

TRICKY TRAITS BACK TO BASICS



ADDRESSING COMMON TRAIT RECORDING ISSUES TO MAXIMISE YOUR DATA VALUE

Over the last 3 years, the number of Wagyu Breeders who record trait performance data on their herds has increased significantly. Many members record and then submit this to the AWA for inclusion in the BREEDPLAN genetic analysis.

Trait performance data is a critical component for generating AWA BREEDPLAN EBVs (see Bloodline vs Pedigrees article). Trait data is vital to our genetic analysis. AWA members are increasingly submitting their performance data for a wide range of birth, fertility, growth and carcase traits to improve the analysis and the accuracy of EBVs for the animals in their herds.

Figure 1. below shows the trends in the number of performance records submitted each year for a selection of Wagyu traits over the past decade.

The number of AWA members that are enrolled as BREEDPLAN data contributors has increased by 70% over the last two years, to over 150 active data contributors. Although the trends for performance recording and data submission to Wagyu BREEDPLAN continue to increase over recent years, it is important that the data provided by members is able to be used in BREEDPLAN so that they obtain the maximum benefit from their efforts.

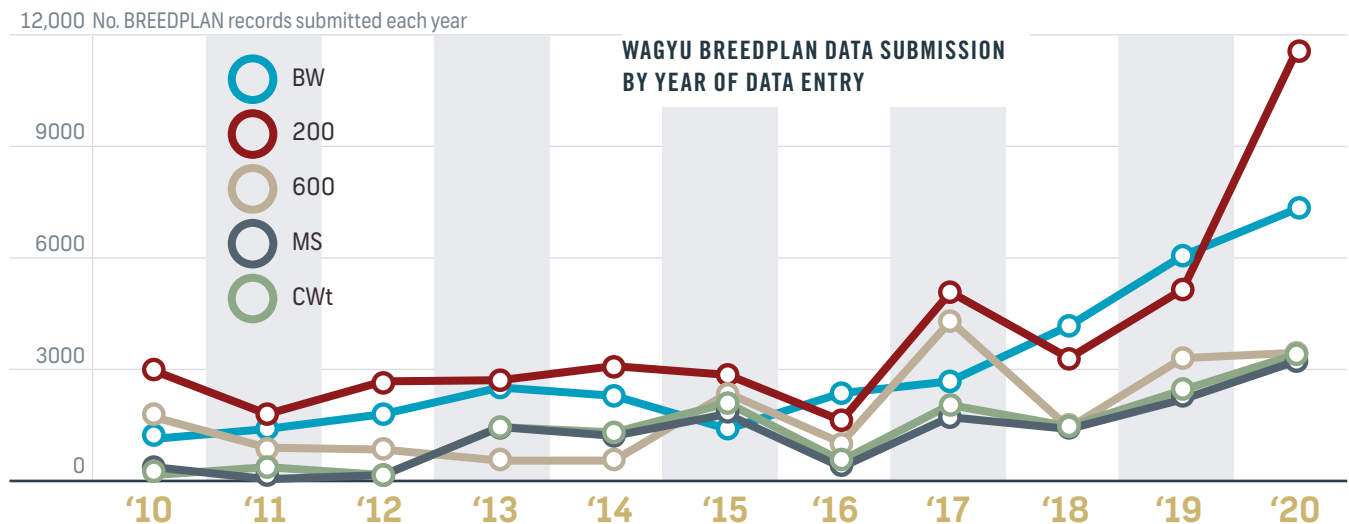


FIGURE 1 Performance recording trends for key growth and carcase traits over the ten years to 2019.

Some AWA members report that although collecting data might be easy or routine within their cattle operations, understanding the requirements for that data to be useful within the AWA BREEDPLAN analysis is not as straightforward.

RECORDING DATA IN MANAGEMENT GROUPS

An overriding requirement for members seeking to get the most out of their data by submitting it to AWA BREEDPLAN, is to record as many animals as possible in a management group at the same time. It is also important to keep animals in the management group together for as long as possible, so that your data is as useful as possible.

A fundamental aspect of genetic analyses is the comparison of animals within management groups to determine genetic differences between animals. Only animals that have had an equal opportunity to perform are directly compared together within BREEDPLAN.

There are two different forms of breeder defined management groups:

1. The “Birth Management Group” allows breeders to describe different treatments of the cows prior to the birth of the calf. For example, where one group of cows have had different feed availability that may affect the birth weight and/or calving ease and/or gestation length when the calf is born.
2. The “Post Birth Management Group” allows breeders to identify animals that have received different treatment or management following birth that has influenced their performance. This treatment may be deliberate (eg when some of your young bulls are castrated or receive supplementary feeding and others do not) or accidental (eg if a calf is sick).

WHY IS MANAGEMENT GROUP IMPORTANT?

Put simply, if you weigh animals on separate days in separate management groups, genetic analyses do not compare individuals between different groups on different dates. For example, if you weigh a paddock of steers on one day, BREEDPLAN can compare the weights of those steers to determine genetic merit if they are in one management group.

If you also weigh a paddock of heifers on the same day, BREEDPLAN can compare the weights of the heifers to determine their genetic merit. However, BREEDPLAN will not compare the steer weights to the heifer weights directly, but it will use the information from both the steer and heifer groups in calculating EBVs.

The point here is that if possible, keep your management groups as large as possible for as long as possible, so that the comparative information within your management group data is most effective within BREEDPLAN.

TIPS ON TRICKY TRAITS

The following information is taken from excellent resources developed by Southern Beef Technology Services (SBTS) and was provided by Ms Catriona Millen. The source information can be found in the **BREEDPLAN Help Centre – Recording Performance** page.



RECORDING BIRTH WEIGHTS

Birth Weight EBVs are estimates of genetic differences between animals in calf birth weight. Birth Weight EBVs are expressed in kilograms (kg) and are calculated from the birth weight of calves.

WHY SHOULD BIRTH WEIGHTS BE RECORDED?

Firstly, if you are recording birth weight, you are obtaining an accurate date of birth on the calf. Accurate birth dates are essential within BREEDPLAN as they provide the basis for calculating 200, 400 and 600 day weight accurately and birth date is used for comparing animals of similar ages within management groups.

Birth Weight is also an important component of calving ease. If birth weights of calves are too high, this can start to result in calving difficulty. 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.

Conversely, if birth weight of calves is too low, this can lead to weak calves with poor resilience and ultimately, calf survival issues.

WHAT CONSIDERATIONS SHOULD BE MADE WHEN RECORDING BIRTH WEIGHTS?

Birth weight should be recorded for the whole calf crop. Without comparisons to the other calves, “occasional” measurements are of no value and can actually be misleading.

There are significant fluctuations in the weight of a calf over its first week of life. Therefore, it is important to weigh calves as close to birth as possible. Ideally, measure birth weight within 24 hours of birth. Do not guess birth weight or use girth/chest size to estimate birth weight. Either weigh the calves or don't record birth weight.

A birth management group should be recorded if there are different treatments of the females prior to calving that may affect birth weight. For example, where one group of cows have had different feed availability. A separate birth management group should also be assigned if the weight of the calf has been affected by special circumstances (e.g. premature calves, the dam was sick etc.) Be wary of protective cows while weighing calves. It is important to take due care when collecting this information.

RECORDING INFORMATION FOR GROWTH TRAIT WEIGHTS

200, 400 AND 600 DAY WEIGHTS

The Weight EBVs are calculated from the live weight performance of animals when they are between 80 and 900 days of age.

Within this age range, BREEDPLAN will use the age of the animal at weighing to determine whether the particular weight is used in the calculation of the 200 Day Growth, 400 Day Weight or 600 Day Weight EBV using the following age splits.

If a 200 day weight for a calf was taken at 280 days of age, BREEDPLAN will consider the age of the calf at weighing and adjust the weight accordingly.

WHAT CONSIDERATIONS SHOULD BE MADE WHEN RECORDING GROWTH TRAIT WEIGHTS?

Weights should be recorded to the nearest kilogram using accurate scales that have been calibrated and tared to zero.

Breeders should choose weighing dates that fit in with their management and are also reasonably close to when the average age of the group of calves is approximately 200, 400 or 600 days old (depending on the respective weight being taken).

Do not submit weights for heifers that are more than 3 to 4 months pregnant at weighing, unless they are at a similar stage of pregnancy and have been pregnancy tested. This is most relevant when submitting 600 Day Weights for heifers that are being calved down at 2 years of age.



BREEDPLAN can analyse up to two weights in each age range (i.e. 2 x 200 day weights, 2 x 400 day weights and 2 x 600 day weights). While there is no requirement to collect multiple weights in each age range, a second weight can help to increase EBV accuracy.

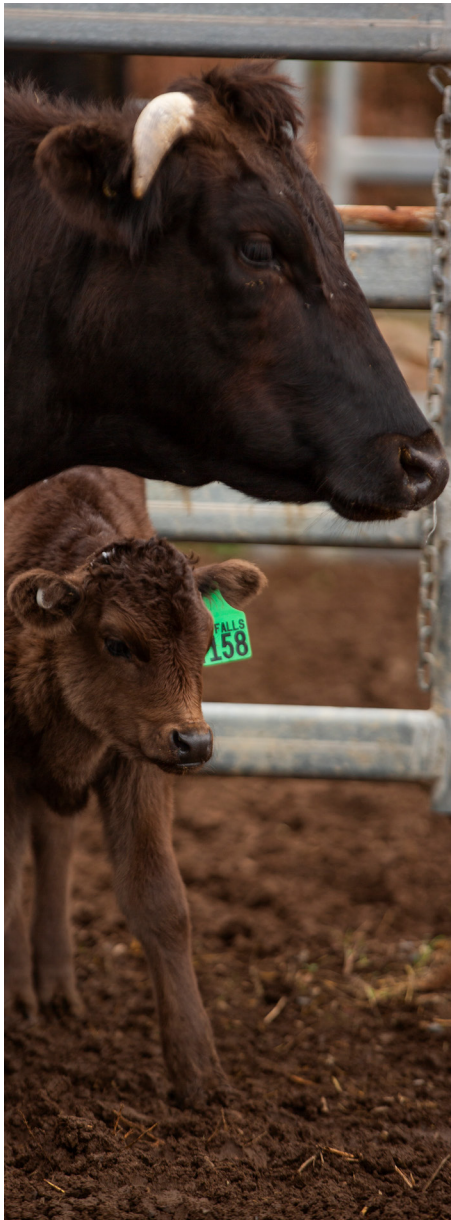
A management group should be entered for any calf or group of calves that have either been treated differently or exposed to significant non-genetic influences since the previous weighing. For example, calves given a supplement should be recorded in a different group to those without a supplement.

Management group consideration should also be given to variations in pasture quality, stocking rates, water quality, etc.

Calves that have been sick should also be placed into a separate management group to their peers.

To ensure the maximum number of calves are analysed in the same management group, you should try to weigh all the animals from one management group on the same day. BREEDPLAN will automatically split your management groups if you weigh on different days. Ideally, calves should be weighed when they are in as large a group as possible. Consequently, try to weigh calves before any of the calves in the management group are treated differently. For example, weigh before you castrate some of your bull calves.

“ Mature Cow Weight EBVs are an estimate of the genetic difference in cow weight at five years of age...



RECORDING MATURE COW WEIGHTS

Mature Cow Weight EBVs are calculated from the live weight performance of mature cows. Mature Cow Weight EBVs are an estimate of the genetic difference in cow weight at five years of age and are based on the weights recorded for cows at the same time as the 200 day weights are recorded for their calves. This is necessary so that all cows are evaluated at a common production point.

WHY SHOULD MATURE COW WEIGHT BE RECORDED?

The weight of mature cows in a commercial beef enterprise has a considerable influence on profitability. In particular, mature cow weight will have a major effect on:

Cow Feed Requirements – in general, lighter cows will tend to eat less and consequently have lower feed requirements and be less expensive to maintain.

Cull Cow Values – the major determinant in the value of cull cows in a commercial herd will be live weight. Consequently, heavier cows may provide higher returns from the sale of cull cows.

WHAT CONSIDERATIONS SHOULD BE MADE WHEN RECORDING MATURE COW WEIGHTS?

For Mature Cow Weight, BREEDPLAN will only analyse a mature cow weight if the cow is older than 2.4 years of age (870 days) at the time of weighing.

BREEDPLAN will only analyse the weight of a mature cow if the cow has a calf with a valid 200 day weight recorded at the same time (i.e. calf aged between 80 – 330 days of age), and this 200 day weight was recorded within two weeks of when the mature weight of the cow was taken.

In practice, it is recommended that you collect the mature weight for a cow at the same time you are recording the 200 day weight of her calf. Mature cow weights should be recorded to the nearest kilogram using accurate scales that have been calibrated and tared to zero.

BREEDPLAN can analyse up to four mature cow weights for each cow. Over time, this will give an average mature cow weight for your animal. It is recommended that you weigh all cows when taking 200 day weights on their calves, every year.

BREEDPLAN will only analyse the mature cow weight performance of a cow if her first valid mature cow weight has been taken before she is six years of age (2200 days). If she is older than this, then none of her mature weights will be analysed.

Management groups work slightly differently for mature cow weights. If no management group information is defined for a set of mature cow weights, the BREEDPLAN analysis will use the management groups submitted with the 200 day weights of their calves to subgroup the weights of the cows.

Therefore, if you have correctly recorded the management group information with the 200 day weight performance for your calves, then you only need to assign a different management group to a cow that has experienced an issue that would have an effect on her weight that is different to that experienced by her calf. For example, if the cow was injured/sick or has been supplementary fed.

If both the mature cow weights and the 200 day weights for their calves are submitted without management group information, the BREEDPLAN analysis will assume all cows and calves have been run under similar management conditions.