORACIÓN

EMBARGO

TERMINADO

CARRUAJE

PROCESOS CENTRALES

PROCESOS DE SOPORTE

RECURSOS HUMANOS

MANTENIMIENTO Y SERVICIOS

METROLOGÍA

COMPRA

TRATAMIENTO DE ALIMENTOS

GESTIÓN DE RIESGOS

TRABAJADORES

INFORMÁTICA

COSTOS

PLANIFICACIÓN OPERATIVA

CONTROL DE CALIDAD

GESTIÓN DE SULPO

MARKETING

REFERENCIAS de colores:

| Procesos Corporativos | Procesos aplicables a todas las unidades productivas. | Procesos NO aplicables a todas las unidades productivas. |

Manual de Gestión
PROCESS WARANTEES

- Generals – market - chain
- Sector analysis
GENERAL

INCREASING REQUIREMENTS - OPORTUNITIES

TRAZABILIDAD - RECALL

• DEMAND AND OPORTUNITIES
• COMMITMENT OF CHAIN
SIRA
SOCIAL RESPONSIBILITY

ENVIRONMENTAL IMPACT
ANIMAL WELFARE:

“IT IS THE STATE OF PHYSICAL AND MENTAL HEALTH IN HARMONY WITH THE ENVIRONMENT”
ANIMAL WELFARE:

“IT IS THE STATE OF COMFORT IN WHICH ANIMALS CAN DEVELOP ITS PRODUCTIVE POTENTIAL”
WHY INVESTING IN ANIMAL WELFARE?

• CONSUMERS
• LEGISLATION

• PRODUCER
• INDUSTRY

FOOD SAFETY

QUALITY OF THE FINAL PRODUCT
ANIMAL WELFARE

CONDITIONS – HANDLING
ANIMAL WELFARE

METHODS AND INFRASTRUCTURE
ANIMAL WELFARE

CONTINUOUS PROCESS – CAPACITATION - MULTISECTORAL

MONITORING & CHECKING
KEY WORDS:

• WELFARE

• CAPACITATION

• STRESS

• DESIGN

• HANDLING

• STUNNING

• SUFFERING
INTERNAL STRESS SIGNS

• Changes in the heart rate
• Changes in the breathing rate
• Changes in the body temperature
• Changes in the blood pressure

STRESS INFLUENCES MEAT’S QUALITY
BRUISES

DEFINITION
Rupture of blood vessels in the area, which allows the blood escape.

• BACTERIAL RISK
• UNPLEASANT ASPECTS
• LOSTS IN THE VALUE OF THE CUTS

CAUSES:
• VIOLENT HANDLING OF ANIMALS
• USE OF WOOD STICKS AND SHARP OBJECTS
• SLIPS AND FALLS
• DOGS
• FACILITIES IN BAD CONDITIONS
Frigorífico Tacuarembó statistics of BRUISES

TOTAL slaughtering

AÑOS

TOTAL FAENA
% MACHUCONES

%
KEYS FOR ANIMAL WELFARE

• Facilities, tools and appropriate work methods

• Personnel training

• Avoid strong movements, sounds, and lightning problems that can affect animal behave.

• Avoid using batons and use flags

• Move the cattle in small groups

• Avoid falls and injuries

• Correct filling of cattle corrals (2.5 m² per animal and roofed)
• Facilities, tools and appropriate work methods
• Personnel training
• Avoid using batons and use flags

IF NECESSARY:
JUST 2 SECONDS IN HINDQUARTERS
• Move the cattle in small groups
Manejo del Ganado

- Los animales deberán estar todos marchando en la misma dirección antes de hacer cualquier intento de cambiar la dirección de avance de la manada.
- Una vez que se ha iniciado un buen movimiento, el ganadero podrá controlar la dirección del mismo, moviéndose hacia la izquierda cuando quiera que el ganado gire hacia la derecha, y viceversa.
- Ganado que ha sido conducido en forma ordenada con buenos movimientos.
Diagrama de Zona de Fuga

Zona de Fuga: La Zona de Fuga es el espacio personal del animal y su tamaño depende del grado de mansedumbre o fiereza del animal.

El animal comenzará a alejarse de la persona que traspase este límite.

El Operario debe mantenerse alejado de esta zona, de lo contrario es probable que el animal trate de patearlo.

Si el operario se encuentra en esta zona, el animal dejará de alejarse, porque el se encuentra fuera de su zona de fuga.

Si el operario se encuentra delante de este punto, el animal se frena.
Avoid falls and injuries

Anti-Slip floor
GOOD PRACTICES OF HANDLING IN FRIGORIFIC PLANTS

At the unload and handling in cattle corrals:

Personnel must be trained

The waiting time of unloading the cattle must be minimized

Make sure that the truck and de ramp of unloading are at the same level

Check that the door of the truck is fully open before unloading the first animal

Avoid hurries preventing falls and avoiding animal distractions

Before moving the cattle to the resting cattle corral, it must be handled with care, giving it time to get comfortable with the environment
GOOD PRACTICES OF HANDLING IN FRIGORIFIC PLANTS

In resting cattle corrals:

• Design based on curve lines and diagonals

• Capacity, according to the volume of slaughter: 2.5 m²/animal

• Adequate lightning

• Access to drinking water and weather protection

• Avoid mixing troops
Transit to balance and spray bath:

Move the cattle in small groups, without pressure or hurry, in order to avoid falls and injuries.

Avoid the use of batons: having a good design of the circuit, correct lightning, avoiding noises and distractions, using flags and well trained personnel.

The spray bath must be the less stressful as possible, which is done with good design and good operational process.

The transit time from the cattle corral to the slaughter in the tube must not be more than 30 minutes.
GOOD PRACTICES OF HANDLING IN FRIGORIFIC PLANTS

Knockout drawer or immobilization:

• It is the total and permanent loss of consciousness before bleeding.

• The knocker must be used in the front of the animal and perpendicular to it.

• The knockout drawer and the stunning equipment must be designed and kept in good conditions.

• The total loss of consciousness of the animal must be checked before slaughter

• Time between knockout and slaughter

A bad knockout and a long time between knockout and bleeding causes problems in meat quality in addition to animal suffering.
Signs of a correct insensibilization:

• The head, tongue and tail falls flacid
• The head must hung on a same line with the loin.
• The tongue comes out of the mouth.
• There is no winking.
• There are no ocular reflexes.
• There is no rhythmic breathing.
• There is no moo or bleat
• There is no intention of rising the head
• There could be white eyes.
• There is no cutaneous reflection in front of mechanical stimulus (puncture snout)
GOOD PRACTICES OF HANDLING ON PRE-LOADING AND LOADING

Specially trained personnel for this operation.

Plan times and schedules in order to avoid excessive delays and extreme weather conditions.

Confine before loading, with a minimum time of 2 hours, to restore vital functions.

Realize the confinement in small groups, using flags and load the appropriate number of animals.

Appropriate facilities, location, design, materials and maintenance to collect and load the animals.

The load ramp: strong walls, <20° of tilt, and anti-slip floor.

Move animals calmly, not punish them and avoid the use of dogs.

Do not mix male and female animals of different category and if possible avoid horned and aggressive animals.
GOOD PRACTICES ON HANDLING OF TRANSPORT

• The carrier must be trained on good operative practices.

• Use transport in good shape, design, capacity, and maintenance.

• Allow time for cattle to accommodate in the transportation, before departing.

• The carrier must take responsibility for planning the trip, the conditions of the vehicle and corrective actions before failures and delays.

• The maximum time allowed from the load, to plant, should not exceed 8 hours.
GOOD PRACTICES OF HANDLING - CARRIER

• Check before loading that all documentation required by law is complete.

• The driver must have a list of telephones of emergency, being indispensable having a mobel or cellular phone.

• The driver will be responsible for the proper loading of the truck, periodic inspections during the journey and appropriate responses to problems that arise.

• Should avoid, turns, abrupt stops and accelerations during the transportation and unnecessary stops.

• The average density must be approximately an animal of 450 Kgs./m2 of cage.

• Animals must be inspected 30 minutes after departure and every 2 hours along the trip.
TRANSPORT DESIGN

• Easy cleaning and desinfection

• Must not have outgoings or sharping edges.

• Floor must be anti-slip

• Doors must have a minimum wide of 90 cm. And lateral rollers.

• Must have dividers to allow a proper separation of groups or decreasing de space when the load is incomplete.

• The equipment of the truck should enable direct access to animals for the purposes of inspection and assistance if necessary
HANDLING PRACTICES

• WEANING
• CASTRATION
• DEHORNED
• MARKING
• IMPLEMENTATION OF INJECTIONS

IT IS RECOMMENDED NOT TO APPLY THIS PRACTICES AT THE SAME TIME.
FACILITIES:

• The orientation of the facilities must be north to south.

• The tubes must be with curves and closed walls.

• Must not have outgoings, or sharp objects.

• The size of the facilities must match with the number of animals.

• All the cattle corrals must have water and shadow.
GOOD PRACTICES OF HANDLING AT THE LIVESTOCK FARM.

• Handle animals with care

• Avoid using wood sticks, batons and excessive noises.

• Do not work with animals that are not trained

• In cattle corrals work walking or from the outside with flags.

• Be sure that animals have access to water and shadow

• Avoid working with the cattle in hours of intense heat or thunderstorm.
LOSSES CAUSED BY ABSCESSES
LOSSES by poor handling in the loading and transportation of animals
DRA. TEMPLE GRANDIN
TACUAREMBO 2004--2008
THANK YOU

D.V.M. Marcelo Secco

TACUAREMBO MARFRIG URUGUAY