



Scan Data for Heifers is Valuable

BREEDPLAN currently produces a number of EBVs for carcase traits; these include Eye Muscle Area (EMA), Rib Fat Depth, Rump Fat Depth and Intramuscular Fat (IMF). The BREEDPLAN Carcase EBVs are calculated from two main sources of information – from live animal ultrasound scanning records measured by BREEDPLAN accredited ultrasound scanners and from abattoir carcase data. Of these two sources, seedstock producers are most likely to collect live animal ultrasound scanning information.

This article will outline the number of bulls and heifers which are being ultrasound scanned in seedstock herds across Australia, and the differences that are observed between the sexes. In addition, this article will discuss the benefits of collecting ultrasound scanning data on heifers for inclusion in BREEDPLAN.

How Many More Bulls are Scanned than Heifers?

The number of animals with ultrasound scanning records on file has continued to increase in recent years. Across all SBTS and TBTS Breed Societies, just 19.1% of the 2001 calving drop has an EMA scan record on file. In contrast, 28.0% of the 2013 calving drop currently has an EMA scan record on file.

Similar levels of improvement are seen when each sex is examined individually. As Figure 1 shows, 34.5% of male calves born in 2013 have an EMA scan record, up from 24.3% of male calves born in 2001. Of the females born in 2013, 24.8% have an EMA scan record, while just 14.6% of the female calves born in 2001 have an EMA scan record (Figure 1).

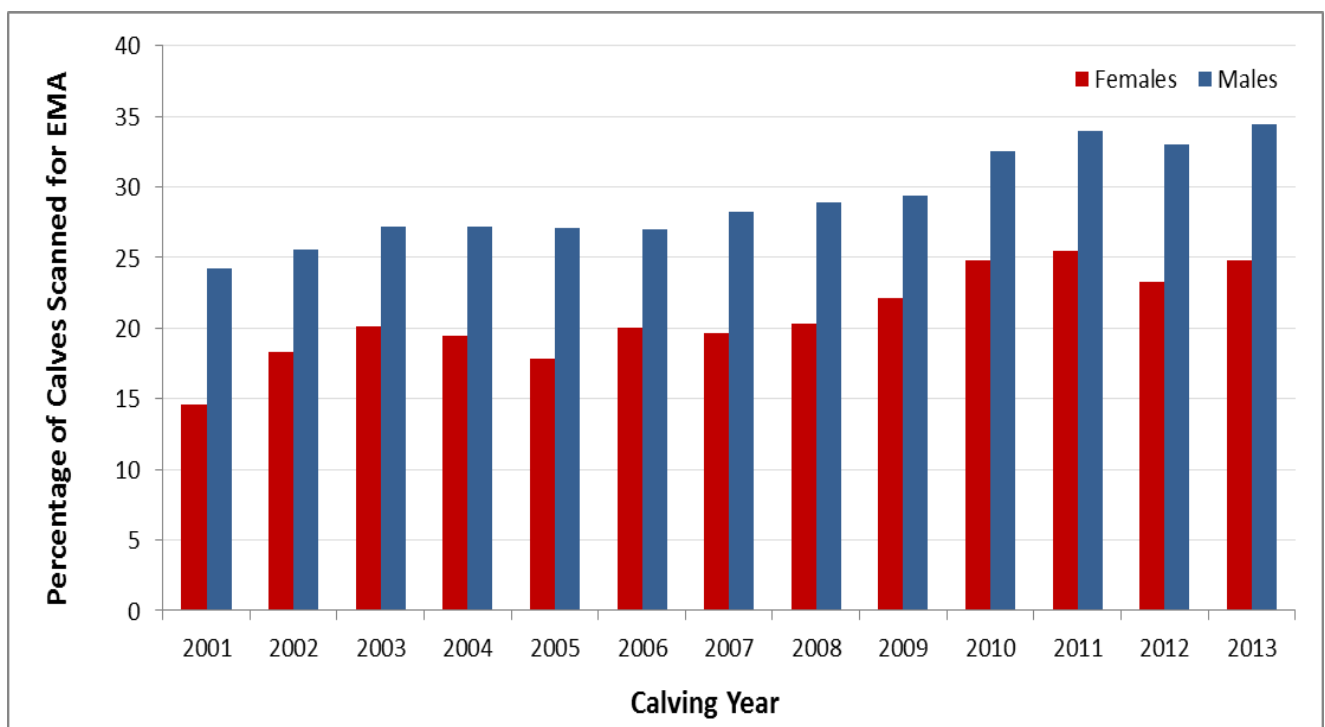


Figure 1. The percentage of male and female calves (registered across all SBTS and TBTS Breed Societies) in each calving year that have an EMA Scan recorded.

However, whilst the percentage of animals with ultrasound scanning records on file has increased in recent years, the difference between the percentage of males and the percentage of females which have been scanned in each calving year has not changed. As Figure 1 shows, the percentage of females in each calving drop from 2001 to 2013 with an EMA scan record on file is consistently lower than the percentage of males with an EMA scan record on file.

Indeed, in the 2001 calving year, 9.6% more males have an ultrasound scan record than females (Figure 1). In the 2013 calving year, the gap has increased slightly, with 9.7% more males having been scanned than females (Figure 1). Similar trends have been observed when the ultrasound scanning records for Rib Fat, Rump Fat and IMF are examined.



Seedstock producers will find the percentage of female versus male calves with ultrasound scan records on file for their individual herds in their 'Completeness of Performance Reports', which are available from Internet Solutions or on request from SBTS or TBTS.

Why Scan Heifers?

There are several reasons to consider collecting scan data on your heifers.

1. Heifers Mature Earlier Than Bulls

Under similar nutrition heifers carry more fat than bulls at the same age. Animals that are fatter at the time of scanning will exhibit greater variation in rib and rump fat depth and marbling than animals which are lean (average of less than 3mm rib fat). The reason you should not scan cattle when they are too lean is that they

have little variation for rib and rump fat and IMF%. Scanning heifers will generally provide a greater variation in all of the scan traits, and this variation is particularly useful for the calculation of BREEDPLAN Carcase EBVs. This is of particular importance for producers who are interested in IMF% as heifers will have greater variation in IMF% than bulls.



2. Heifers May Represent a Better Cross Section of Your Herd Than Bulls

It is possible that heifers may represent a better cross section of your calf drop than bulls. An example would be where 50% of bulls had been culled or castrated prior to scanning whereas the entire heifer drop was available at the time of scanning.

Consider the scenario where producers are only scanning sale bulls. These sale bulls are the pick of the males born in that calving year with a significant proportion having been steered or culled. This level of selection may have unintentionally biased the sample of bulls that are being scanned as only the top bulls, including those with the better Carcase EBVs, are being kept entire. If this is occurring, then the average scan data collected on these sale bulls will be higher than the average scan data would



be for the whole male cohort. This will affect Carcase EBVs as any sale bull that performs under the sale bull average will look inferior to his group, whereas he may in actual fact be above average for the whole male cohort.

In the above situation, scanning a larger cohort of heifers (including half-sisters of the sale bulls) may help to counter this. If a large proportion of the heifers have been retained they are unlikely to have been culled for Carcase EBVs (instead they are likely to have been culled for fertility reasons). Therefore the heifers may represent a better cross section of the rib and rump fat depths and marbling in your herd than your sale bulls alone.



Why Aren't Producers Scanning Heifers?

Given the importance of including ultrasound scanning information on heifers in BREEDPLAN analyses, why are many seedstock producers not scanning their heifers? There are couple of reasons that may be contributing to the decision of seedstock producers to not scan heifers.

1. Expense

Ultrasound scanning is charged on a per head basis. It is not uncommon for seedstock producers to pay around \$15

per head for ultrasound scanning, plus travel although discounts are usually available for larger numbers scanned. Given the expense associated with ultrasound scanning, it may not be feasible for producers to scan all young animals in the herd. In this situation, SBTS and TBTS recommend that scanning heifers is given preference to scanning bulls.

For those producers who are based a long distance from BREEDPLAN accredited ultrasound scanners, consider approaching other seedstock producers in your area to discuss the possibility of scanning animals from multiple herds in the one week. This may help to reduce the travel costs for each individual stud.

2. Pregnant Heifers

Many producers are joining heifers so that they calve down at around 2 years of age. Therefore, many heifers will be pregnant when they are old enough to be ultrasound scanned. Pregnant heifers can be ultrasound scanned for carcase traits. If heifers are more than 3 to 4 months pregnant ensure they are of a similar stage of pregnancy (maximum range of 10 weeks).

Considerations for Collecting Ultrasound Scan Records

For producers who wish to collect ultrasound scanning records on young animals in their herds, it is important to observe the following when collecting scan information:

- ✓ **Use a BREEDPLAN accredited scanner**
BREEDPLAN can only analyse scanning data that has been measured by a BREEDPLAN accredited scanner. A list of the BREEDPLAN accredited scanners for Australia and New Zealand is available on the BREEDPLAN website here: http://abri.une.edu.au/online/pages/accr_ed_scanners_ausnz.htm
- ✓ **Only scan animals when they are between 300 and 800 days of age**
BREEDPLAN can analyse the scanning performance from animals that are



between 300 to 800 days of age when measured. The majority of animals are scanned as rising two year olds (e.g. at 600 days of age).

✓ **Ensure animals are in sufficient condition to scan**

Aim to scan your animals when they are in the best condition possible. As a rough guide, animals should have an average minimum rump fat depth of 5mm and an average minimum rib fat depth of 3mm. The IMF results are further optimised if the majority of animals have between 2% and 8% IMF at the time of scanning.

✓ **Only submit one set of ultrasound scanning records per animal to BREEDPLAN**

BREEDPLAN will only analyse one EMA, one rib fat, one rump fat & one IMF ultrasound scanning measurement on each animal.

For further information on collecting ultrasound scan data, or to discuss scanning your heifers, please contact staff at SBTS or TBTS.