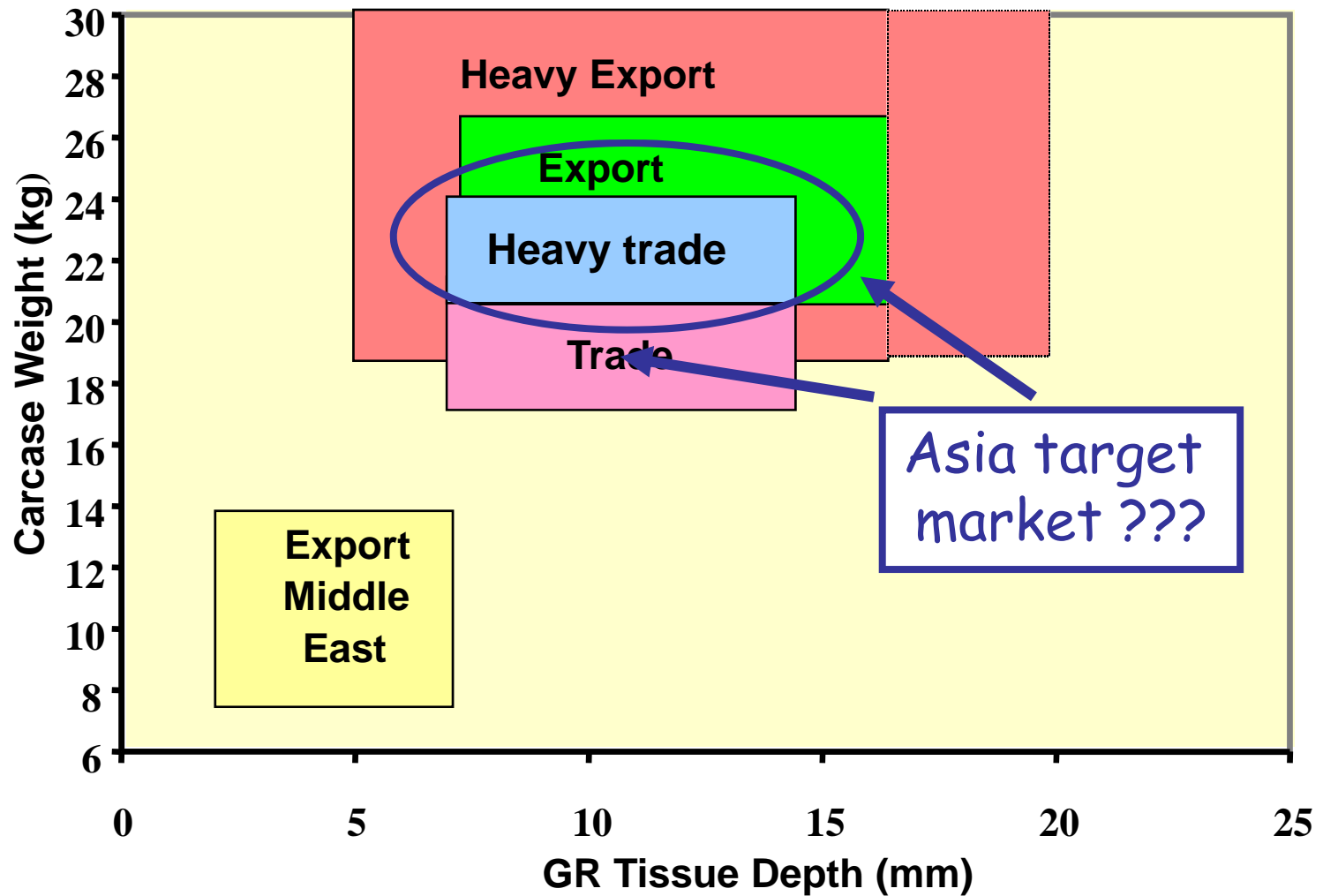
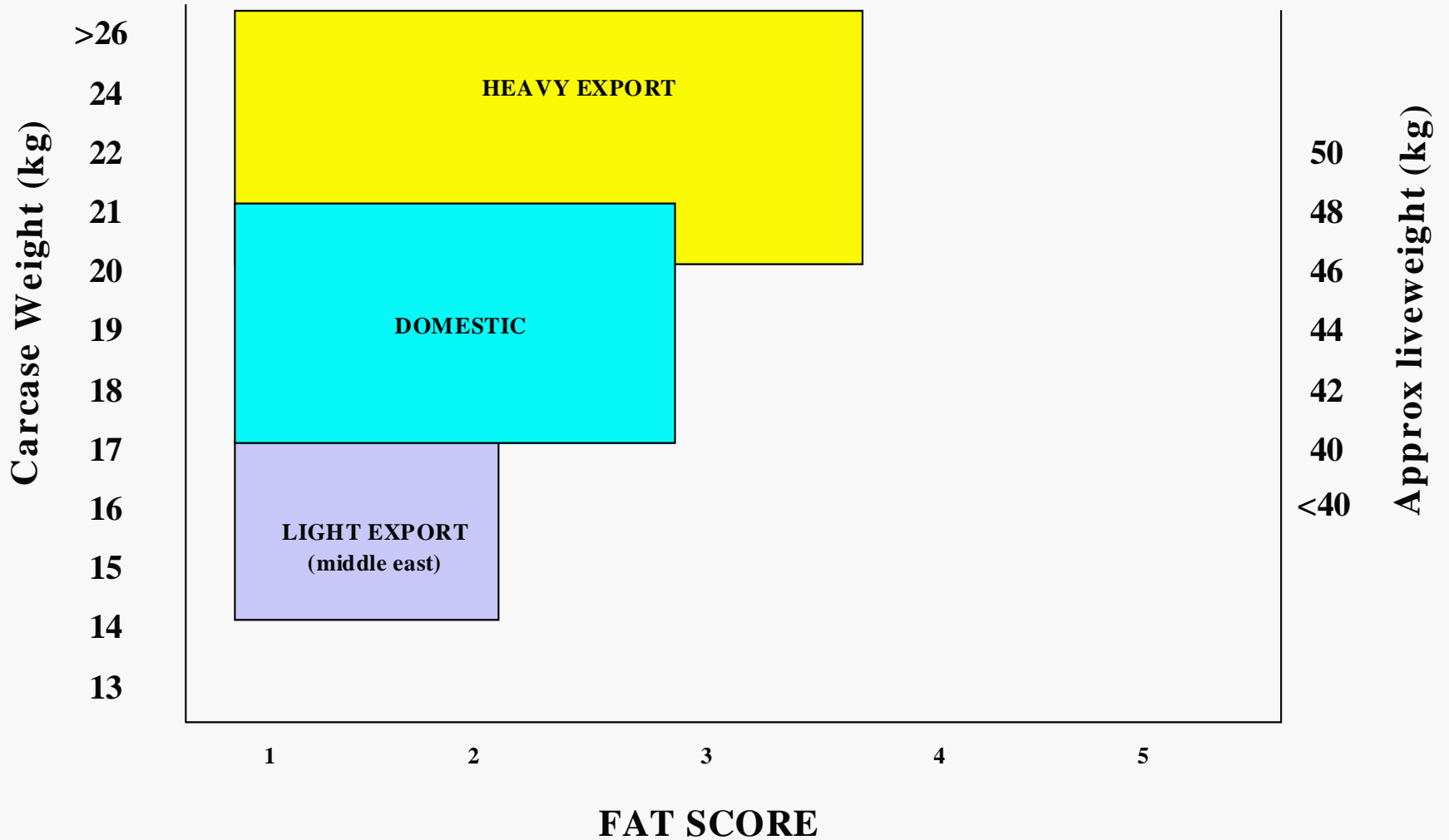


Target Markets and Requirements

Lamb ~ Preferred Market Specifications



PREFERRED MUTTON SPECIFICATIONS



Mutton Specifications

Domestic 17-21kg, FS 1 to 3

- Lighter and leaner animals
- Heavier carcasses with good conformation are used for table product
- Hoggets used in domestic and HRI trade

End uses

- Production of small goods, inc sausages and hamburgers
- Pies and Sausage Rolls
- Dim Sims, inc spring rolls

Mutton Specification

Export >20kg, FS 1 to 4

- Exporters prefer mutton carcasses as heavy as possible.
- Reduce processing costs per kilo, achieve better boning yields
- **Markets**
- 70% exported as frozen, boxed product
- 70 countries with a variety of cultures and eating habits
- *The most potential exists for sheep producers to improve mutton values by targeting the heavy export market. Sheep producers can do this by ensuring their sale sheep are as heavy as possible.*



Muscling

**RACKS & LOINS
are 33% OF THE
WEIGHT OF A
LAMB & 50% OF
THE RETURN**



- 377 2nd cross lambs from a commercial property East of Gulargambone
- High and low muscle Poll Dorset sire groups
- Lambs slaughtered over 6 kills and commercially boned from 15 Sept to 1 Dec at 5-8 months age
- Wholesale values as at Mar 2006

RAMS WE USED FOR 2005 LAMBING???

	GROWTH	FAT	MUSCLE
HIGH MUSCLE	9.274	-0.471	1.463
	9.185	-0.675	1.056
	9.500	-0.9	1.0
AVERAGE	9.32	-0.682	1.173
LOW MUSCLE	9.84	-0.84	-1.3
	6.784	-0.555	-1.118
	8.662	-0.921	-0.838
AVERAGE	8.43	-0.772	-1.085

AT JOINING PEMD OF +1 WAS IN TOP 15%



Cut

Forequarter

Forequarter cold weight

Forequarter boneless Square cut

Forequarter bone in Shank USDA

Forequarter Trim

Forequarter bones

Forequarter fat

Sub Total \$

High muscle group Yellow						Low muscle group Green			
Weight	Length	Price	Value	Advantage	Adv over low group	Weight	Length	Price	Value
kg	mm	\$/kg	\$	Dimension	\$	kg	mm	\$/kg	\$
6.9				-0.07		6.97			
3.68		6.5	23.92	-0.07	-0.455	3.75		6.5	24.37
0.71		3.5	2.48	0.02	0.07	0.69		3.5	2.41
0.47		1.5	0.705	-0.01	-0.015	0.48		1.5	0.72
1.62		0.02	0.0324	0	0	1.62		0.02	0.0324
0.4		0.04	0.016	-0.03	-0.0012	0.43		0.04	0.0172
			27.16		-0.40				27.56



High muscle

Low muscle

	Wt	Length	Price	Value	Diff	\$ Adv	Wt	Length	Price	Value
Saddle										
Saddle cold weight	6.72				-0.02		6.74			
8 pt French Trim Rack (cap off)	1.7		28	47.60	0.03	0.84	1.67		28	46.76
Eye of short loin	0.69		28	19.32	0.06	1.68	0.63		28	17.64
Short loin length mm		187.5			-5.2	0		192.7		
Short loin depth mm		29.55			2.63	0		26.9		
Tenderloin	0.162		26	4.212	0.013	0.338	0.149		26	3.874
Saddle Trim (65 CL)	2.22		1.5	3.33	-0.07	-0.105	2.29		1.5	3.435
Saddle bones	1.43		0.02	0.0286	-0.02	-0.0004	1.45		0.02	0.029
Saddle fat	0.52		0.04	0.0208	-0.03	-0.0012	0.55		0.04	0.022
Sub Total \$				74.51		2.75				71.76



High muscle

Low muscle

	Weight		\$/kg	Value	Wt Diff	\$ Adv	Weight		\$/kg	Value
Leg										
Leg cold weight	7.57				0.09		7.48			
Leg bone less	5.47		7.5	41.025	0.11	0.825	5.36		7.5	40.2
Leg Trim	0.03		1.5	0.045	0.01	0.015	0.02		1.5	0.03
Leg bones	1.76		0.02	0.0352	-0.01	-0.0002	1.77		0.02	0.0354
Leg fat	0.3		0.04	0.012	-0.01	-0.0004	0.31		0.04	0.0124
Sub Total \$				41.12		0.84				40.28
TOTAL \$				142.79		3.19				139.60

% diff in \$\$ value

2.3%

@ 21.91kg HSCW

GR -11mm

c/kg HSCW benefit – 14.6c



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

BONING SUMMARY FOR 2005 DROP LAMBS

	HIGH MUSCLE (\$)	LOW MUSCLE (\$)	\$ ADVANTAGE
Forequarter	27.16	27.56	- .40
Saddle	74.51	71.76	2.75
Leg	41.12	40.28	.84
Total	142.79	139.60	\$ 3.19

**SELECTION OF RAMS WITH HIGH MUSCLE (PEMD)
WERE WORTH 14.6 ¢/KG (HSCW) MORE TO THE
BONING ROOM @ 21.91kg. (15.73¢/kg @ 25.8KG)**

WHAT DOES THIS MEAN TO A BONING ROOM

High muscle rams added 14.6¢/kg HSCW at 21.91kg

If average kill was 1500 lambs per day @ 5 days/wk
@ 50 weeks per year

$0.146 * 21.91 * 7500 * 50 = \mathbf{\$1,199,572}$ per year in
saleable meat yield benefits at no extra cost.

**approx \$900,000 for every mm of
PEMD**



- Selecting for PEMD will increase loin cut weights and leg weight whilst decreasing lower value forequarter weight.
- This may be more important to profitability than improving overall lean meat yield.
- There was a sig difference in carcass length between high and low muscled sire groups
- Blue ribbon markets demand big eye muscles

Key ASBVs for terminal sires

- **PEMD – Post weaning eye muscle depth**
 - Genetic difference in eye muscle depth in a 45kg live weight animal
- **EMD is positively related to loin weight and the proportion of muscle in the loin and hind-quarter of the carcass**
- **Positive muscle with negative fat is even better for feed efficiency in growing lambs**
- **If rams don't have PEMD – don't buy them!**



If you want to be an average producer then select average rams for muscle of about $+0.7$ PEMD


But if want to be at the top end then select rams > 1 for PEMD (top 35%) of available LAMBPLAN rams.

- Growth ASBV has not greatly changed animal biology - other than bigger
- Muscle ASBV has very powerful effects on animal's make up
 - Looks after muscle under low nut
 - Reduce fat
 - Changed muscle cells
 - Genes and hormones favouring muscle
 - Influence eating quality ?

- So Muscle ASBVs work deep down !!
- They seriously change sheep
- Nutrition is very, very important

Eating quality

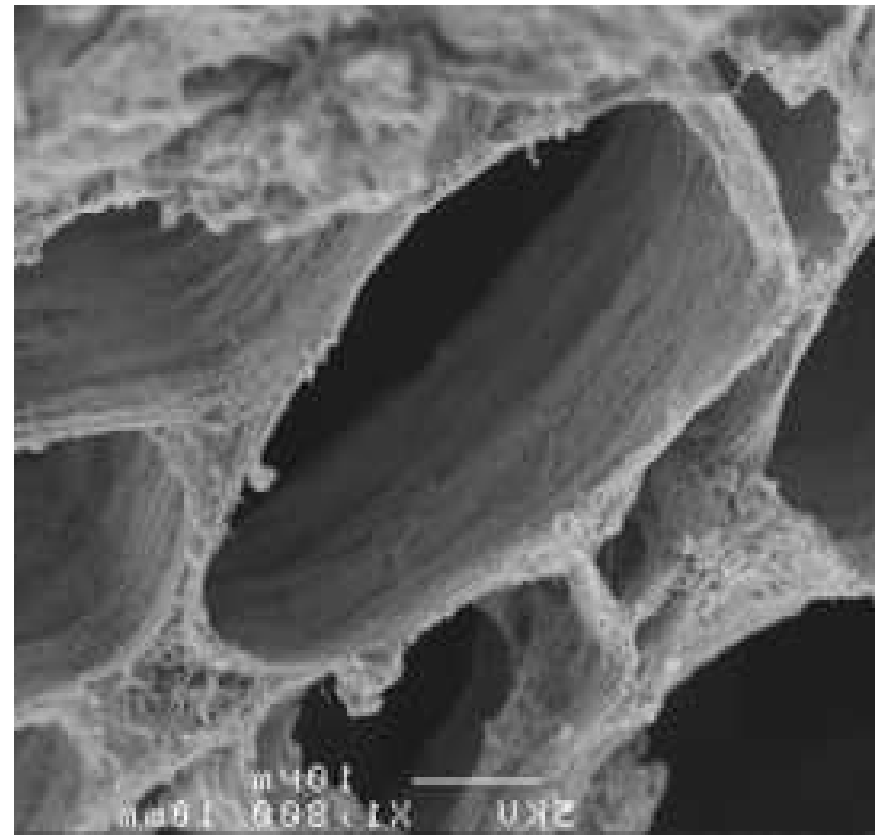
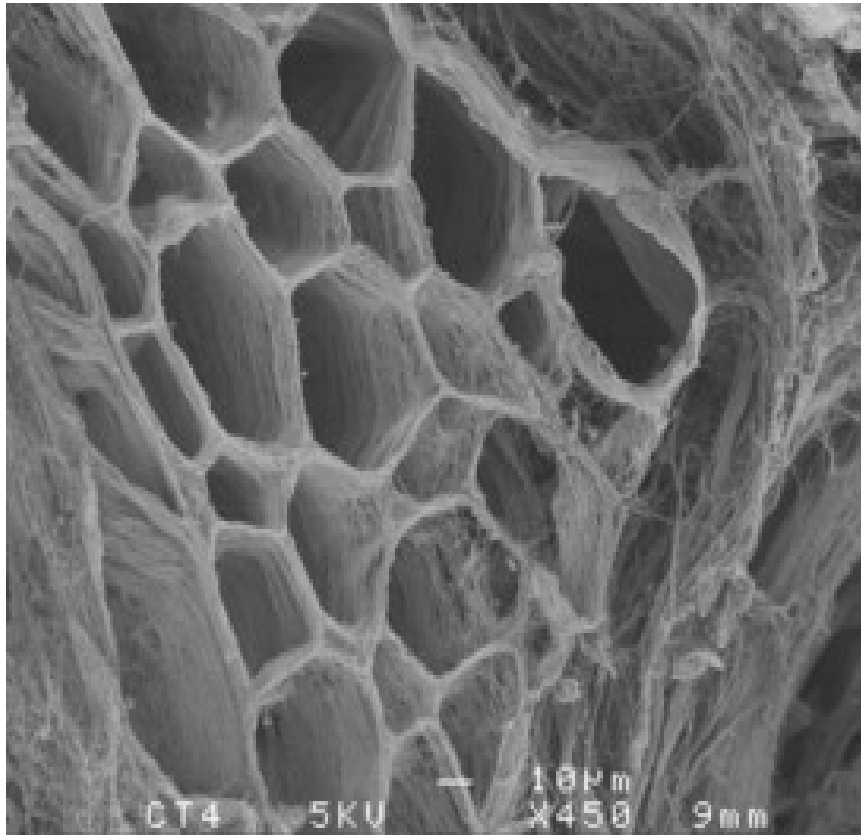
Some evidence that:

Muscle ASBV  -ve eating quality

Why ???

1. Reduced Intramuscular fat
Control with degree of finish
2. Ageing rate (proteolysis)
Not a problem
3. Connective tissue

Role of Connective tissue



Eating quality recommendations

- Can push muscle ASBV providing growth EBV >5
- Keeps connective tissue 'tender'
- Growth + Muscle ASBV package will also return more meat
- Degree of finish used to control intramuscular fat

'DESIGNER MEAT' = LAMB !!!!

Key ASBVs for terminal sires

- **PFAT – Post weaning fat depth**
 - Genetic difference in fat depth in a 45kg live weight animal
- **Use PFAT ASBVs to tailor fat depth for your market**
 - Beware of extremes of fatness or leanness
- **Excess fat is inefficient use of feed**
 - It takes ~4 times more energy to produce 1kg of fat than it does to produce 1kg of muscle

Key ASBVs for terminal sires

- PWT – Post weaning weight
 - Growth at 7.5 months of age
- High growth

More growth is better,

..... but watch birth weight

- They eat less kilos of feed per kilo gained
- More valuable feeder lambs

Other terminal sire traits for prime lambs

- 1. Birth weight and Lambing ease**
- 2. Worm egg count**
- 3. Future**

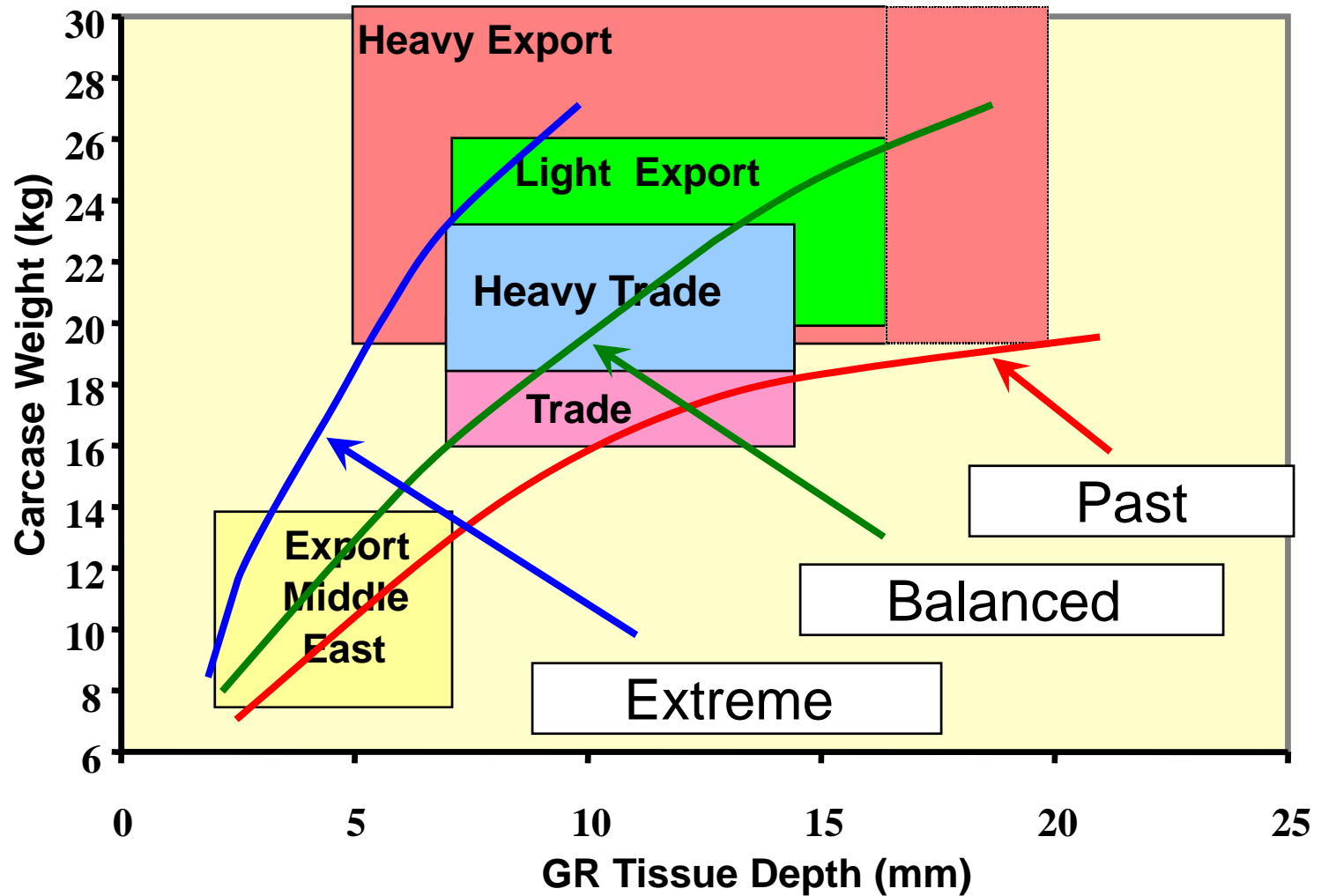
**Eating quality (tenderness, flavour,
intramuscular fat)**

**Human health (Fe, Zn, unsaturated & omega 3
fatty acids)**

LAMBPLAN makes it easier



Lamb Preferred Market Specifications



- Cost of Production
- Mg/Na supplements





NO SMOKING
STOP ENGINE
DO NOT OPEN FUEL TANK
OR FILLER NEAR
FLAMMABLE LIQUIDS
SEE FUEL HANDLING

STOP







