SBTS SOUTHERN BEEF TECHNOLOGY SERVICES
TBTS TROPICAL BEEF TECHNOLOGY SERVICES

TechTalk

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Performance Recording Birth Weight

Birth weight is an important economic trait in beef production systems as lower birth weights are associated with reduced incidence of calving difficulty, but unfavourably correlated with growth rate. Careful management of birth weight by beef producers is therefore required to ensure that calving difficulties are minimised while growth rates are increased or maintained.

WHY RECORD BIRTH WEIGHT?

Calving difficulty has an obvious negative impact on the profitability of a herd through increased calf and heifer mortality, slower re-breeding performance and considerable additional labour and veterinary expense.

Calving difficulty in a herd is influenced by many genetic and environmental factors. These genetic factors influencing calving difficulty include birth weight of the calf, calf shape, pelvic size and calving "will". Of all the genetic factors influencing calving ease, birth weight of the calf is the most important.

Given this, beef producers interested in managing calving difficulties within their herd should consider recording the birth weight of their calves. This birth weight data is then used in the calculation of Birth Weight EBVs. These Birth Weight EBVs provide important information to beef producers when making breeding decisions, especially when selecting bulls to breed to heifers.

Recording birth weights is also an important way to identify 'curve benders' – those animals which have low or moderate Birth Weight EBVs and above average EBVs for later growth. These animals are of particular interest in the beef industry as generally animals with lower birth weights have lower growth rates.

INTERPRETING BIRTH WEIGHT EBVS

Birth weight EBVs are estimates of the genetic difference between animals for calf birth weight. Birth weight EBVs are expressed in kilograms.

Small or moderate birth weight EBVs are more favourable, and indicate lighter birth weights. For example, a bull with a birth weight EBV of +1 kg would be expected to produce lighter calves at birth than a bull with a birth weight EBV of +7 kg, with a lower risk of a difficult birth.

While lower birth weight EBVs are favourable for calving ease, they have a negative correlation with later growth. This has two major consequences:

- Lower birth weight sires may cause fewer calving difficulties but they will also tend to produce calves with poorer growth to target market endpoints.
- The female progeny from lower birth weight sires will tend to grow into smaller heifers who themselves may have increased calving difficulty as two year olds.

Thus it is important that breeders do not make selection decision on Birth Weight EBVs alone, but consider all traits of economic importance including growth rate. Fortunately, animals with low or moderate Birth Weight EBVs and above average EBVs for later growth do exist. Recording birth weights will help identify these 'curve bender' animals.

EQUIPMENT FOR RECORDING BIRTH WEIGHT

When recording the birth weight of calves, it is important that producers collect accurate birth weights. This ensures that the data being submitted to BREEDPLAN and used to calculate birth weight EBVs is of a good quality. Therefore, it is important that producers weigh the calf using scales, and don't estimate the weight of the calf from the girth or chest size of the animal.

There are a number of methods which are currently used by beef producers to record calf birth weight. These range from the use of bathroom scales through to commerically available products developed specifically for measuring calf birth weight. Some common methods include:

Sling and clock-face scales

This method involves securing the calf with a sling and hoisting it from the ground to record the weight. Calves can be lifted by the producer. Alternatively, a hoist can be mounted onto a four-wheel motorbike, farm vehicle or tractor, and the hoist can do the lifting for you.

Platform scales

Producers can stand on platform scales, holding the calf. The weight of the producer can then be deducted from the combined weight of the producer and calf, giving the weight of the calf. Alternatively, calves can be secured on a platform and, as with the sling and clock-face scale method discussed above, hoisted into the air with a hoist mounted on a vehicle.

Calf Weighing Cradles

Commercially available calf weighing cradles can be used to measure birth weight.

Do:

- ✓ Use scales to record the birth weight of your calves.

Don't:

- × Guess the birth weight of the calf.
- × Use girth/chest size to estimate birth weight.

RECORDING BIRTH WEIGHT – BEST PRACTICE

The weight of a calf fluctuates throughout its first week of life. Therefore, when recording birth weight, it is important to record the birth weight as close to the birth of the calf as possible. BREEDPLAN recommends that birth weight is recorded within the first 24 hours of a calf's life.

It is important that the birth weight of the entire calf crop is recorded, including dead calves. This is because BREEDPLAN uses comparisions within contemporary groups when calculating the EBVs of an animal. If only one calf has a birth weight recorded, then it will be in a single animal contemporary group, and its own performance data will not contribute towards the calculation of its Birth Weight EBV. In addition, recording the birth weights of a subset of calves (e.g. the lighter calves) will bias the EBVs as the birth weights are not representative of the entire calf crop.

As with any trait, when submitting birth weights to BREEDPLAN, it is important to accurately record management groups. Where cows have been run under different management conditions prior to the birth of their calves, and these management conditions may effect birth weight, birth management groups should be recorded. For example, a producer may run two mobs of cows in different paddocks. If the cows in mob one have access to more feed prior to calving, this will influence the birth weight of their calves. Birth management groups should therefore be recorded in this situation. Similarly, if the dam is sick or injured prior to calving, they should be placed in a separate birth management group to the rest of the calves.

Some beef producers have been injured by protective cows when attempting to collect birth weights. Please take due care when collecting birth weights to ensure that you are not injured.

Do:

- ✓ Record birth weight for all calves, including dead calves.
- ✓ Ideally, measure birth weight within 24 hours of birth.
- ✓ Record birth management groups if cows have had different management conditions prior to birth which may effect birth weight. E.g. some cows having access to more feed.
- ✓ Record premature calves in a separate birth management group.
- ✓ Be vigilant for protective mothers while weighing calves.

SUBMITTING BIRTH WEIGHT INFORMATION TO BREEDPLAN

Birth weight information on calves can be submitted to the relevant Breed Society at the time of registration. The majority of birth weight data analysed by BREEDPLAN is submitted in this way.

Alternatively, birth weights can be submitted directly to BREEDPLAN. The process to submit birth weight data is the same as submitting any other performance data. Birth weights can be submitted using:

- Paper performance recording forms.
- The Microsoft Excel Weights & Scanning Information template available on the BREEDPLAN website.
- A data extract from a BREEDPLAN compatible herd recording program.
- Via the Internet Solutions facility on the BREEDPLAN website (for participate Breed Societies).

For further information regarding recording birth weight or submitting birth weight data to BREEDPLAN, please contact staff at Southern Beef Technology Services (SBTS) or Tropical Beef Technology Services (TBTS).