AN INITIATIVE OF
Making More From Sheep

Australian Wool Innovation Limited

MEAT & LIVESTOCK AUSTRALIA

Lamb – Meating Consumer Expectations

Dave Pethick, Sheep CRC & Murdoch University

EVENT SUPPORTERS:

Elders

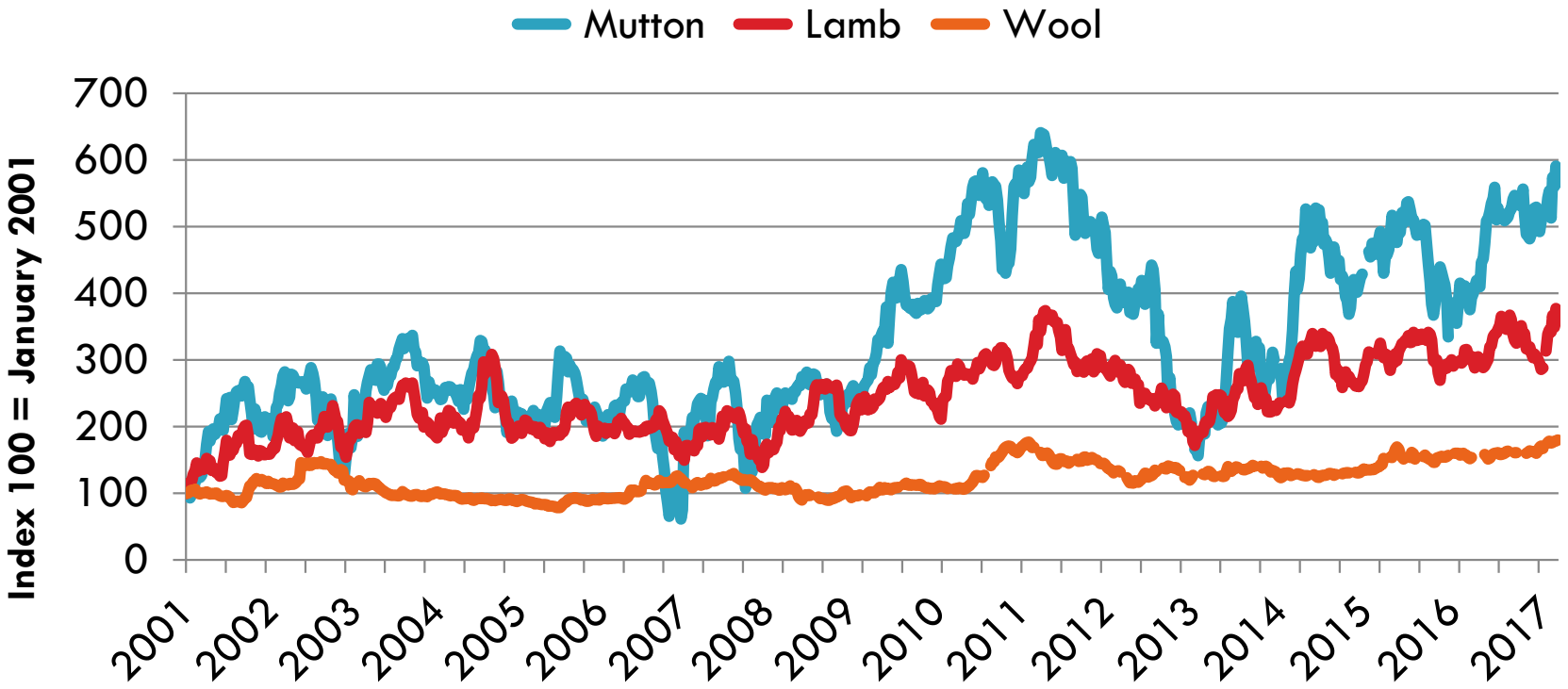
LANDMARK

SHEEP CRC

Summary

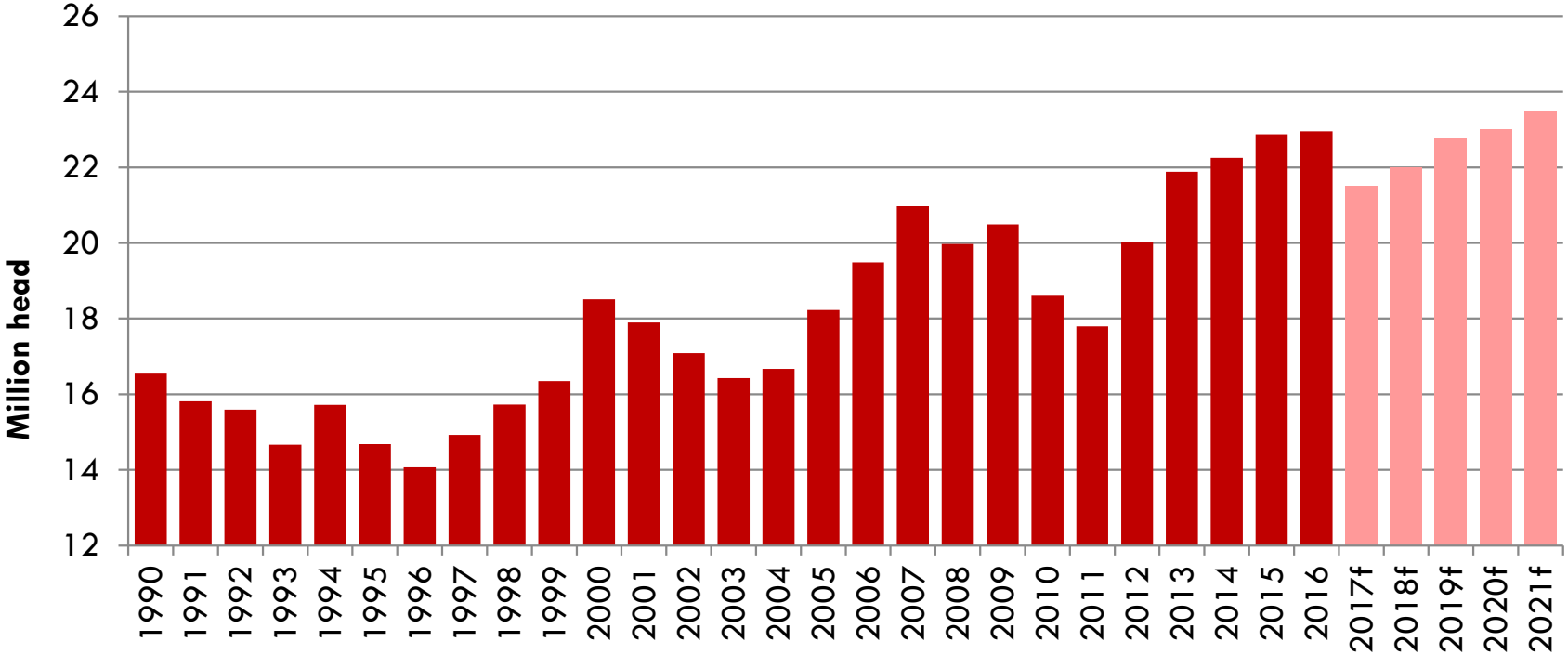
- Industry Projections
- Major Markets
- Lean Meat Yield
- Livestock Data Link
- Eating quality
- Future grids –objective measurement of the carcase

Australian sheep and wool markets



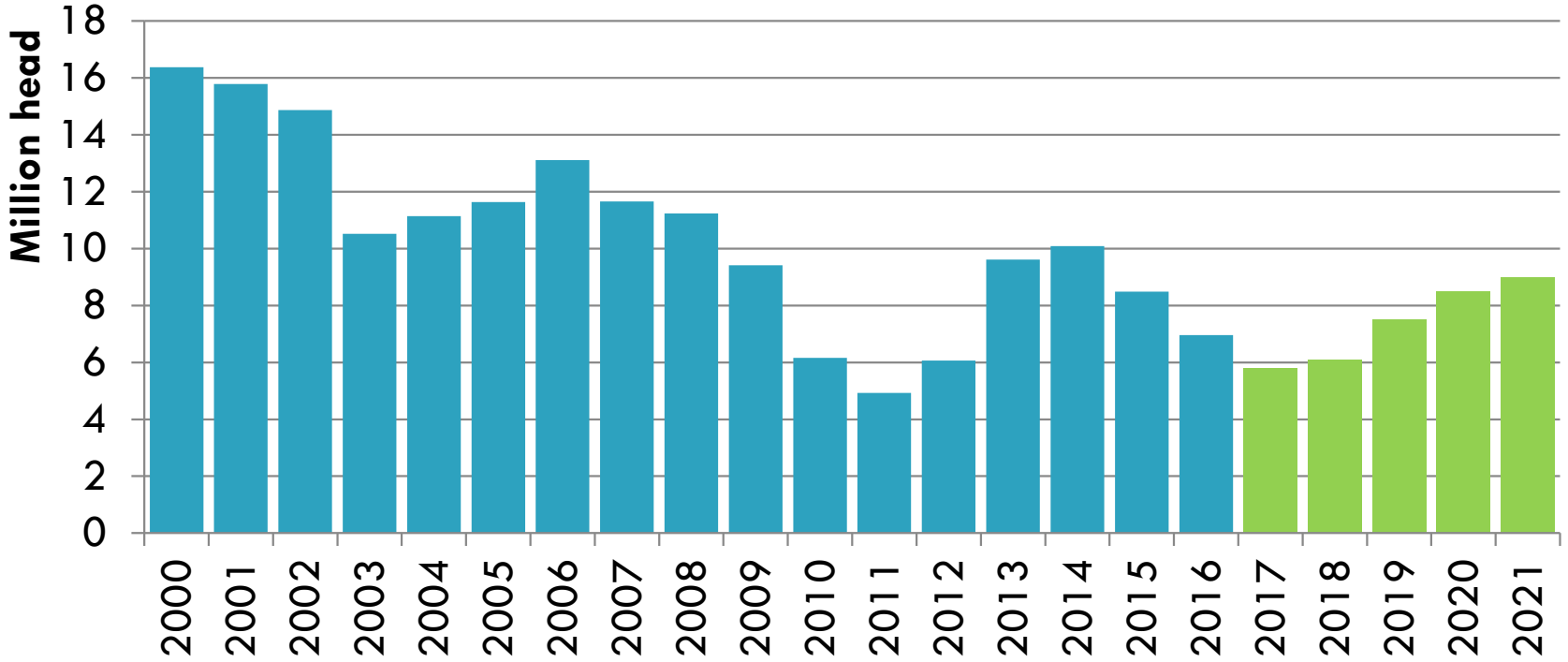
Source: MLA, AWI

21.5 million lambs to slaughter in 2017



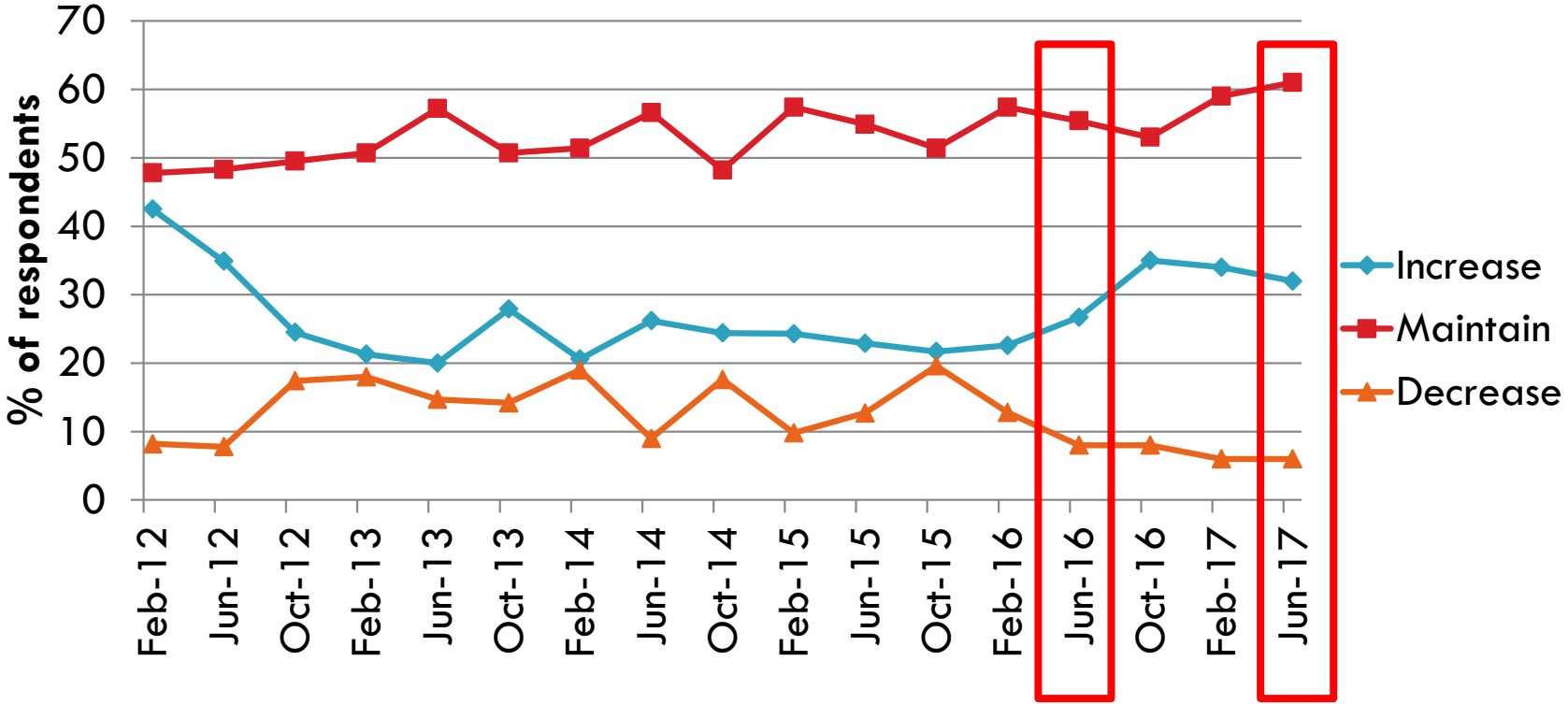
Source: ABS, MLA forecasts

Annual sheep (mutton) slaughter – 5.8 million



Source: ABS, MLA forecasts

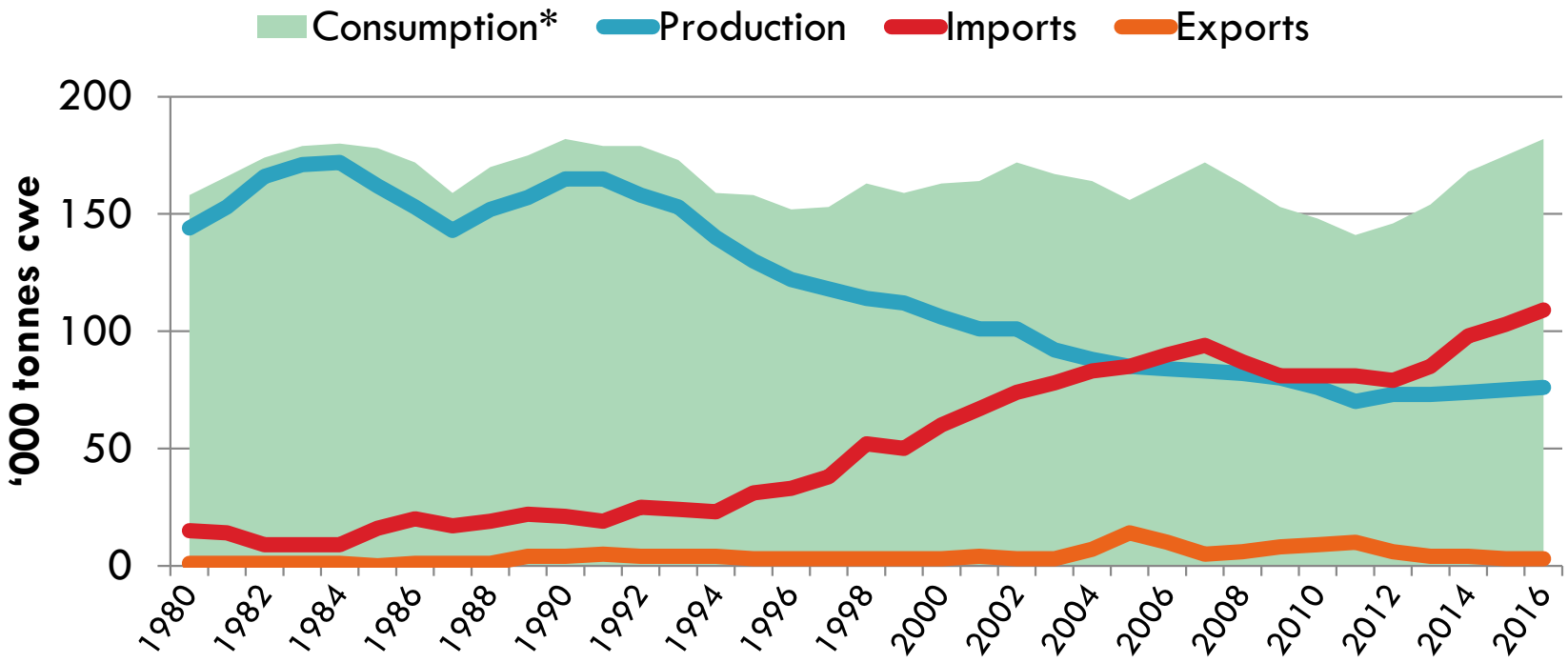
Strong intentions to retain ewes



Major Markets

- USA still strong and total export up
- Very valuable chilled lamb market
- Encouraging building of this market in last 4 years

Sheepmeat in the US



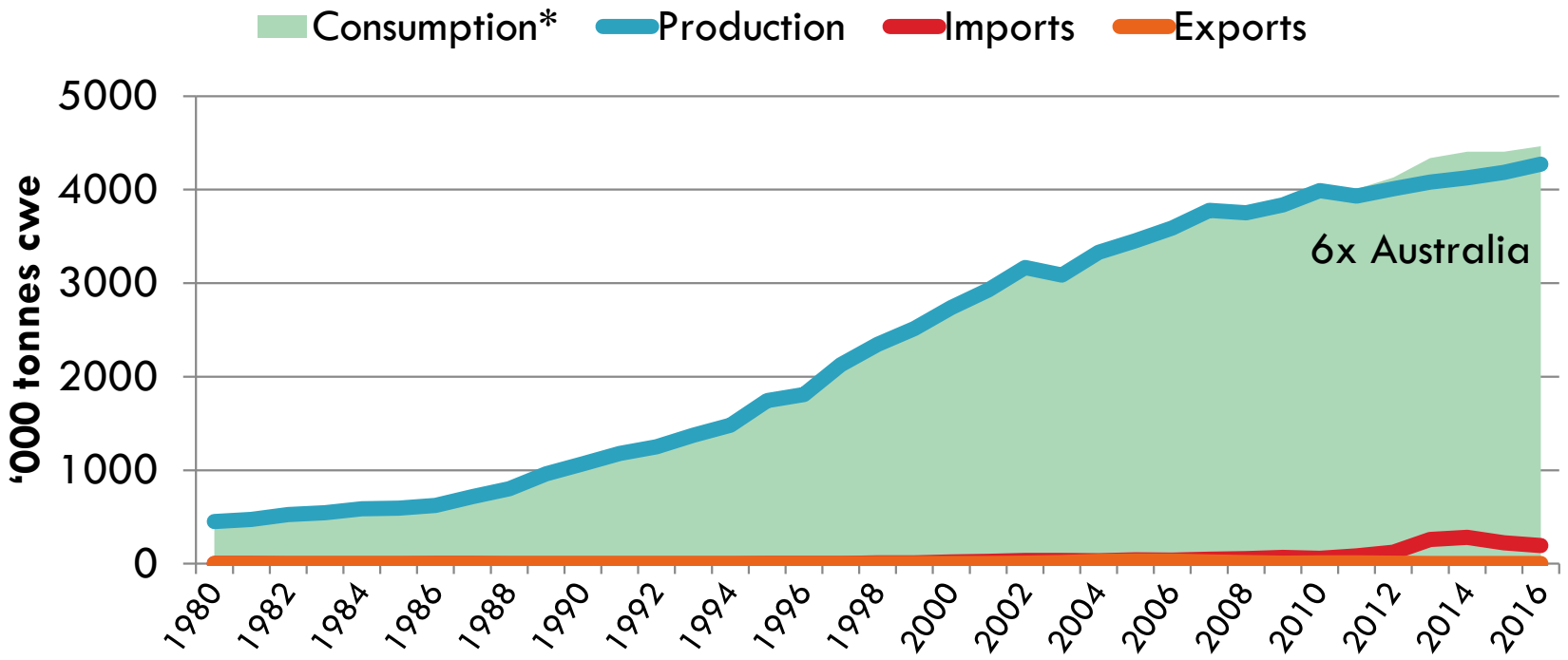
Source: FAO

* Estimated Consumption = (Production + Imports) - Exports

Major Markets

- China has become a significant importer since 2012
- They cannot meet the needs of their market – this trend is forecast not to change
- Similar tonnage as USA but less value (frozen, cheaper cuts, mutton)
- Will the value of this market increase ?

Sheepmeat in China



Source: FAO

* Estimated Consumption = (Production + Imports) - Exports

Market outlook – note of caution in the short term

- There has been a near on 40% decrease in processing capacity on Eastern sea board
- The timing of lamb turn off is very season dependent
- Seasons in Southern Australia have been tight in many regions
- Given all this, at some point killing space will be at a premium
- MESSAGE – engage with your processor NOW

Lean Meat Yield

LMY is especially important in lamb:

$30/kg (44% fat trim) → $54/kg (36% bone)

$84/kg for lean !!

Terminology

- Dressing %
  - Carcase as a % of live
- Lean Meat Yield – Gold standard (use a CAT Scanner)
  - True composition of the carcase
  - Fat %
  - **Muscle %**
  - Bone %
- Saleable yield – Industry standard
  - What is actually sold

Value of lean meat yield - simple example

Score 5

Carcase Wt 23.0 kg

GR 22.0 mm

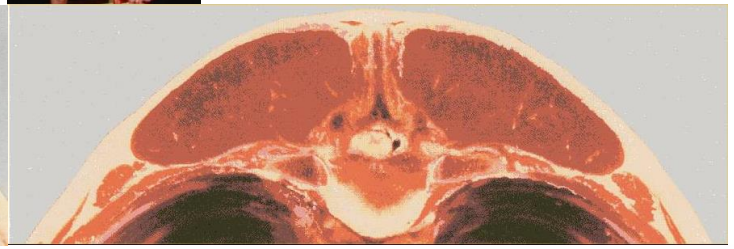
CT lean 55%

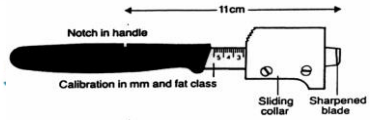
Score 2

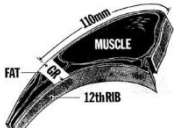
Carcase Wt 23.0 kg

GR 8.0 mm

CT lean 63%







Lean and fat weights

Score 5
Fat: 7.36kg
Lean: 12.65kg

Retail Value: $316

Score 2
Fat: 5.06kg
Lean: 14.49kg

Retail Value: $362

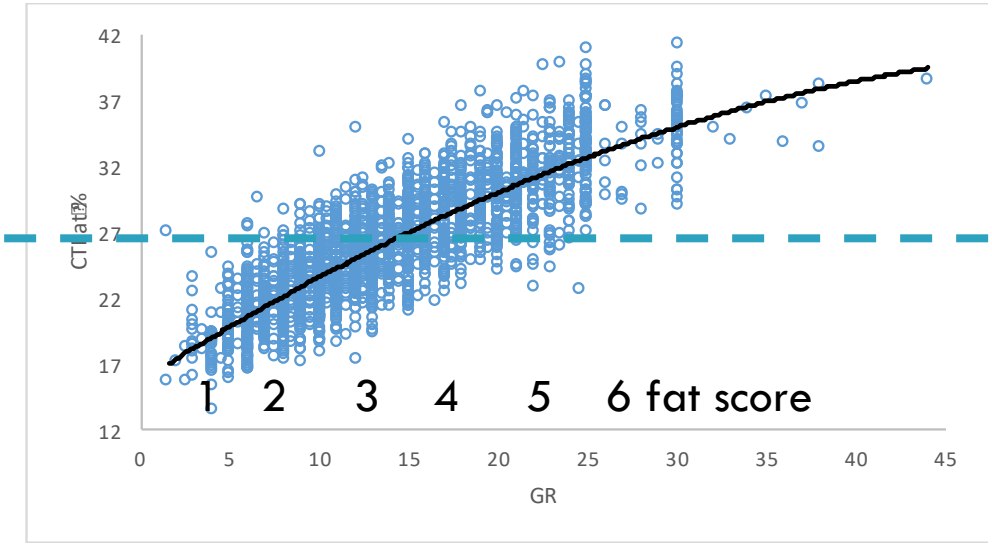
Simplistically – difference is extra $46

- 8% units of CT lean difference
- = 1.84kg of meat
- = $46 of extra value
- This is too simple ! boning costs ….

Lean Meat Yield

- Genetic gain
- Efficiency
  - On farm/feedlot – lean or muscle cheaper to grow than fat
  - Processing – too much fat = trim
- Consumers
  - Little fat in retail cabinets these days
  - 80%+ consumers remove salvage fat before or after cooking
  - 'Fatty' still a significant complaint for lamb

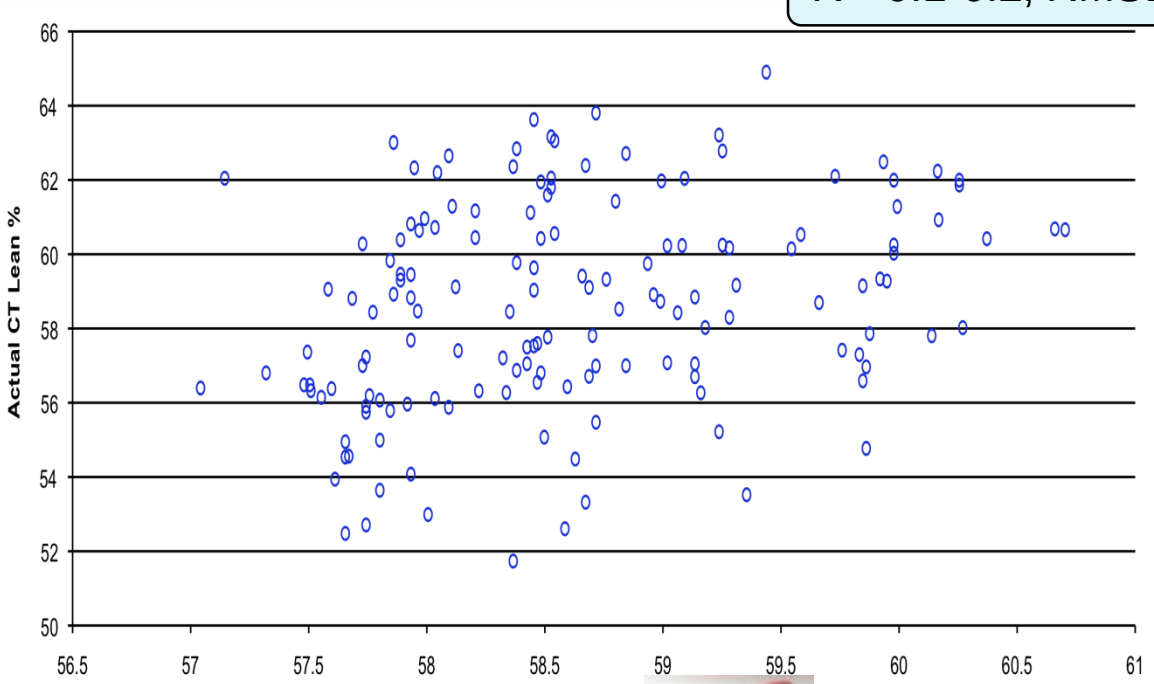
There is a lot of fat in a fat carcase !!

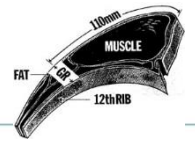


Feed conversion is shot after about 27% fat + processors ideally like 20-27% fat

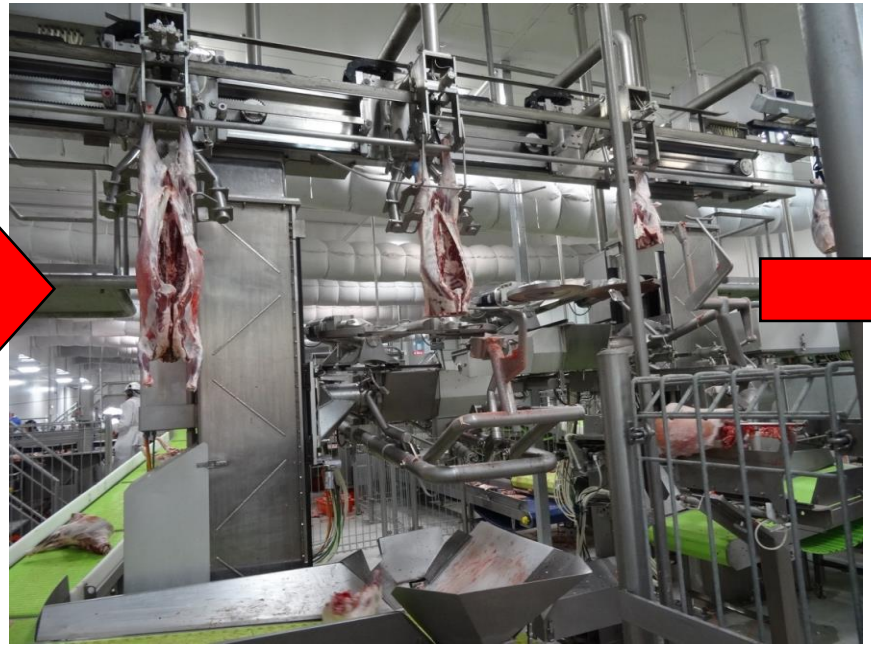
Palpated and HCW

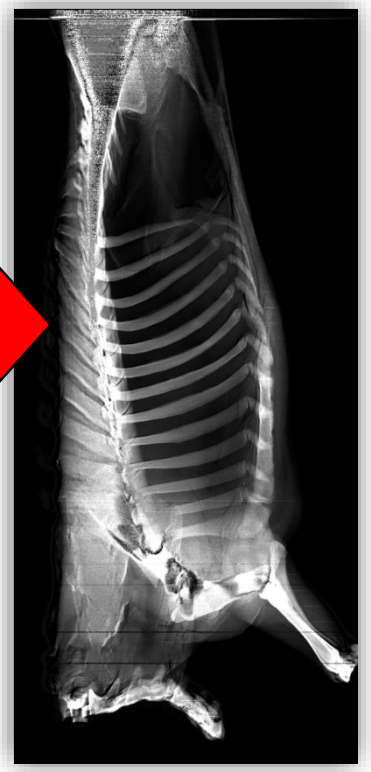
R^2=0.1-0.2; RMSE=3.0



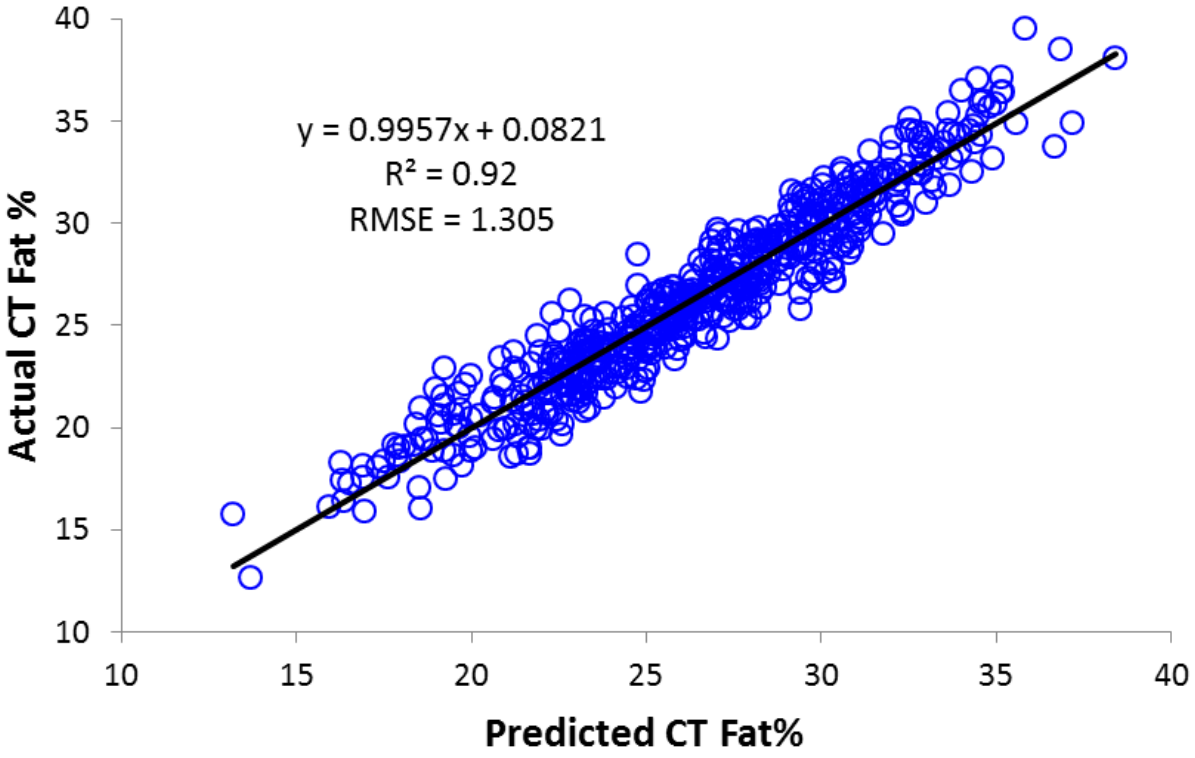


X-Ray →Precision cutting →DEXA →LMY





Xray (DEXA) predicting CT Fat%



What market do you produce lambs for?

Domestic 45% — **18 – 24 kg, fat 2-3**

- White Tablecloth
- Butcher
- Supermarket

Export 55%

- *Middle East* — **16 – 18 kg, Fat 1-2**
  - Bagger airfreight Lambs
  - Middle East Restaurant
- *American Market* — **18 – 26kg, Fat 2-4**
  - Supermarket
  - White table cloth
- *EU* — **18 – 24kg, Fat 2-3**
  - Supermarket

What market do you produce lambs for?
What carcass spec are you aiming for?

Domestic 45% — **18 – 24 kg, fat 2-3**

- White Tablecloth

Expor

- *EU* — **18 – 24kg, Fat 2-3**
  - Supermarket

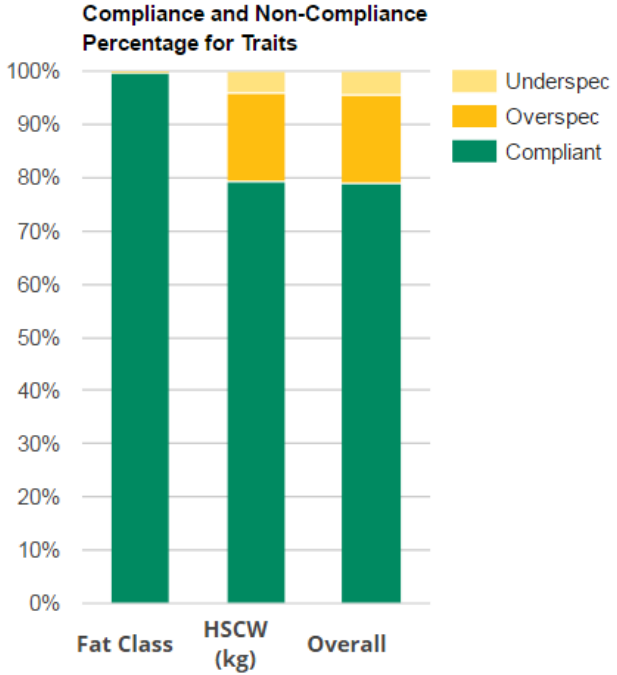
Do you know your market destination or just let the saleyards decide ?

Compliance to 18-26kg, fat score 2-3 ?

- Exporters are saying can be as low as 60% on weekly averages
- Mostly because lambs too heavy too fat
- Big variation between suppliers

FEEDBACK - Livestock Data Link (LDL)

- Centralised on-line feedback system
- Identifies compliance rates of carcases and animal health issues
- Allows performance benchmarking
- Includes NLIS and MSA information
- Allows complex information to be used for simple decision making



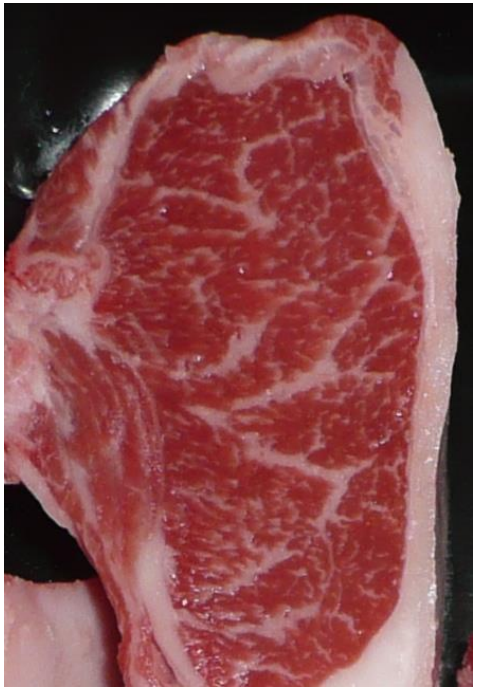
	Fat Class	HSCW (kg)	Overall
Number of head	972	972	972
Number compliant	970	770	768
Percent compliant	99.8 %	79.2 %	79.0 %
Number non-compliant	2	202	204
Percent non-compliant	0.2 %	20.8 %	21.0 %

Eating quality

- Key to consumers
- Unfavourable association with Lean Meat Yield
- Important for willingness to pay – especially long term
- Vision for a new Mark II MSA

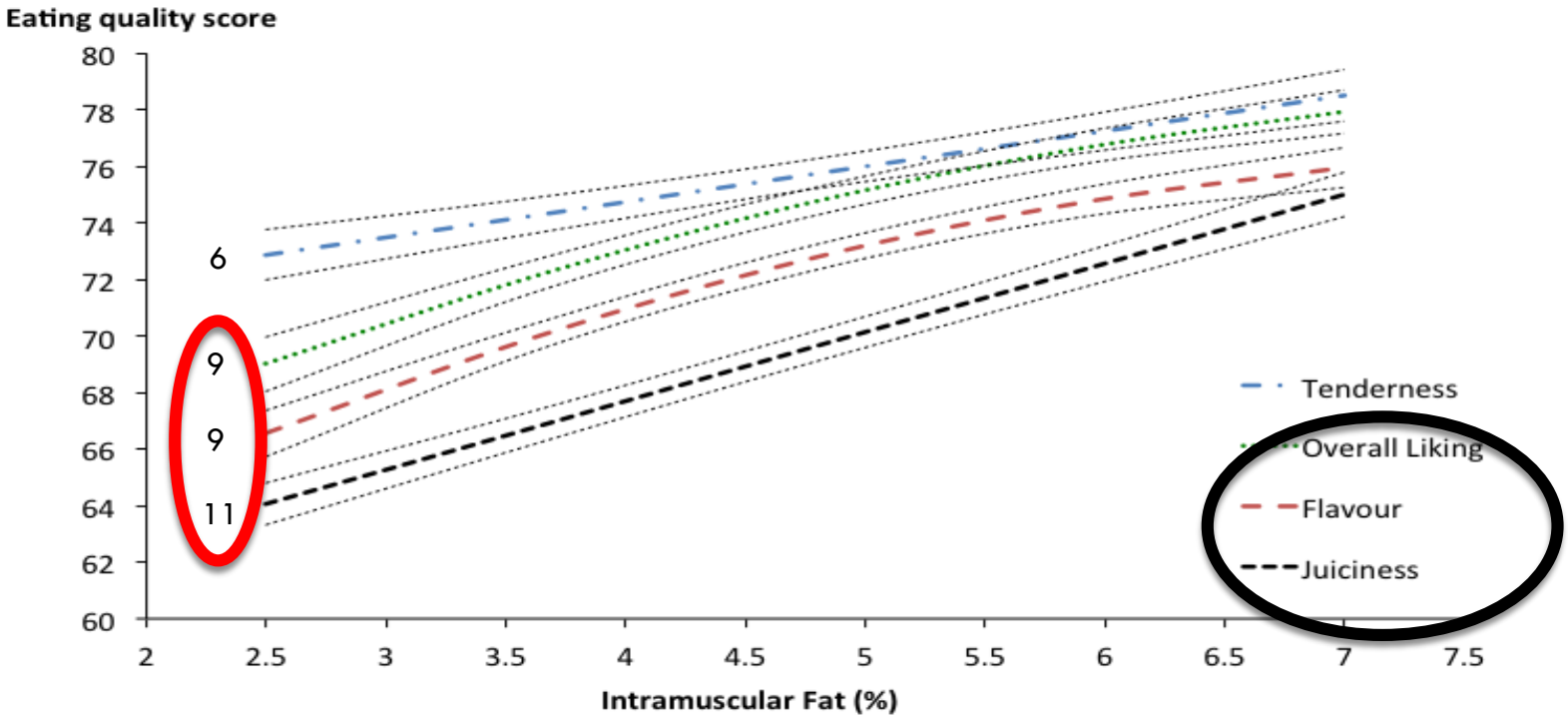
Key trait is intramuscular fat

- Juiciness, flavour, tenderness
- 4.2% (Xbred mean)
- Ideal 5% or more
- Mod/high heritability (0.47)
- Called marbling in beef



IMF vs MSA consumer score

IMF nails juicy and flavour



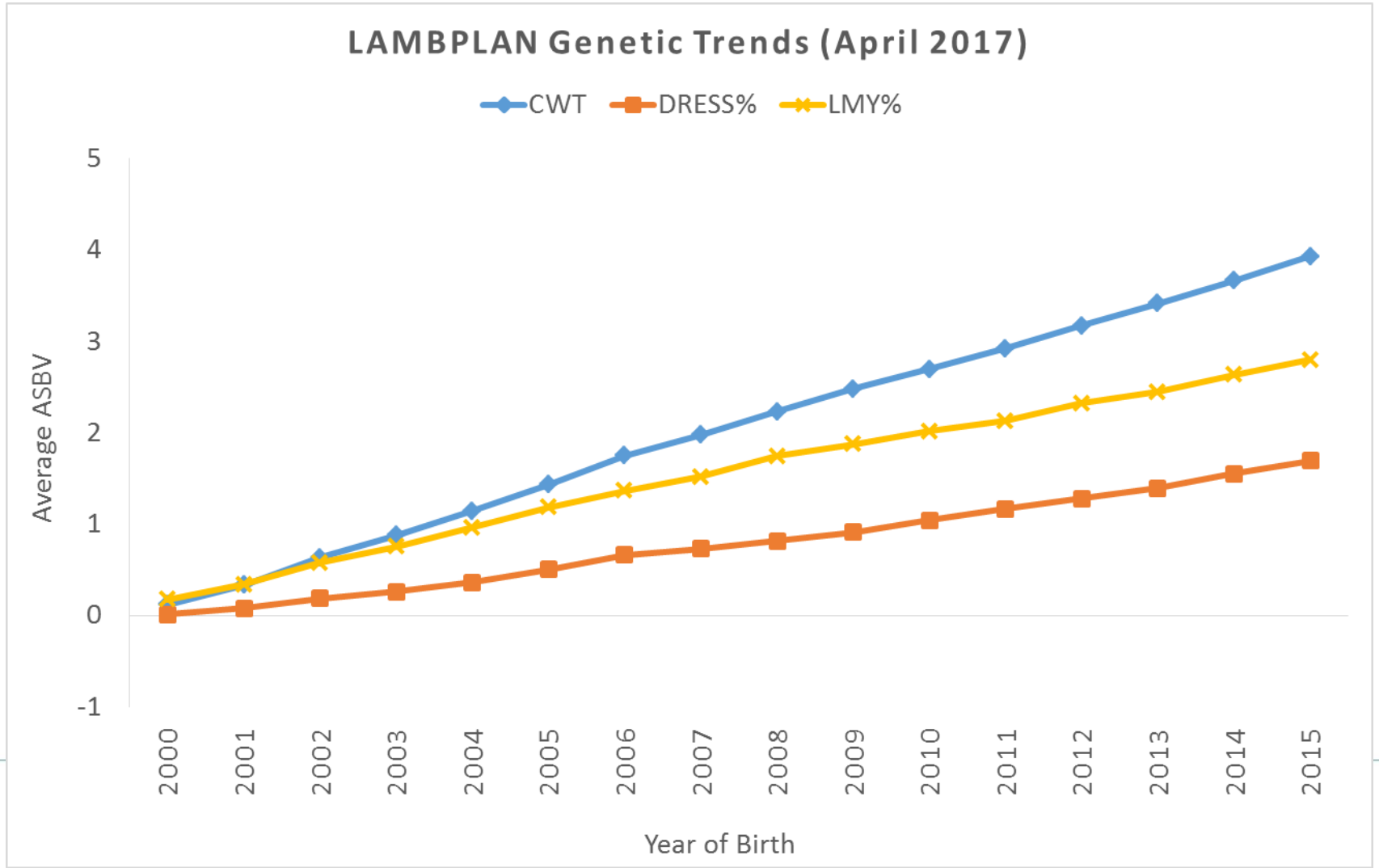
New Yield and Eating Quality ASBVs

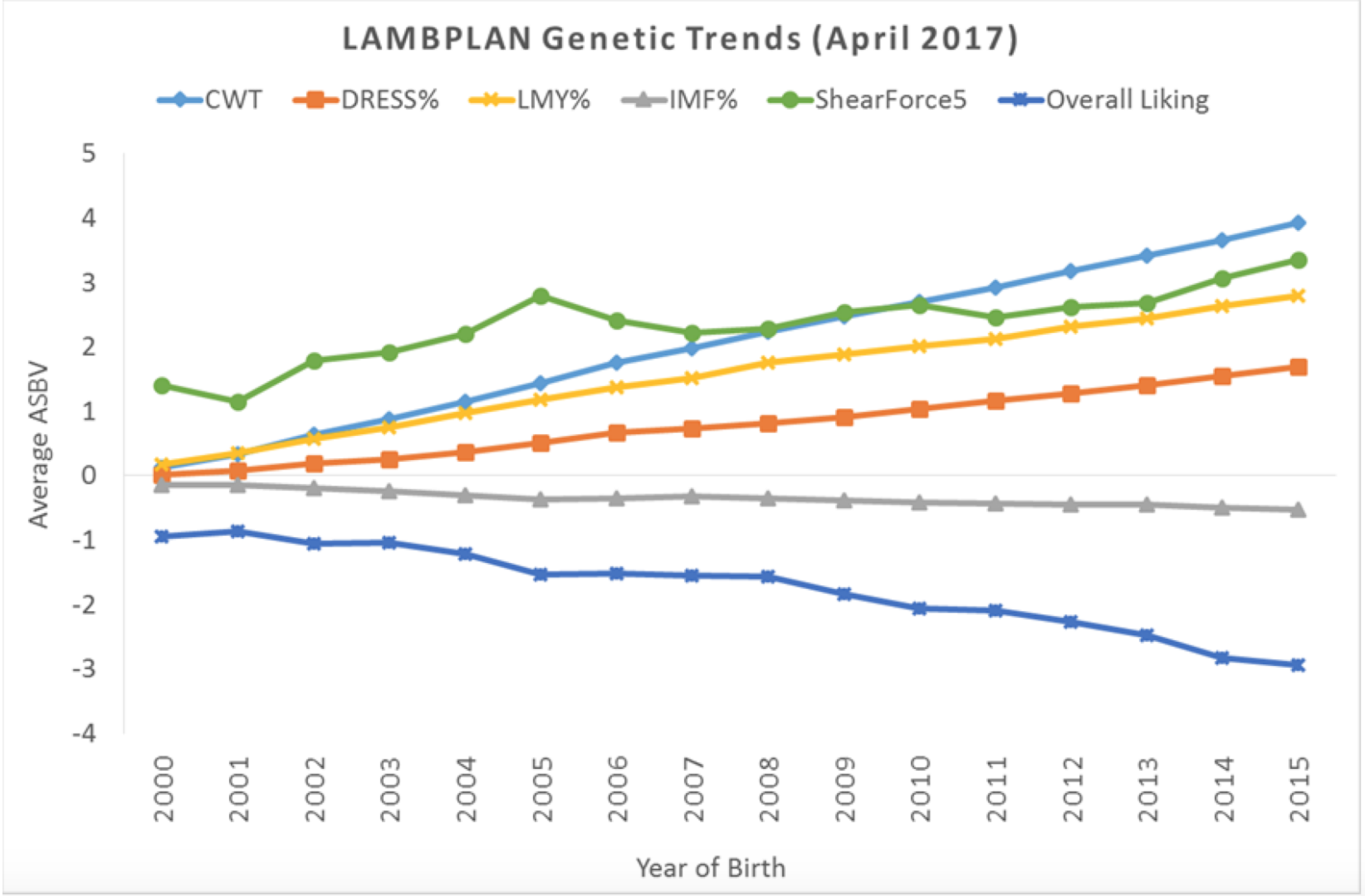
Quality

- **IMF** – Intra-muscular Fat 
- **SF5** – Shear Force 

Quantity

- **LMY** – Lean Meat Yield 
- **Traditional (wt, fat, muscle)**


LAMBPLAN Genetic Trends (April 2017)
CWT
DRESS%
LMY%
Average ASBV
5
4
3
2
1
0
-1
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Year of Birth


LAMBPLAN Genetic Trends (April 2017)
CWT
DRESS%
LMY%
IMF%
ShearForce5
Overall Liking
Average ASBV
5
4
3
2
1
0
-1
-2
-3
-4
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Year of Birth

New Terminal Sire Indexes now include eating quality

World first for lamb

New Terminal Sire Indexes including Eating Quality

- 10 year predicted change

Trait	Carcase +	EQ
bwt	0.15	0.06
wwt	2.85	1.55
pwt	4.4	3.15
pemd	1.46	1.07
pfat	0.14	0.04
pfec	0.06	0.16
cemd	1.5	1.15
ccfat	-0.5	-0.4
dress	1.31	1.09
lmy	**1.66**	**0.91**
sf5	**0.77**	**-2.41**
imf	**-0.27**	**0.09**
tlike	-1.21	1.42

Willingness to pay x eating quality

O'Reilly, Pannier et al 2016

	Fail	Pass (3*)	Credit (4*)	Distinction (5*)
USA	46%	100%	150%	209%
China	57%	100%	147%	212%
AUS	53%	100%	141%	189%

Grilled lamb, hot pot in progress right now

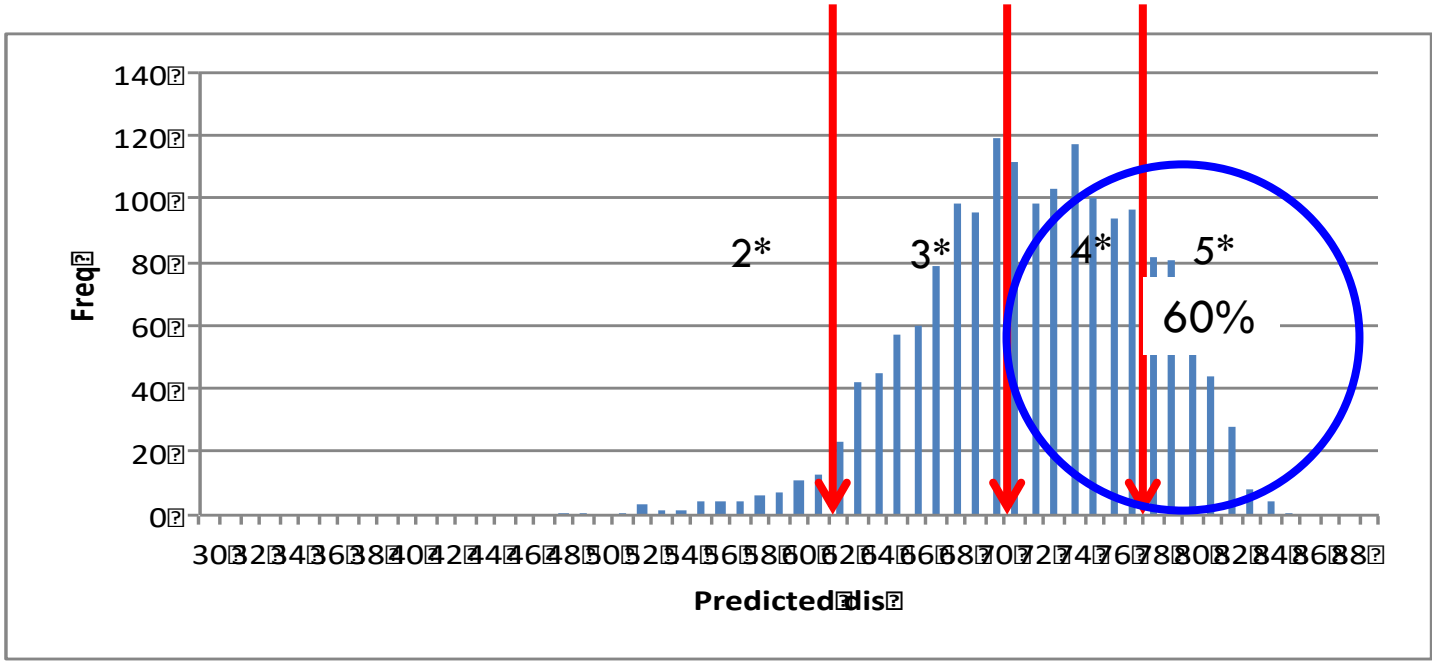
MSA model

Use carcase variables to predict Eating Quality score

- Sire type
- Hot Carcase Weight
- Lean Meat Yield
  - Direct = DEXA
  - Indirect = GR x eye muscle depth
- Intramuscular Fat

- All are significant predictors

MSA loin prediction = MSA index ??



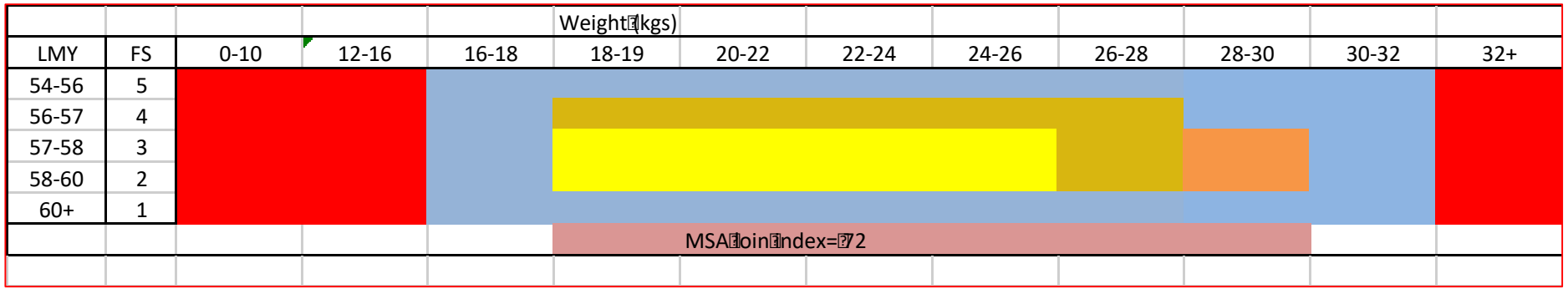
Based on the MLA Genetic Resourse flock lambs n = 1,692

So grids will evolve based on lean meat yield and eating quality

- They will be more complex
- Based on objective measures of the carcase
  - HCW
  - Lean Meat Yield (& fat score)
  - Eating quality index

What might future grids look like?

Will include weight.
Will include LMY (forequarter middle and hindquarter)
Will include EQ index
Possibly compliance bonus



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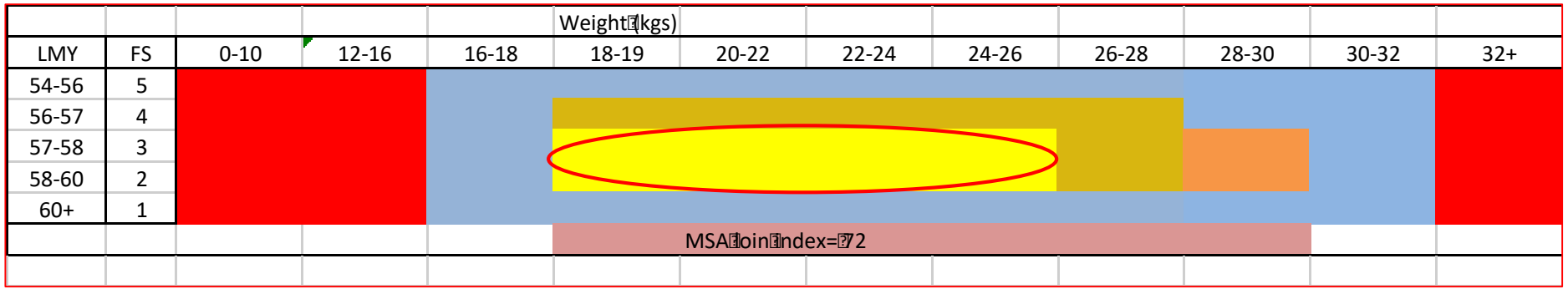

The market sweet spot
(18 – 26kg FS 2,3)

What might future grids look like?

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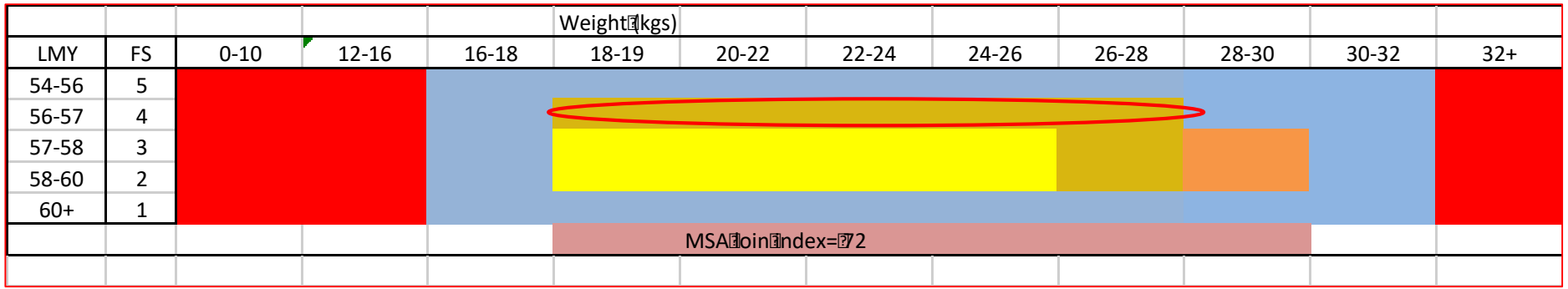
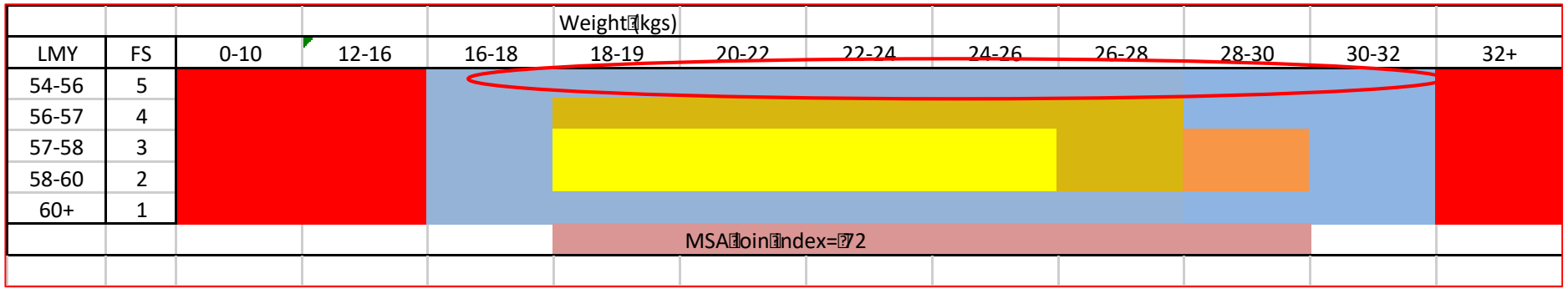
Will include EQ index
Possibly compliance bonus



Just a little too fat but not too bad
FS 4

What might future grids look like?

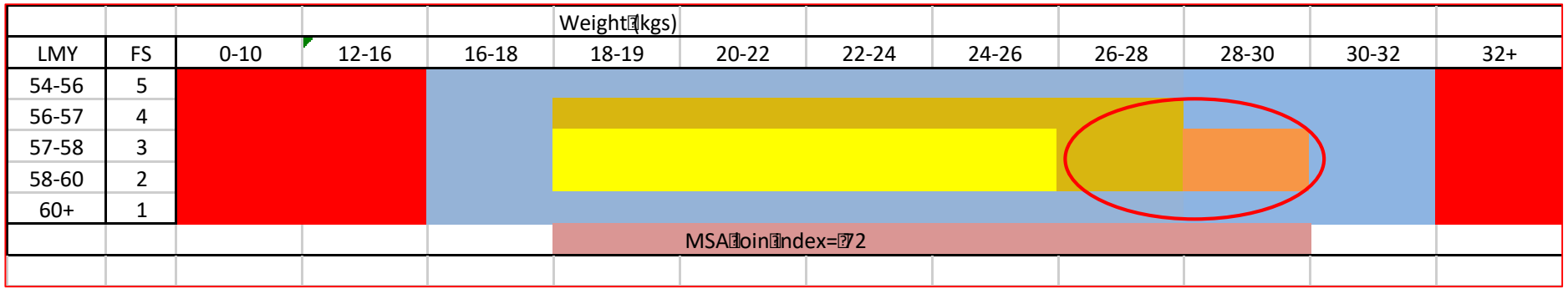
Will include weight.
Will include LMY (broken up into forequarter middle and hindquarter)
Will include EQ index
Possibly compliance bonus



Too fat – not good
FS 5

What might future grids look like?

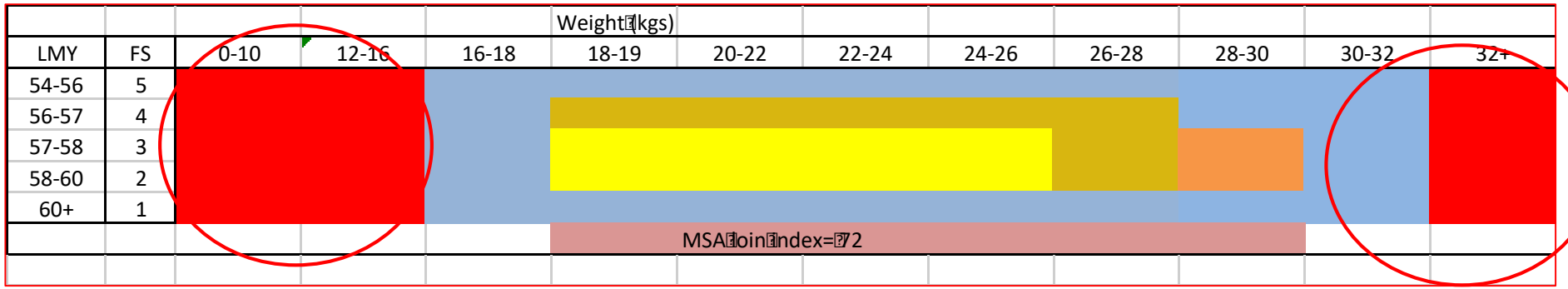
Will include weight.
Will include LMY (broken up into forequarter middle and hindquarter)
Will include EQ index
Possibly compliance bonus



Just a little too heavy but not too bad
26-30kg FS 2,3

What might future grids look like?

Will include weight.
Will include LMY (broken up into forequarter middle and hindquarter)
Will include EQ index
Possibly compliance bonus



Too light/ too heavy

What might future grids look like?

Will include weight.
Will include LMY (broken up into forequarter middle and hindquarter)
Will include EQ index
Possibly compliance bonus

		Weight (kgs)										
LMY	FS	0-10	12-16	16-18	18-19	20-22	22-24	24-26	26-28	28-30	30-32	32+
54-56	5											
56-57	4											
57-58	3											
58-60	2											
60+	1											
					MSA loin index=72							

4* or above loin (0% failure rate !)

True value of the carcase

Carcase value ($)

=

Wt retail cuts (kg)

X

Value of the cuts ($/kg)

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However it will be a journey

JBS Australia challenges producers over heavy lambs and carcase feedback

by Terry Sim, 03 July 2017

JBS Australia's Mark Inglis.

AUSTRALIAN lamb producers have been told export processor JBS Australia lost direct supplies when it attempted to buy lambs via a market-focused 18-26kg grids.

At the 2017 BestWool BestLamb Conference in Bendigo last week, JBS farm assurance and supply chain manager Mark Inglis challenged whether lamb producers wanted carcase feedback to produce to market specifications.

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However it is a journey

Building producer education and trust next big challenge in move to VBM

by Jon Condon, 23 May 2017

BUILDING producer trust in value-based marketing systems, including elements like lean meat yield and offal value, is the next big challenge faced by processor Teys Australia as it moves along a pathway towards VBM adoption.

Speaking at the Angus Australia annual conference in Ballarat last week, Teys general manager of corporate services, **Tom Maguire** said carcase feedback on lean meat yield would start to filter back to producers in coming weeks, as the company continues to develop its vision to move towards VBM.

Mr Maguire told the conference audience, mostly made of up of seedstock producers, that genetics would play an absolutely critical role in any industry gains in carcase yield that might unfold.

Beef Central first wrote about Teys' vision to move down the VBM path in this article published in October, 2015.

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Key Points

- ❑ Industry Projections
  - Producers retaining more ewes due to high prices
- ❑ Major Markets
  - Markets generally positive, reduction in processing capacity possible risk
- ❑ Lean Meat Yield
  - Important to producers, processors and consumers. Be aware of impact on EQ.
- ❑ Livestock Data Link
  - Delivering better feedback, enables more informed decisions
- ❑ Eating quality
  - Key to consumers. Can now include in ram buying decisions.
- ❑ Future grids – based on objective measurement of the carcase
  - Likely to start including LMY and EQ