

# Feeder steer specifications ~ domestic requirements

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## Session 1b

The domestic market is a very important segment of the feedlot industry. During 2002, 40% of the cattle on feed in Australia were fed for the domestic market. The average time on feed for domestic cattle is about 80 days compared to about 180 days for export cattle. Feedlots turned off about 1,280,000 cattle for the domestic market and 850,000 for the export market in 2002.

While MSA consumer research has shown that when everything else is equal, the eating quality of grainfed beef is no different to grass-fed beef, lot-feeding of cattle provides a much higher level of quality control of product on a year round basis. This explains the high number of cattle fed for the domestic market in Australia and the high dependence on lotfed cattle by our major supermarket chains and domestic brands.

The major advantage of lot-feeding from an eating quality perspective is that the cattle are turned off at younger ages with lower ossification levels. Stress is also minimized as they are trucked directly from feedlot to abattoir just prior to slaughter.

Marbling is a minor issue in the domestic market and the major supermarkets do not have a marbling requirement. Marbled beef is quite difficult to market at the retail level.

The MSA grading system has demonstrated that high eating quality can be achieved at low marbling levels especially under feedlot conditions. Table 1b-1 demonstrates the effect of marbling on the eating quality of a range of cuts. While an increase in marbling increases

the MSA Grade within the normal range of marbling achieved in a 70-100 day feeding program.

The fact that marbling is of such little importance in the domestic market means that lot-feeders can use a much wider range of breeds and breed crosses and do not have to sacrifice growth and carcass retail yield.

Most of the cattle fed for the domestic market are for the large supermarket chains; Woolworths and Coles who slaughter over 20,000 cattle per week. The proportion of grain-fed cattle used by these supermarkets varies between states and with the time of the year. At one end of the scale the supermarkets in Queensland take almost 100% of grain-fed cattle. In Victoria, South Australia and Western Australia grain-fed cattle are mainly used when there are insufficient finished grass-fed cattle available. About 70% of the cattle purchased by Coles and Woolworths in Southern Australia are grain-fed.

## Requirements

The intake specifications of feeder cattle, are of course, determined by the carcass specifications on exit from the feedlot. There is little difference in the requirements of the three major supermarkets. Some examples are shown in Table 1b-2.

A significant trend over the last five years has been gradually increasing carcass weights.

The variation in the intake specifications is demonstrated by the range in these specifications of the major feedlots which are listed in The Australian Feedlot Directory. Some examples are shown in Table 1b-3.

**Table 1b-1.** The effect of marbling level on eating quality  
eating quality by a few points it rarely changes

US Marbling	Tenderloin		Cube Roll		Topside	
	MSA Score	MSA Grade	MSA Score	MSA Grade	MSA Score	MSA Grade
200	74	4	68	4	46	3
400	77	5	73	4	48	3
600	80	5	78	5	50	3

The above data refers to a standard MSA carcass with the following specifications: HSCW 240 kg, male, 0% Bos Indicus, AT hang, ossification 140, meat colour 1 c, rib fat 7 mm, pH 5.55, ageing 5 days – cooking method grill. Using SP 2000 Model.

**Table 1b-2.** Carcase specifications for the domestic market

	Woolworths	Coles
Minimum days on feed	70 (grain fed)	70 (grain fed)
Dentition	0-2	0-2
Carcase weight	190-280	180-260
p8 Fat Depth	5-16	3-15
Marbling	0-2	0-2
Meat Colour	1b-3	1a-2
Fat Colour	0-3	0-3
pH	5.3-5.7	5.3-5.7
Breed	-	-

**Table 1b-3.** Intake specifications for Domestic Market

	Killara, NSW	Aronui, QLD	Wide Bay, QLD	Pinegrove, QLD	Tallwanta, NSW	ICM, Vic
Entry weight	290-350	300-350	240-320	300-330	300-330	290-350
Dentition	0	0	0	0	0	0
Sex	M/F	M/F	M/F	M/F	M/F	M/F
Muscle score	-	C	A-C	C+	C+	C or better
Fat score	2-6mm	1-2mm	1-2mm	2-3mm	2-6mm	-
Frame score	-	-	-	3-6	3-4	Medium
Preferred Breeds	British or Brit x Euro Steers Brit x Euro Heifers Brit x Bos Heifers	British x Euro prefer Max 25%	Euro x Santa x	Santa	50% plus British	British

## The Impact of the MSA Grading Scheme

The Meat Standards Australia grading scheme has had an impact on feedlot requirements even though it has not been widely adopted by the major supermarket chains and butchers.

The new cuts based concept for the MSA grading scheme which is based on bonuses and discounts to the MQ4 score depending on the cut and the cooking method will see a whole new approach to producing MSA graded beef.

There is no longer a minimum feeding period or a requirement for marbling.

Most of the four and five star beef is the better cuts from carcasses that would have met the original three star criteria.

The factors which have the greatest influence on the eating quality score are; the cut, *Bos indicus* content, method of hanging, period of ageing and ossification level. Marbling has a small influence on eating quality.

The basic criteria to be eligible for grading are a minimum of 3mm fat depth on the ribs, a maximum ossification level and to meet the pH temperature window.

This new approach to MSA grading has made it easier for feedlots to hit the grading targets. All the feedlot needs to do for cattle to qualify for MSA grading is to ensure 3mm of fat on the ribs, even fat cover and to avoid high ossification levels by feeding young cattle.

With good post slaughter handling including, prevention of cold shortening (pH temperature window) ageing and perhaps tenderstretching the major consideration for feedlots will be to keep the *Bos indicus* level down and to ensure the carcasses have a minimum of 3mm of fat and do not have very high ossification levels.

Tenderstretching more than compensates for high *Bos indicus* content so if the processor tenderstretches the carcasses most cuts from high *Bos indicus* content cattle will grade provided ossification levels are not too high.

Most of the graded product consumed by the domestic market will continue to be three star product due to its lower fat levels and lower price. However, there may be an increase in sales of four and five star product because it will now not need to be excessively fat or excessively priced.

## Value Based Marketing

We still live in hope that a value based payment system which includes yield will be introduced by one or more of the majors. This would be a two edged sword for feedlots. While they would be rewarded for higher yielding carcasses they would be discounted for fatter cattle within the current fat specifications.

To achieve more premiums than discounts they would need to be more selective in the cattle they put on feed. My impression is that lot-feeders would prefer to work within the current wide fat specifications and take an average price.

## Calculation of Intake Weights

Assuming a weight gain of 1.6 kg/day for 70 days and an exit dressing percentage of 53% the required intake weight can be calculated as follows:

Required carcase weight range	200-260 kg
Liveweight at 53% DP	377-490 kg
Less weight gain 1.6 kg x 70 days	112 kg
Liveweight range	265-378 kg
Safe entry liveweight range	280-350 kg

If this calculation is applied to the Franklins new carcase specification of 210-270 carcase weight the entry liveweights would be 300-380kg - an increase of 20 to 30kg. These entry weights would be different if the time on feed was shorter or longer or the weight gains and dressing percentage were significantly different.

## Traps for Retained Ownership

Custom feedlots generally work on averages and set their recommended intake weights accordingly. Here is an example of cattle which were fed at Mirrabooka feedlot at Condamine, Qld for a Woolworths contract which required carcase weights of 180-260kg. The cattle grew faster than expected and dressed higher than expected. To make the situation worse the kill was unavoidably delayed for one week.

Note that due to combination of good performance and a delay in slaughter of only seven days almost half of these cattle went outside the Woolworths specification for carcase weight even though they met all other specifications. It is very important for breeders

	Average	Range
Entry Liveweight	290	260-340
Weight Gain/Day	2.1	1.5-2.5
Exit Liveweight	452	422-518
Dressing Percentage	54.2	52.1-56.2
Carcase Weight	245	222-285

to know how their cattle are likely to perform and for custom feedlots to realise that not all cattle perform at the average.

## General Comments

Cattle in lower condition scores generally grow faster in the feedlot than cattle which enter the feedlot at higher fat levels.

The buyers specifications cover both steers and heifers which allows the flexibility to feed both sexes. The slightly lower growth rate of heifers needs to be offset by the lower purchase price and the potential for overfatness. Most feedlots prefer 50% European breed in heifers to prevent overfatness after a 70 day feeding period.

While the fat specifications for the supermarkets are fairly wide, cattle at the high end of the specification do not yield as well and will certainly be penalised with the introduction of payment on yield predicted by VIA technology.

Structural soundness is not an important consideration for domestic cattle which are only fed for 70 days and do not reach heavy weights.

**Note:** A complete list of feedlots and their specifications for feeder steers was published in "Beef Market Specifications 1999". Copies of this NSW Agriculture publication may still be available (free) from any Beef Cattle Officer. A website version is being developed. If successful it will be updated frequently. [www.agric.nsw.gov.au](http://www.agric.nsw.gov.au) Enquiries: David Allerton 02 6640 1651

This 70 page booklet also contains information on:

Hide prices; Export and Domestic Carcase Specifications; Quality Assurance; Trucking Costs; MSA; Grading Charts; Accredited Feedlots and Abattoirs; Feedback Sheets; Beef Alliances.



First cross yearling steers - idea for the domestic market.