Mature Cow Weight – The Balancing Act

Recent analysis of the mature cow weight information that has been recorded with BREEDPLAN has revealed that the mature weights of Murray Grey females have increased on average by approximately 27 kg during the past 10 years. Similar trends have been observed in other British breeds such as Angus, Hereford and Shorthorn. Whilst this increase can be attributed to changes in both management and genetics, the clear message is that the weight of mature cows in southern Australia has increased quite considerably during this period.

One question worth asking is “what impact is this increase in the mature weight of cows having on the overall profitability of commercial beef businesses in southern Australia?” To answer this question, it is important to consider how the weight of mature cows influences the costs and returns in a commercial beef enterprise. Primarily, mature cow weight will affect:

- **Cow Feed Requirements** – In general, heavier cows will eat more, have higher feed requirements and be more expensive to maintain. The effect of increasing mature weight in a commercial enterprise is therefore either an increase in the amount of feed that needs to be produced to meet the requirements of the female breeding herd, or a decrease in the number of females that can be carried from the same amount of feed.

- **Cull Cow Values** – The income from the sale of surplus females can make up a significant proportion of the total income of a beef breeding business with the major determinant in the value of surplus cows being live weight. Heavier cows will produce higher income from surplus cow sales, but at what cost?

- **Relationship with Progeny Weight** – In general, heavier cows will tend to have calves that have higher growth genetics, particularly if progeny are being turned off at older ages (eg. greater than 24 months). However, this relationship is not 1:1 and producers will be aware of females within their herd that “bend the growth curve” and consistently produce heavy calves but only have moderate mature weight themselves.

- **Relationship with Weaning Rate** - While heavier cows tend to have heavier progeny, there is some evidence to suggest that the number of calves weaned decreases with an increase in mature weight, particularly when combined with a decrease in fat levels.

Achieving an appropriate balance in the weight of the female breeding herd is consequently an important consideration for cattle producers. In a commercial situation in which the objective is to maximise profit, the optimal cow weight (light, moderate or heavy) will depend on the long term cost of producing or purchasing additional feed, the long term value (c/kg) for surplus cows and the advantage of having more or heavier progeny at sale. In situations where there is limited feed (or the cost of producing additional feed is high) and surplus cow values are low, a breeding objective of moderating or reducing average
cow weight is most likely to be more profitable. In situations of abundant, low cost feed and high cull cow values, the most profitable breeding objective may be to breed for heavier weight cows.

Given the impact that mature cow weight has on the profitability of a commercial beef enterprise, BREEDPLAN currently produces Mature Cow Weight EBVs. Mature Cow Weight EBVs are an estimate of the genetic difference in cow weight at 5 years of age and are calculated within the GROUP BREEDPLAN analysis that is conducted for each breed in Australia, including the Murray Grey Beef Cattle Society. Bulls with higher Mature Cow Weight EBVs are expected to produce daughters with, on average, heavier mature weights than bulls with lower Mature Cow Weight EBVs.

Mature Cow Weight EBVs enable both commercial and seedstock producers to carefully monitor the genetics of their animals for mature weight, while selecting for increased growth and therefore an earlier age of turnoff in their sale progeny. Irrespective of what is the desired cow weight, it is important to be mindful that if mature weight is not considered and selection is focussed simply on increased growth (ie. high 200, 400 or 600 Day Weight EBVs) then the mature weight of the female breeding herd will increase due to the relationship between these traits.

Seedstock breeders interested in having Mature Cow Weight EBVs calculated for their animals need to collect weight information of their cow herd, with BREEDPLAN currently analysing mature cow weights if the cow has a calf with a weight recorded within 2 weeks of when the mature weight was taken and further, the calf was between 80 – 330 days of age when it was weighed.

Therefore, in layman’s terms, seedstock producers interested in Mature Cow Weight EBVs should take a weight on their cows when they are recording the 200 day weights for their calves. BREEDPLAN currently analyses up to 4 mature weights on an individual cow and so cows should be weighed each year.

Recording mature cow weights is also a good way of increasing the accuracy of 600 Day Weight EBVs in a herd if a significant proportion of calves have already left the herd by 20 months of age (eg. sale bulls, steers, surplus heifers). Mature cow weight information should be submitted directly to the BREEDPLAN office at ABRI in a similar fashion to other performance information.

Further information regarding Mature Cow Weight EBVs is available from the “Understanding Mature Cow Weight EBVs” tip sheet that can be downloaded from the Technical area of the BREEDPLAN website (http://breedplan.une.edu.au) or by contacting Andrew Byrne at SBTS on (02 6773 3357 or andrew@sbts.une.edu.au).
Fast Facts

- Mature cow weight has a considerable impact on the profitability of a commercial beef enterprise.
- Mature Cow Weight EBVs enable the genetics for mature weight to be considered as part of the breeding program.
- Seedstock breeders interested in having Mature Cow Weight EBVs calculated for their animals should collect weights on their cows.

Article written by Andrew Byrne for inclusion in the 2011 Murray Grey Annual Magazine.