



March 2009

John Wyld

Chairman NLIS Ltd.

Chairman, Victorian Ministerial Advisory Committee

m.s. "**Chindwara**"
B.I.S.N.Co.Ltd.









ANIMAL IDENTIFICATION AND TRACEABILITY
The Australian Experience





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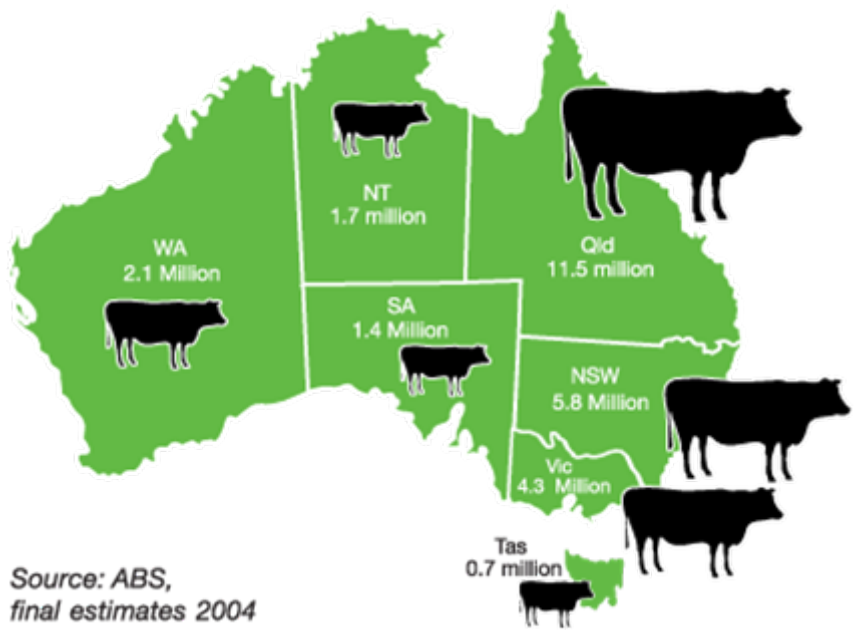




Australia's Cattle Industry

Dairy Cattle	2.5 million
Beef Cattle	25.2 million
Cattle producing properties	180,000
Cattle exported live	869,545
Cattle slaughtered p.a.	8 million
Average dairy herd size	282 per farm
Typical beef herd size	100 – 400 head

Australian Livestock Background

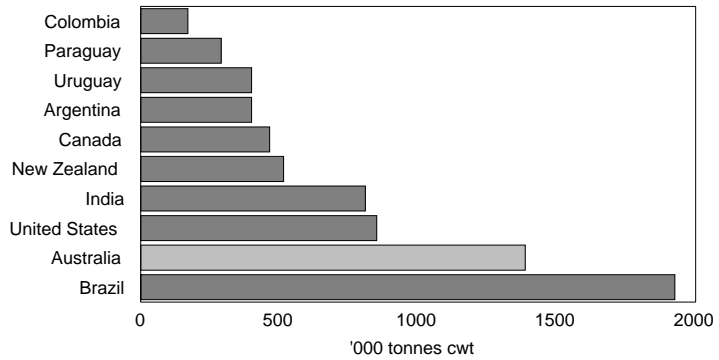


Source: ABS,
final estimates 2004

- Total of ~28 Million Head of cattle
- Annual beef and veal production over ~2 million tonnes
- Total Gross value of ~ \$7.1 Billion.

Australian Livestock Background

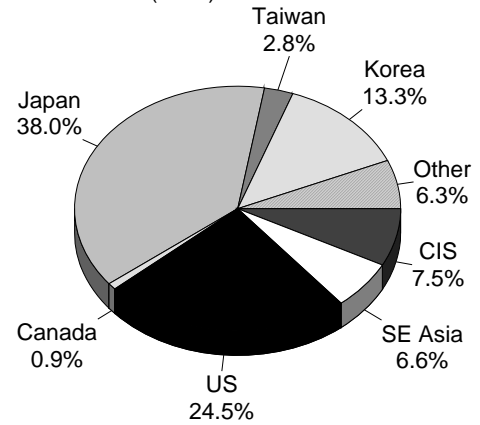
Top ten world beef exporters



Source: USDA (2008)

Beef exports

Total = 957,482 tonnes swt (2008)



Source: DAFF

- Second Largest Exporter of Beef
- Export 65% of total beef production
- Export Beef value ~\$5 Billion

Market access
is critical

**Australia
exports 65%
of its beef
production**





Australia's History of Cattle Identification

In late 1960s established:

- Brucellosis and TB Eradication programme
- Property Registration
- Tail Tags- trace back to last property

Traditional identification – tail tags



Problems in the 1980s and 1990s

Series of Residue incidents

Damage to customers, export & domestic

Consequences Industry had to deal with:

Financial - losses, costs

Physical - recalls, testing

Political - reputation



1995

Decision by all Governments and industry to
Establish a National, Uniform cattle
identification and tracing system



National Livestock Identification System Basic Assumptions

- must suit Australian conditions
- must be based on the “real world”
- must be affordable and effective
- must be nationally consistent



1995 to 1999 Building the system

- Co-operation between Government and Industry
- Co-operation between all sectors
- Single National Standard for performance
- National uniform numbering and PICs
- Decisions on database management & rules



Early Decisions

- Performance Standards
- Machine readable tags
- Life-time Retention
- Lifetime Performance

Key Conclusions:

- RFID Only
- Single Technology (HDX)
- National movement database – managed by MLA
- Needed to be Mandatory

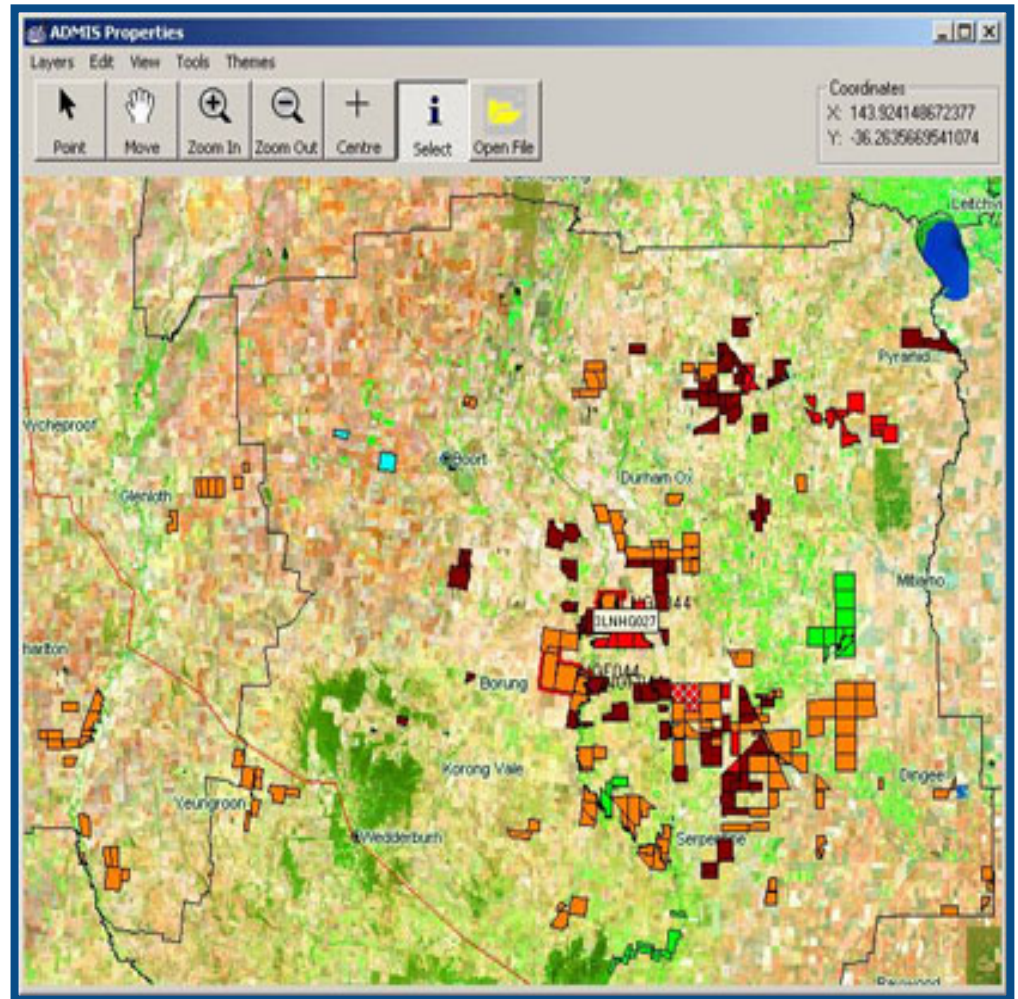


Property Registration

- Each State maintains a register of cattle properties
- Each property is assigned a Property Identification Code (PIC)
- Cattle, sheep, goat and pig producers are required by law to have a PIC

Some Details

PICs relate
to
geographical
locations





National Vendor Declaration – complements the NLIS system

SERIAL NUMBER

**NATIONAL VENDOR DECLARATION (CATTLE)
AND WAYBILL**
First edition, March 2004

This form cannot be used where eligibility for the EU market is required.

Part A To be completed by the owner or person who is responsible for the husbandry of the cattle.

Owner of cattle _____

Property/place where the journey commenced _____

Property identification Code (PIC) of this property

Number	Description	PIC on transaction tag	Brands, Earmarks

Consigned to _____

Destination (if different) of cattle _____

Do the cattle in this consignment carry an NLIS device? Yes No Don't know
 If yes, number: Ear Rumen Lifetime traceable? Yes No
 Details of other statutory documents relating to this movement e.g. animal health certificate _____

Part B To be completed by the person who is responsible for the husbandry of the cattle.

1. Have any of the cattle in this consignment ever in their lives been treated with a hormonal growth promotant (HGP)? (Use a second document for mixed consignments.)
 Yes No Don't know
2. Have these cattle been raised consistent with the rules of an independently audited QA program on the property the PIC of which is shown above?
 Yes No If Yes, give details:
3. Were all of the cattle born and raised on the vendor's property?
 Yes No Don't know If No, how long ago were the cattle obtained or purchased? (if purchased at different times, tick the box corresponding to the time of the most recent purchase.)
 Less than 2 months 2-6 months 6-12 months more than 12 months
4. In the past 60 days, have any of these cattle been fed by-product stockfeeds?
 Yes No Don't know If Yes, attach a list of the by-product stockfeeds, date when last fed and a copy of an analyst's report if available.
5. In the past 6 months, have any of these cattle been on a property listed on the ERP database or placed under grazing restrictions because of chemical residue?
 Yes No Don't know If Yes, give details: _____

Part C To be completed by the owner or person who is responsible for the husbandry of the cattle.

I _____
 declare that, I am the owner or the person responsible for the husbandry of the cattle and that all the information in part A of this document is true and correct.
(If this document is NOT being used as a National Vendor Declaration, the following paragraph may be deleted and part D need not be completed.)

As the person responsible for the husbandry of the cattle, I also declare that all the information in part B of this document is true and correct, that I have read and understood all the questions that I have answered, that I have read and understood the explanatory notes, and that, while under my control, the cattle were not fed restricted animal material (including meat and bone meal) in breach of State or Territory legislation.

Signature: _____ Date: _____ Tel no. _____
*Only the person whose name appears above may sign this declaration, or make amendments which must be initialed.

Part D To be completed by the person in charge of the cattle while they are being moved. Completion of this part is optional in SA, TAS and VIC.

Movement commenced: / / (hh:mm) Driver's licence no. _____
 Vehicle registration number(s) :- _____
 I _____ am the person in charge of the cattle during the movement and declare all the information in Part D is true and correct.
 Signature _____ Date _____ Tel no. _____
*When more than one truck is carrying the cattle, other vehicle registration numbers are to be recorded.

Part E Agents declaration for cattle sold at auction.

Completion of Part E is optional, by agreement between the selling agent and the buyer. Saleyard agents completing Part E should retain the original declaration for a minimum of two (2) years, or three (3) years in WA, and supply a copy to any buyer on request.

Vendor code Agent's code

Stock agent company _____
 Buyer's name _____ Destination PIC

No. of cattle purchased _____ Saleyard arrival time (hh:mm)

Agent's signature _____ Date / /

Drivers for
Identification become
stronger

For example
UK FMD
BSE - UK, Japan,
North America





Governance

- NLIS operates under the Safemeat partnership between the State and Federal Governments, and Industry
- A national industry committee monitors the operation of the system, and advises on business rules
- The States maintain PIC registers, and are responsible for legislation, monitoring and enforcement
- Industry, through Meat and Livestock Australia (MLA), operates the NLIS database which records movements between PICs, and disease, residue and market access information



Safemeat Partners

Department Agriculture Forests and Fisheries

State Governments

Cattle Council of Australia - *Producers*

Australian Meat Industry Council - *Processors*

Australian Lot Feeders Association – *Lot Feeders*

Livestock Saleyards Association – *Saleyards*

Agents Association

Dairy Australia – *Dairy Producers*

Australian Live Exporters Council – *Live exporters*

Meat & Livestock Australia – *Industry Body*

Animal Health Australia – *Industry Body*



NLIS Introduced in stages

NLIS Commenced as a voluntary
system in 1999

Tags subsidised in State of Victoria

Mandated in Victoria 2002, and then
all States by 2005

NLIS Database

- The NLIS Database currently:
 - Holds information on 181,000 PICs and 75 million devices
 - Has 30,000 database account holders
 - Receives an average of 6,000 interactions per day
 - Records an average of 55,000 cattle movements per day
 - Receives >99.5% of incoming information electronically



Creating a Win-Win

Important to build direct benefits to players along the chain

- Deal here with on-farm benefits





On-Farm: Beef

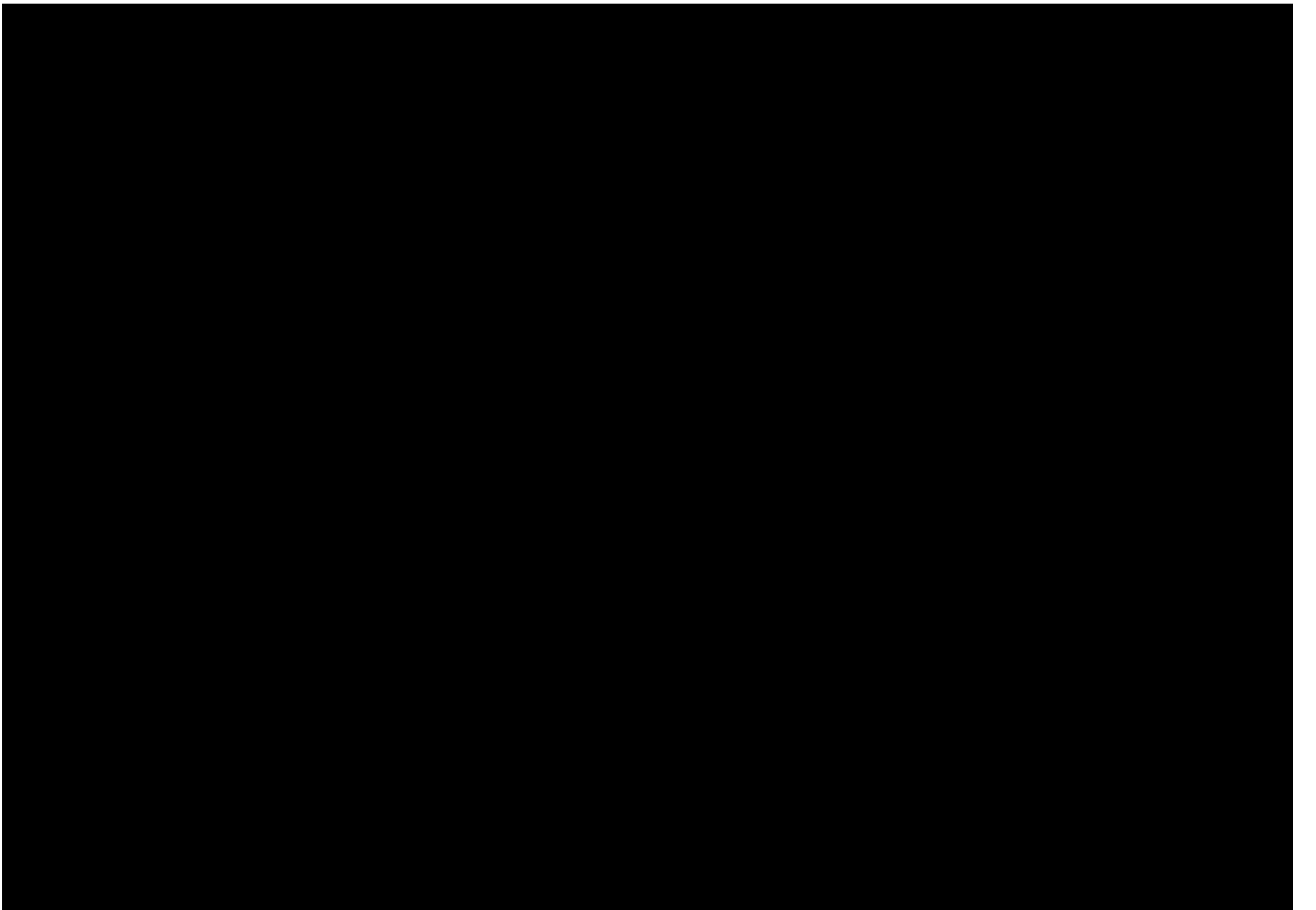
RFID Facilitates

- All record keeping
- Forecasting readiness for market, and forward selling
- Automatic & individual calculation of weight gain
- Recording of treatments and checking of withholding periods
- Reproductive information & Feedback from database
- Drafting by pre-determined criteria
- Inventory management





ANIMAL IDENTIFICATION AND TRACEABILITY
The Australian Experience



Management Number: **Rescan**

Weight

Back

20080085

310.0

Total Head:

320

RFID or NLIS

Mob or Status

Weight Gain: Session Average:

Current:

3GMFS000XBD00085

2008 hfrs

0.22

0

Grid Status Birth Mob Move Comment Drafting Treat User Weight

RFID	Management No.	Weight (kg)	Status	Scan Date	User Defined 1	User Defined 2
982 000116427203	20080674	262		23/02/2009 9:31 AM	4	
982 000114707981	20080439	286		23/02/2009 9:31 AM	3	
982 000114708044	20080456	280		23/02/2009 9:32 AM	2	
982 000116427048	20080655	262		23/02/2009 9:32 AM	<Not in Draft>	
982 000116427061	20080666	300		23/02/2009 9:32 AM	2	
982 000114422936	20080588	300		23/02/2009 9:33 AM	2	
982 000114423579	20080381	262		23/02/2009 9:33 AM	4	
982 000116427253	20080661	266		23/02/2009 9:33 AM	4	
982 000114422985	20080389	276		23/02/2009 9:33 AM	3	
982 000116414318	20080679	282		23/02/2009 9:34 AM	4	
982 000102617850	20080008	262		23/02/2009 9:34 AM	1	
982 000114423388	20080640	290		23/02/2009 9:34 AM	3	
982 000114707989	20080597	284		23/02/2009 9:34 AM	3	
982 000114423328	20080321	288		23/02/2009 9:34 AM	4	
982 000102618031	20080188	306		23/02/2009 9:35 AM	1	
982 000102616210	20080293	302		23/02/2009 9:35 AM	2	
982 000114708017	20080445	274		23/02/2009 9:35 AM	3	
982 000102618207	20080160	288		23/02/2009 9:35 AM	2	
982 000114423592	20080624	278		23/02/2009 9:36 AM	3	
982 000114423454	20080558	264		23/02/2009 9:36 AM	4	
982 000102617787	20080085	310		23/02/2009 9:36 AM	2	
982 000114423477	20080455	280		23/02/2009 9:36 AM	2	
982 000102616453	20080289	296		23/02/2009 9:37 AM	3	
982 000114423695	20080430	272		23/02/2009 9:37 AM	3	



Management Number: **Rescan**

Weight

Back

20050117

670

Total Head:
176

RFID or NLIS

Mob or Status

Weight Gain:

Session Average:

Current:

3GMFS000XBA00117

2005 Cows

1.53

1.50

0

Grid Status Birth Mob Move Comment Drafting Treat User Weight

Grid	RFID	Management No.	Weight (kg)	Status	Scan Date	User Defined 1	User Defined 2
	982 000028327498	20050551	586	Pregnant	7/11/2008 11:41 AM		
▶	982 000028327081	20050117	670	Pregnant	7/11/2008 11:41 AM		
	982 000028327303	20050531	676	Pregnant	7/11/2008 11:42 AM		
	982 000029227790	20050104	672	Pregnant	7/11/2008 11:42 AM		
	982 000028326528	20050502	606	Pregnant	7/11/2008 11:43 AM		
	982 000029211195	20050696	588	Pregnant	7/11/2008 11:43 AM		
	982 000028365369	20050518	600	Pregnant	7/11/2008 11:44 AM		
	982 000028401158	20050526	584	Pregnant	7/11/2008 11:44 AM		
	982 000028326617	20050535	636	Pregnant	7/11/2008 11:44 AM		
	982 000018146781	20033319	658	Pregnant	7/11/2008 11:44 AM		
	982 000028326527	20050547	686	Pregnant	7/11/2008 11:46 AM		
	982 000028326392	20050577	612	Pregnant	7/11/2008 11:46 AM		
	982 000029226082	20050092	742	Pregnant	7/11/2008 11:46 AM		
	982 000086783836	20070673	330	Pregnant	7/11/2008 11:47 AM		
	982 000028413553	20050456	642	Pregnant	7/11/2008 11:47 AM		
	982 000029225772	20050697	564	Pregnant	7/11/2008 11:48 AM		
	982 000028340324	20050411	590	Pregnant	7/11/2008 11:48 AM		
	982 000029210772	20050183	650	Pregnant	7/11/2008 11:48 AM		
	982 000028326508	20050514	558	Pregnant	7/11/2008 11:49 AM		
	982 000029141419	20050114	704	Pregnant	7/11/2008 11:49 AM		
	982 000028400884	20050347	516	Pregnant	7/11/2008 11:49 AM		
	982 000028327419	20050359	624	Pregnant	7/11/2008 11:50 AM		
	982 000028327508	20050703	614	Pregnant	7/11/2008 11:50 AM		
	982 000028326625	20050155	672	Pregnant	7/11/2008 11:51 AM		



Management Number: **Rescan**

Weight

Back

20050117

670.0

Total Head:

176

RFID or NLIS

Mob or Status

Current:

3GMFS000XBA00117

2005 Cows

0

Grid Status Birth Mob Move Comment Drafting Treat User Weight

Sex: F Year: 2005 Sire Bloodline: INJ X 12 Reg

Breed: Hereford Month: March Sire ID:

PIC: 3GMFS000 Date: 19/03/2005 Dam Birth Mob: 2002 Cows

Dam ID:

RFID	Management No.	Weight (kg)	Status	Scan Date	User Defined 1	User Defined 2
982 000028327498	20050551	586	Pregnant	7/11/2008 11:41 AM		
982 000028327081	20050117	670	Pregnant	7/11/2008 11:41 AM		
982 000028327303	20050531	676	Pregnant	7/11/2008 11:42 AM		
982 000029227790	20050104	672	Empty	7/11/2008 11:42 AM		
982 000028326528	20050502	606	Pregnant	7/11/2008 11:43 AM		
982 000029211195	20050696	588	Pregnant	7/11/2008 11:43 AM		
982 000028365369	20050518	600	Pregnant	7/11/2008 11:44 AM		
982 000028401158	20050526	584	Pregnant	7/11/2008 11:44 AM		
982 000028326617	20050535	636	Pregnant	7/11/2008 11:44 AM		



Management Number: **Rescan**

Weight

Back

This Animal is still within a Withholding Period
Withholding Period expires: 12/03/2009

558.0

Total Head:

163

Don't warn again this session

This Animal is still within an Export Slaughter Interval
Export Slaughter Interval expires: 24/03/2009

Weight Gain: Session Average:

-1.07

Current:

0

Don't warn again this session

					User Defined 1	User Defined 2
				10/02/2009 9:30 AM		
982 000028326335	20050475	582		10/02/2009 9:30 AM		
982 000028413287	20050128	650		10/02/2009 9:30 AM		
982 000028327403	20050099	540		10/02/2009 9:31 AM		
982 000029210772	20050183	580		10/02/2009 9:31 AM		
982 000029210650	20050700	598		10/02/2009 9:31 AM		
982 000028413678	20050566	592		10/02/2009 9:31 AM		
982 000028327349	20050522			10/02/2009 9:35 AM		
982 000028326480	20050177			10/02/2009 9:35 AM		
982 000028404533	20050642			10/02/2009 9:35 AM		
982 000028404172	20050127			10/02/2009 9:35 AM		
982 000029141419	20050114			10/02/2009 9:35 AM		
982 000028327444	20050234			10/02/2009 9:35 AM		
982 000028413372	20050364			10/02/2009 9:38 AM		
982 000028327271	20050433			10/02/2009 9:38 AM		
982 000028340421	20050432			10/02/2009 9:38 AM		
982 000028326527	20050547			10/02/2009 9:38 AM		
982 000028327008	20050029			10/02/2009 9:38 AM		
982 000028365092	20050209			10/02/2009 9:38 AM		
982 000028325229	20050429			10/02/2009 9:42 AM		
982 000029209592	20050157	732		10/02/2009 9:42 AM		
982 000029230430	20050021			10/02/2009 9:47 AM		
982 000029226266	20050174			10/02/2009 9:47 AM		

Management Number: **Rescan**

Weight

Back

20080666

300.0

Total Head:

320

RFID or NLIS

Mob or Status

Weight Gain: Session Average:

Current:

982 000116427061

2008 hfrs

0.22

0

Grid Status Birth Mob Move Comment Drafting Treat User Weight

CSV: Pen

Select Field 1

2

2	0	80	0
3	0	80	0
1	0	76	0
4	0	85	0

CSV: BirthDamMobCode

Select Field 2

2002 Cows

2005 Cows	0	26	0
2006 AngusX	0	30	0
2006 cows	0	46	0
Stud Cows	0	49	0
2005 STUDS	0	13	0
1998 Cows	0	7	0

RFID	Management No.	Weight (kg)	Status	Scan Date	User Defined 1	User Defined 2
982 000116427203	20080674	262		23/02/2009 9:31 AM	4	
982 000114707981	20080439	286		23/02/2009 9:31 AM	3	
982 000114708044	20080456	280		23/02/2009 9:32 AM	2	
982 000116427048	20080655	262		23/02/2009 9:32 AM	<Not in Draft>	
▶ 982 000116427061	20080666	300		23/02/2009 9:32 AM	2	
982 000114422936	20080588	300		23/02/2009 9:33 AM	2	
982 000114423579	20080381	262		23/02/2009 9:33 AM	4	
982 000116427253	20080661	266		23/02/2009 9:33 AM	4	
982 000114422985	20080389	276		23/02/2009 9:33 AM	3	

Management Number: **Rescan**

Weight

Back

20080085

310.0

Total Head:

320

RFID or NLIS

Mob or Status

Weight Gain: Session Average:

Current:

982 000102617787

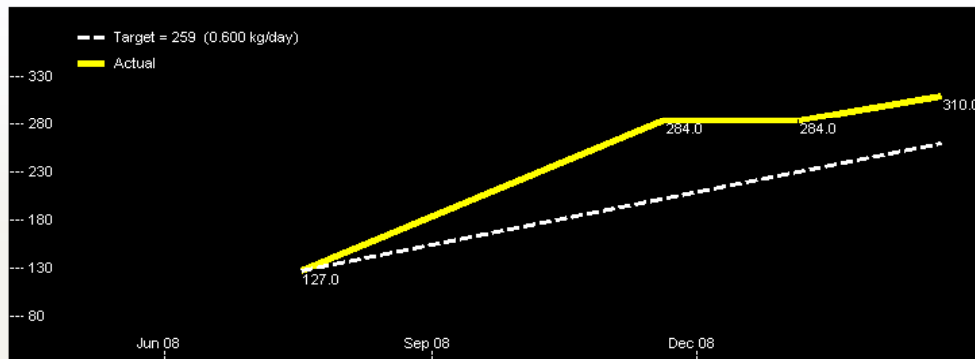
2008 hfrs

0.22

0

Grid Status Birth Mob Move Comment Drafting Treat User **Weight**

Date	Weight	Observation
23 Feb 2009	310.0	FL Entry
05 Jan 2009	284.0	Interim
20 Nov 2008	284.0	Weaning
18 Jul 2008	127.0	Marking
10 Feb 2008	40.0	



ACTIVATED

RFID	Management No.	Weight (kg)	Status	Scan Date	User Defined 1	User Defined 2
982 000102618031	20080188	306		23/02/2009 9:35 AM	1	
982 000102616210	20080293	302		23/02/2009 9:35 AM	2	
982 000114708017	20080445	274		23/02/2009 9:35 AM	3	
982 000102618207	20080160	288		23/02/2009 9:35 AM	2	
982 000114423592	20080624	278		23/02/2009 9:36 AM	3	
982 000114423454	20080558	264		23/02/2009 9:36 AM	4	
▶ 982 000102617787	20080085	310		23/02/2009 9:36 AM	2	
982 000114423477	20080455	280		23/02/2009 9:36 AM	2	
982 000102616453	20080289	296		23/02/2009 9:37 AM	3	

Management Number: **Rescan**

Weight

Back

2004B465

1024.0

Total Head:

32

RFID or NLIS

Mob or Status

Current:

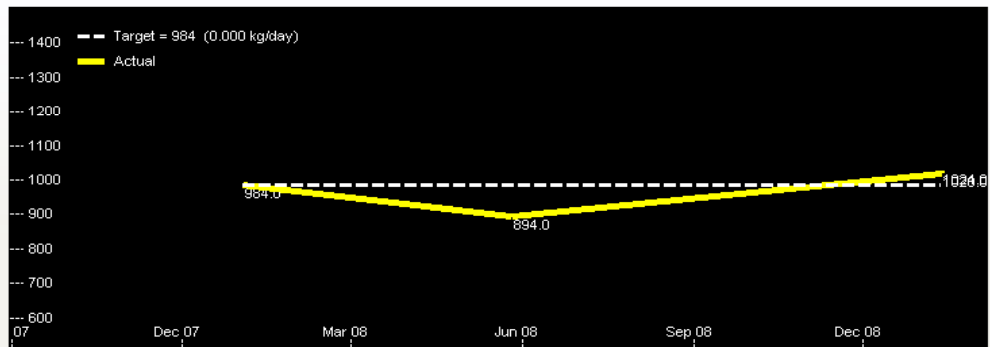
982 000018134202

2004 Bulls

0

Grid Status Birth Mob Move Comment Drafting Treat User Weight

Date	Weight	Observation
12 Jan 2009	1024.0	
12 Jan 2009	1020.0	Interim
26 May 2008	894.0	Interim
03 Jan 2008	984.0	Interim



RFID	Management No.	Weight (kg)	Status	Scan Date	User Defined 1	User Defined 2
982 000018146879	2004B456			12/01/2009 2:16 PM	Sell	
982 000004647509	2004B458	936		12/01/2009 2:17 PM	Sell	
982 000102889777	2004R479			12/01/2009 2:19 PM	Keep	
982 000018134234	2004B487			12/01/2009 2:19 PM	Keep	
982 000018146446	2004B486			12/01/2009 2:19 PM	Sell	
982 000018145943	2004B464	1022		12/01/2009 2:19 PM	Keep	
982 000018134202	2004B465	1024		12/01/2009 2:21 PM	Keep	
982 000102890204	2004R444			12/01/2009 2:21 PM	Keep	
982 000018146542	2004B446			12/01/2009 2:22 PM	Keep	

G. & K. O'Connor Pty Ltd												
Establishment No: 1265												
Date: Monday, 9 February 2009												
Species: Beef												

Lot Name: KOOLOMURT PASTORAL

Body	Sex	Dent	Type	Fat	Butt	ID	NLIS	Cyp	Brs	1 Side	2 Side	HSCW
12	M	0	S5	7	C	3SGRM056	982 000083519719	YS		137.0	135.0	272.0
13	M	0	S5	15	C	3SGRM056	982 000083519799	YS		134.5	134.0	268.5
14	M	0	S5	5	C	3SGRM056	982 000083519311	YS		126.0	128.5	254.5
15	M	0	S5	10	C	3SGRM056	982 000083519310	YS		131.0	128.5	259.5
16	M	0	S5	8	C	3SGRM056	982 000083519416	YS		132.0	130.5	262.5
17	M	2	S5	10	C	3SGRM056	982 000083519613	YGS		129.5	131.0	260.5
18	M	0	S5	15	C	3SGRM056	982 000083520040	YS		126.5	126.0	252.5
19	M	0	S5	7	C	3SGRM056	982 000083519514	YS		137.0	135.5	272.5
20	M	0	S5	15	C	3SGRM056	982 000083519395	YS		130.0	129.5	259.5
21	M	2	S5	8	C	3SGRM056	982 000083520012	YGS		139.0	138.0	277.0
22	M	0	S5	12	C	3SGRM056	982 000083519550	YS		134.0	134.5	268.5
23	M	0	S5	12	C	3SGRM056	982 000083519455	YS		136.5	137.0	273.5
24	M	0	S5	5	C	3SGRM056	982 000083519600	YS		135.5	134.0	269.5
25	M	0	S5	16	C	3SGRM056	982 000083519411	YS		132.0	128.5	260.5
26	M	0	S5	17	C	3SGRM056	982 000089527296	YS		129.5	130.5	260.0
27	M	2	S5	14	C	3SGRM056	982 000083519998	YGS		130.5	129.5	260.0
28	M	0	S5	10	C	3SGRM056	982 000083519680	YS		134.5	136.5	271.0
29	M	0	S5	5	C	3SGRM056	982 000096296275	YS		126.5	127.0	253.5
30	M	0	S5	10	C	3SGRM056	982 000083519936	YS		134.5	135.0	269.5
31	M	0	S5	5	C	3SGRM056	982 000083519358	YS		135.0	135.5	270.5
32	M	0	S5	10	C	3SGRM056	982 000083519467	YS		129.5	128.5	258.0
33	M	0	S5	12	C	3SGRM056	982 000083519424	YS		131.0	132.0	263.0
34	M	0	S5	5	C	3SGRM056	982 000083519337	YS		132.5	131.0	263.5

Bottom Line Benefits

Many jobs made easier – less work in yard,
more in the race

Record keeping easier and accurate

Marketing made simpler and more profitable

Drafting made easy

Better OH & S outcomes

More precision in management decisions

Breeding based on facts

A more secure industry

Downside

Some cost in tags

Initial cost of equipment installation

Cost of software

However

Cost can be limited to tags only, if there is no desire to capture the benefits of RFID

A quick look along the supply chain

- Transport
- Saleyards
- Meatworks
- Knackereries

Transports



Saleyards



Saleyards





ANIMAL IDENTIFICATION AND TRACEABILITY
The Australian Experience



Abattoirs

- Panel reader for automated reading



Abattoirs

- NLIS assists with meat inspection
- Cattle of interest are 'flagged' for inspection/testing
- Exception files are refreshed when processors upload 'kill files'

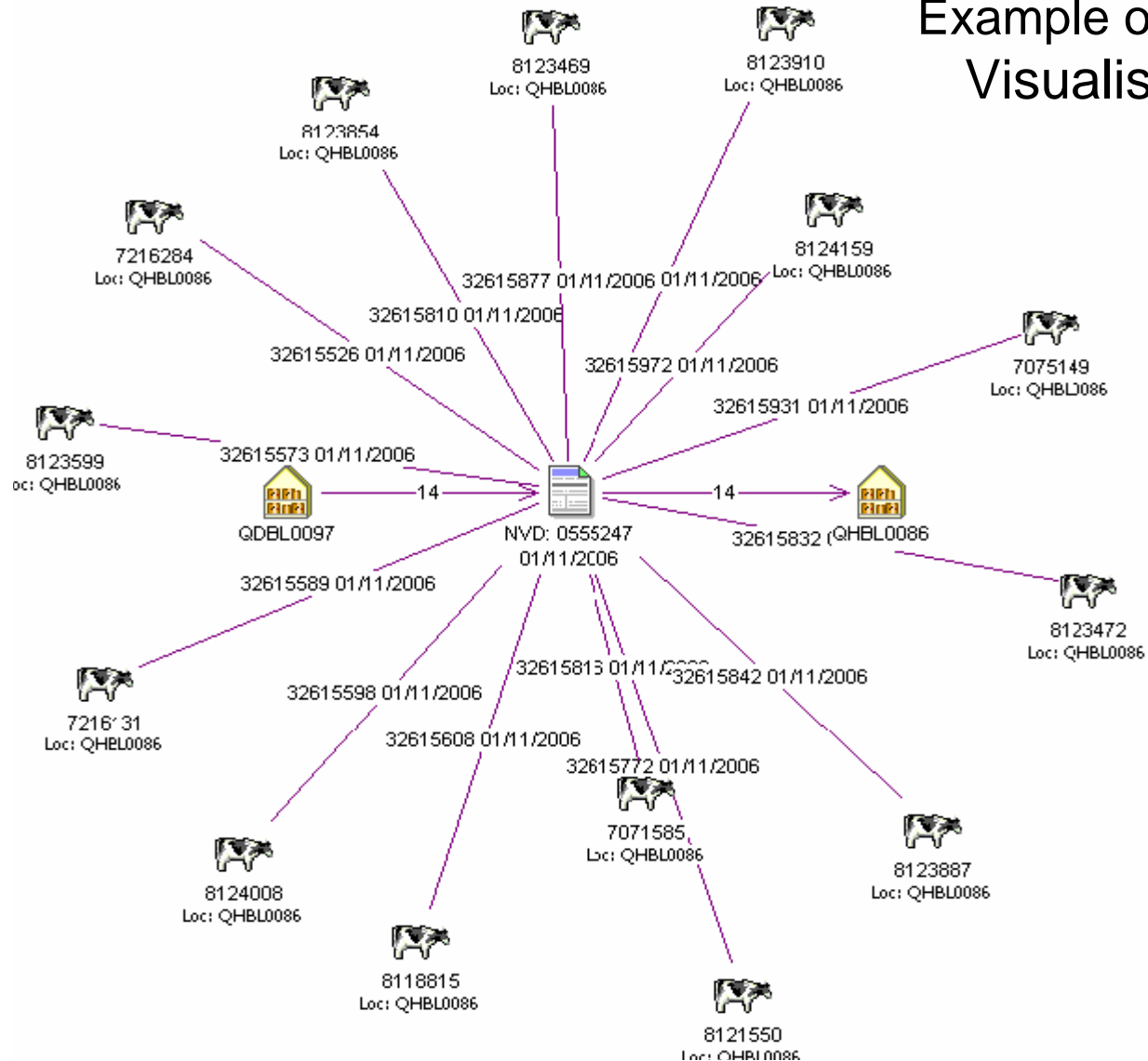


Important Issue is the Rapid Utilisation of Tracing information from the database in the event of an emergency:

- How to use the data
- How best to present the information

Still Early days

Example of Visualisation tools



THANK YOU

