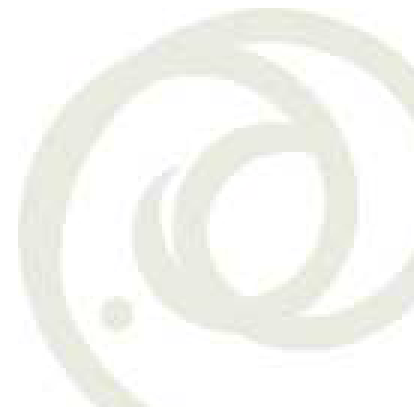


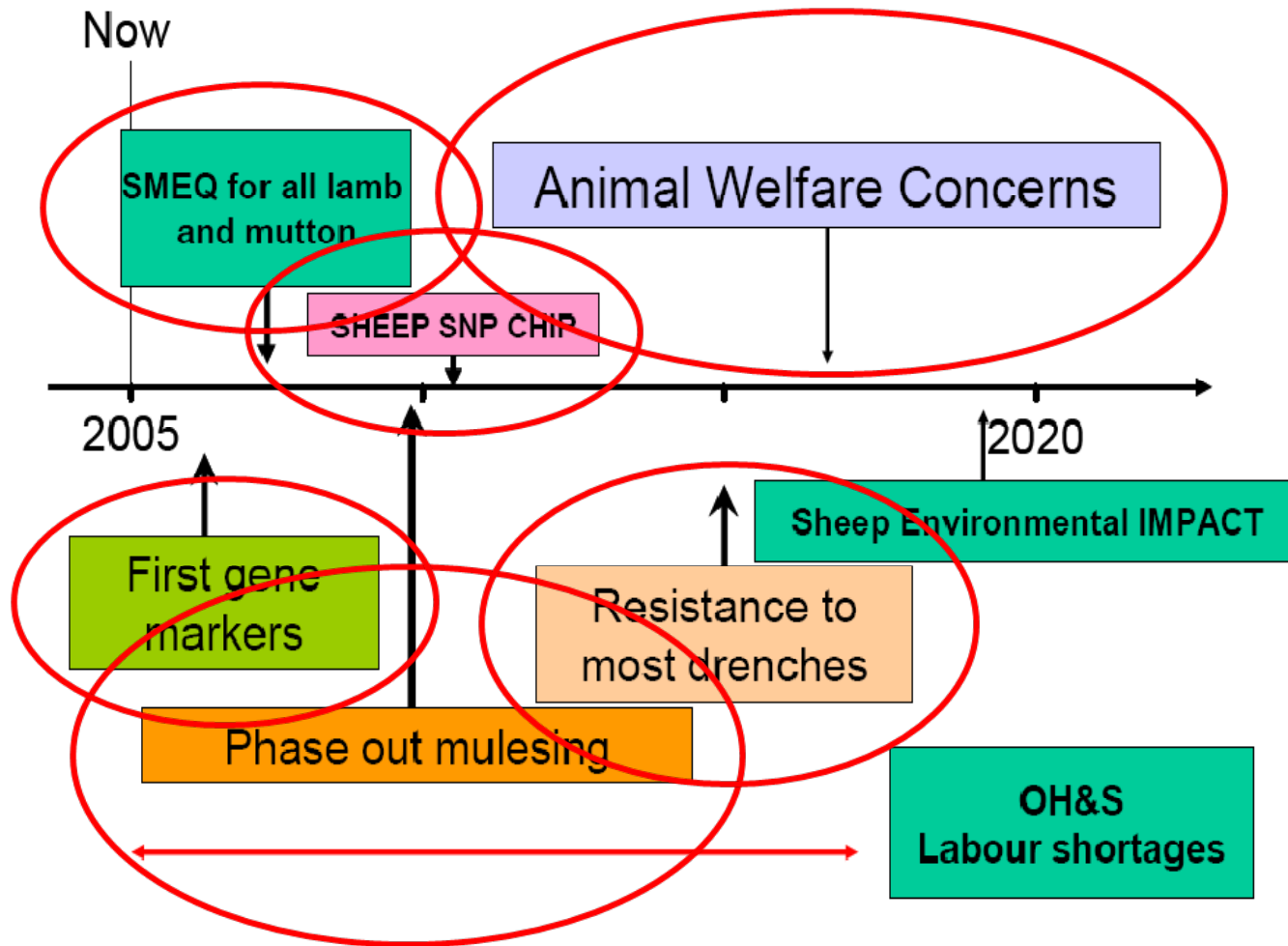


Information Nucleus Flock 2007-2014

1. Sheep research overview
2. Lamb survival
3. Meat research program



MLA -Forecast changes to lamb and sheepmeat enterprises in the next 5 to 15 years.

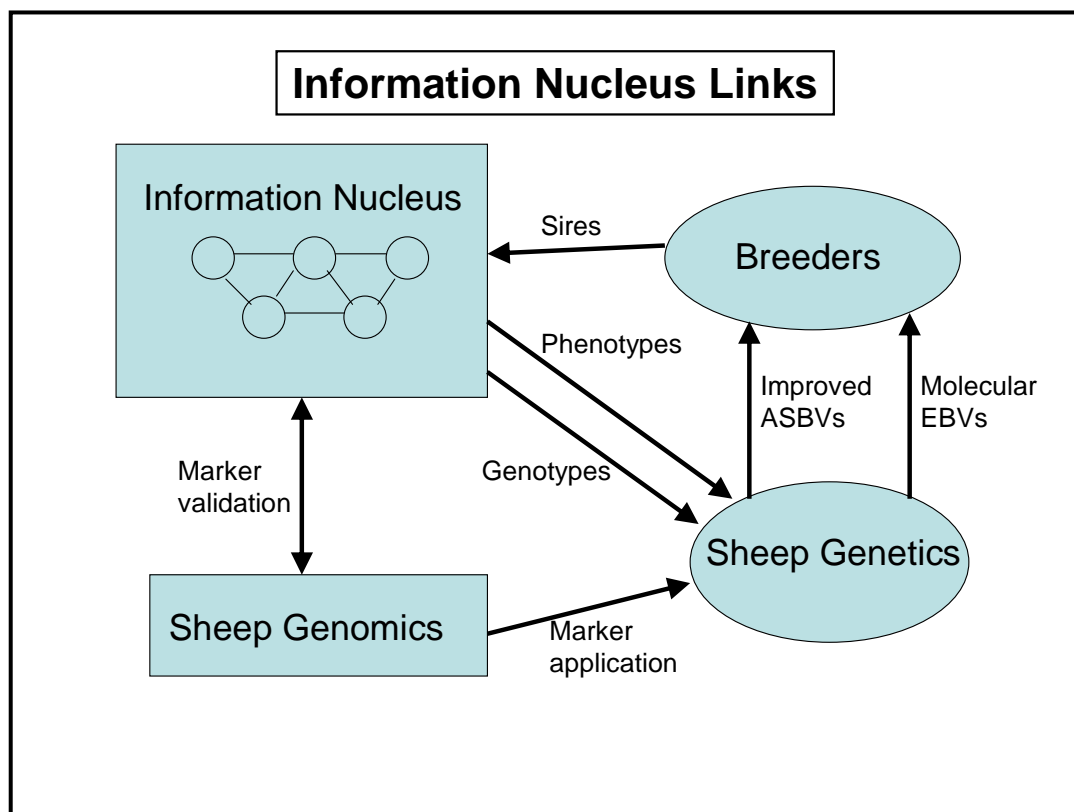


CRC for Sheep Industry Innovation

“Transforming wool, meat and the sheep that produce them”.

Research Programs:

- Prg 1. Sheep
- Prg 2. Wool
- Prg 3. Meat
- Prg 4. INF



Information Nucleus Flock

- 5 Research Organisations
- 4 States
- 8 Flocks
- 5000 ewes
- 100 sires

Sire breeds

32	MERINO
24	BORDER LEICESTER
18	POLL DORSET
10	WHITE SUFFOLK
2	SUFFOLK
4	TEXEL
2	WILTSHIRE DOWN
1	BOORoola LEICESTER COMPOSITE
1	HAMPSHIRE DOWN

Sire selection

- Merino - 7%MP, 10% SS, Crimp Freq and colour
- Terminal – PWWT, YEMD, YFAT, WEC and BWT
- Maternal – Carcass as above, NLW and Border \$ index

Traits

AIDATE	BT	COMMENT	DEATHWT	FDPROF	HORN	MEASCOL	PRED	SPIG
AISIRE	BTIME	COMPRESSION	DEN	FDSO	HYDROXYP	METACARPAL	PREDATOR	SPOT
ASSESSOR	BVIG	COND	DENS	FE	ICDH	MFA	PRESITE	SS
AUTOPDATE	BWT	COVER	DERMO	FED	ID	MYOGLOBIN	PREGSCAN	SSTRC
BACKR	CCFAT	CRHAEM	DNASAMP	FLOCK	IDSIRE	NKWR	PSWT	STATUS
BCOAT	CCOV	CROWNRUMP	DOB	FLROT	IMF	ODEMAE	RECTALT	TAG
BCOV	CEMA	CRTCOL	DOP	FMOIST	JAWR	ODEMAH	RIB	THORAX
BDWR	CEMD	CS or FS	DROP	FPIG	JOINTS	ODEMAN	RND	TOES
BLEAT	CEMW	CURV	DUST	FPSWT	LAMBCOMMENT	OSWT	RT	TOP
BLK	CFAT	CURVSD	EID	FT	LAMBEASE	PASTERN	RTC	UVSTAB
BLOODDATE	CFAT5	DAG	EMD	GFW	LCFA	PETECH	SEX	WALKED
BLOODRACKNUMBER	CFL	DAM	EXTERNAB	GRP	LEGSB	PETECL	SHEARF1	WEATH
BLOODSAMPLEPOSITION	CFa	DATE	FACE	HAND	LEGSF	PH24LL	SHEARF5	WEC
BONE	CFb	DEATHAGE	FATMETH	HCWT	LIVER	PH24ST	SHLDR	WLEN
BOX	CHAR	DEATHCAT	FATMETK	HEART	LLFAT	PHD	SIREID	WOP
BRDX	CLEANED	DEATHCOMMENT	FCF	HGRFAT	LLWT	PH18	SKINQUAL	WT
BREATHED	CNSHAE	DEATHDATE	FD	HOCKS	LPDK	PHTEMP	SL	YLD
BRWR	COL	DEATHWT	FDCV	HOOKN	M_SCORE	POB	SLEN	ZN

Example trait: Breech wrinkle

Breech Wrinkle – Lambs



Score 1

Score 2

Score 3

Score 4

Score 5

Reproduction & lamb survival

- Base ewes + replacements (AI)
- MM & BLM ewe progeny joined twice
- BLM ewes joined as 7 month lambs
- All lambs recorded (21 traits) + autopsies

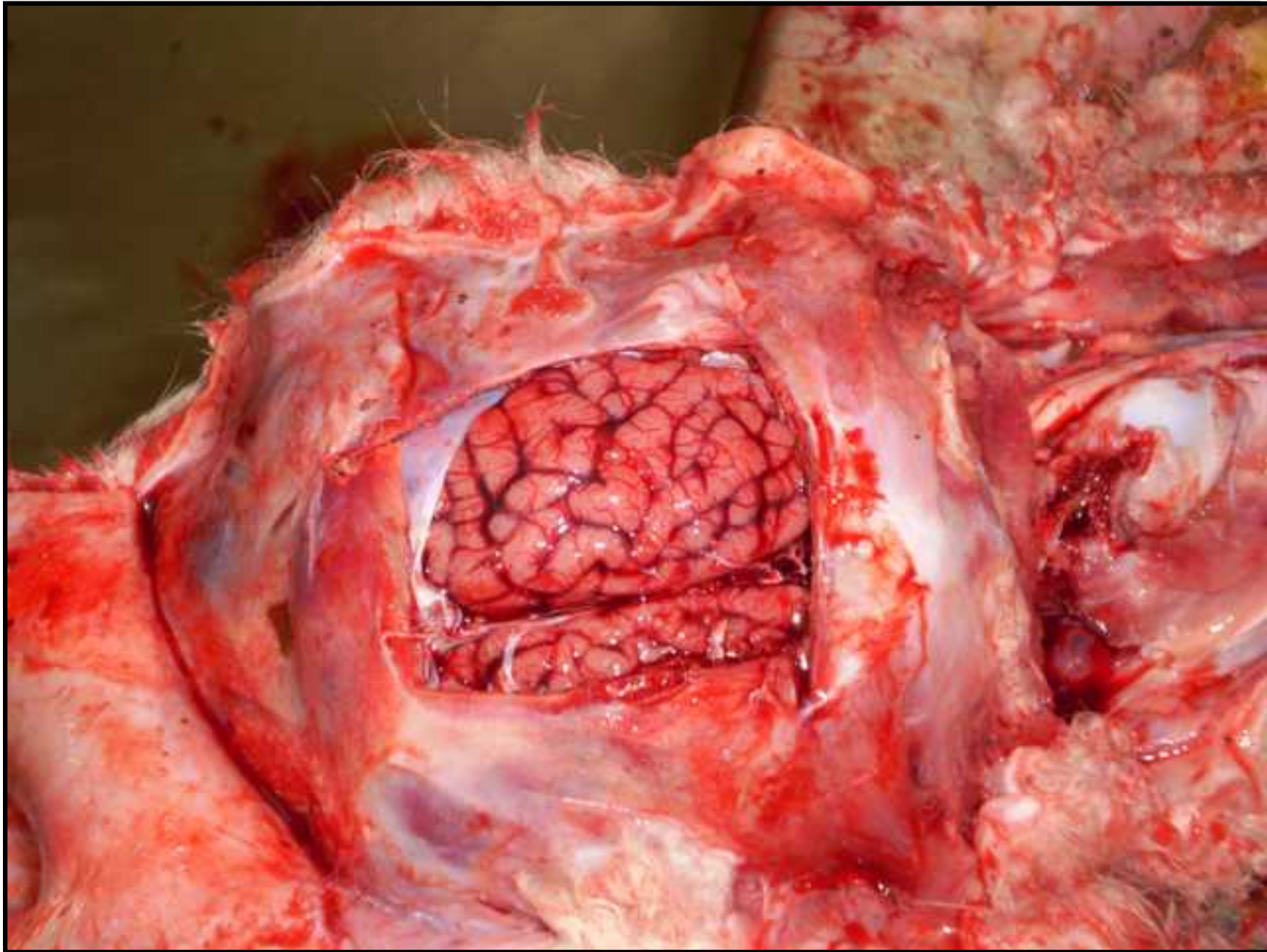


2008 Cowra lambing RAW DATA

Trait	Survived		Died	
	Single	Twin	Single	Twin
Birth type				
Birth weight (kg)	6.0	4.5	6.4	4.4
Temperature (°C)	39.5	39.4	38.8	38.9
Thorax diameter (cm)	39.4	36.8	40.6	35.5
Time to bleat (s)	3.7	5.8	2.3	8.0
Time to stand (s)	6.7	9.2	6.5	12.9
Time to follow dam (s)	18.6	18.1	28.3	19.2
Time to contact udder (s)	16.5	16.7	16.0	28.3

2008 Cowra lambing RAW DATA

Easy pull assistance	Survived	Died
Birth weight (kg)	6.0	6.5
Thorax diameter (cm)	38.9	41.1
Crown-Rump length (cm)	50.8	52.3
Time to bleat (s)	5.2	9.0
Time to contact dam (s)	12.3	18.0
Time to follow dam (s)	21.4	32.0



Meat Research Program

Sires and breed	Ewes (breed)	Progeny	
		Retained ewes	Slaughtered
40 Merino (M)	2000 (M)	750	750
20 Border Leicester (BL)	1000 (M)	375	375
40 Terminal (T)	1000 (M)	-	750
	1000 (BLM)	-	750
Total	5000	1125	2625

Meat traits

37 traits to link genetics, producers, processors and consumer requirements.

To avoid antagonistic selection (Production V Quality).

- Lean meat yield
- Consumer acceptability
- Eating quality
- Nutritional value



Lean meat yield

- Some lambs will be CT-scanned, fully boned and weighed.
- All lambs boned short loin and 1 leg.
- Data will generate formulas to predict lean meat yield.

- Aim to improve processor efficiency.

Consumer acceptability

- Colour at 24hrs
- Retail colour (48-72 hrs)
- Ultimate pH
- Enzymatic activity (age and muscling)

Eating quality

- Tenderness (connective tissue and compression traits)
- Relationships with muscling ASBVs
- IMF (decreases with increasing muscling)

Nutritional value

- Iron – Blood oxygen
- Zinc – Immunity
- Omega-3 – Healthy fats – heritable

- Aims to maintain and strengthen market share

Summary

- Data continually fed to SG database
- INF is a conduit for genetic evaluation
 - ASBV's
 - Molecular genetics

Cowra AR&AS field day 2009 – No mulesing