

Small Herds

Obtaining Effective Results from BREEDPLAN

One of the most common questions asked by breeders with a relatively small herd is “what size herd do you need to obtain effective results from BREEDPLAN?” This is a difficult question to answer as it depends on a number of factors, however the following document briefly outlines how BREEDPLAN works and what breeders with small herds can do to maximise their results from BREEDPLAN.

Although the BREEDPLAN analysis is a very complex analytical model, the basic mechanism by which it works is to directly compare the performance of an animal with the performance of other “similar” animals within the same contemporary group. BREEDPLAN then uses “genetic linkage” to compare the animals in different contemporary groups both within the individual herd and across the entire breed.

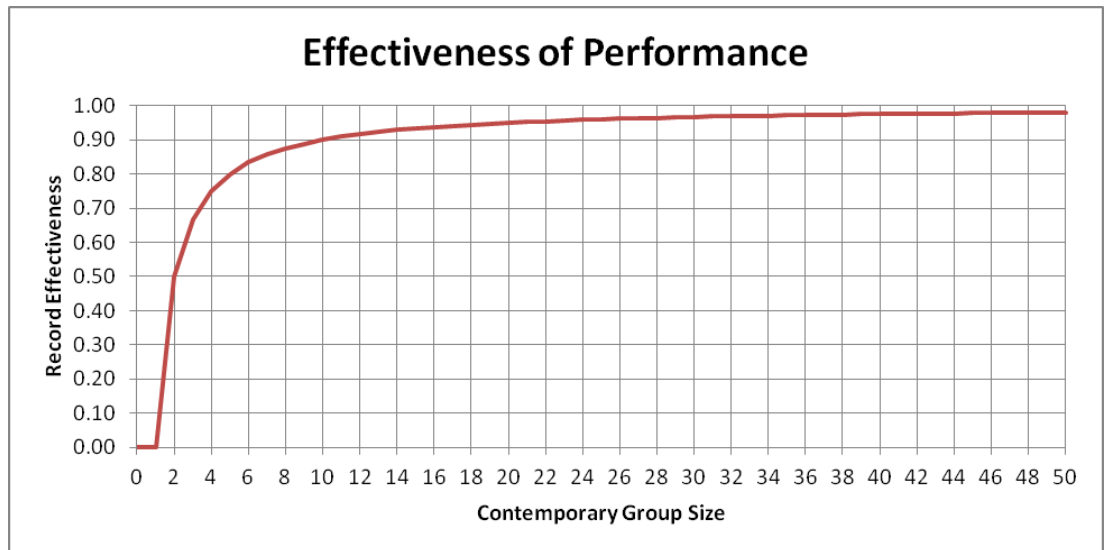
Calves will be analysed in the same contemporary group if they:

- were bred in the same herd,
- are of the same sex,
- are of the same birth number (ie. twins not compared with single calves),
- are of the same birth status (ie. ET calves not compared with AI/natural calves),
- were born in the same calving year,
- were born within 45 days (for birth and 200 day weight) or 60 days (for 400 and 600 day weight) of each other,
- have been weighed on the same day (& have the same weighing history),
- have been run under the same conditions

Therefore, small herds must try and ensure there are at least two animals that meet the above criteria to ensure the performance records for their animals are effective and they obtain effective results from BREEDPLAN. Where there is only one animal represented in a contemporary group, there are no other “similar” animals to which it can be directly compared and thus the performance submitted for it will not be used in the BREEDPLAN analysis.

Taking this further, the effectiveness of an individual animal’s performance record increases as more animals are represented within each contemporary group. The effect of contemporary group size on the effectiveness of performance is illustrated in the graph on the following page.

As illustrated in the graph, the greatest increase in effectiveness is observed going from 1 animal to 2 animals in a contemporary group. That is, a record in a single animal contemporary group is not effective while a performance record in a contemporary group of 2 is 50% effective. Once 5 to 10 animals are represented in a contemporary group, the increase in effectiveness diminishes quite rapidly with increasing group size. However, the general aim for all herds should be to maximise the contemporary group size.



Considering this, there are a number of strategies that breeders can use to ensure they maximise the number of calves included within each contemporary group, maximise the effectiveness of each record and subsequently maximise the results they obtain from their BREEDPLAN recording. Although these strategies are of particular importance to smaller herds, they should also be considered by larger herds as a means of fine tuning their performance recording.

1. *Restricted calving periods*

As calves are only included in the same contemporary group if they are born within 45 or 60 days of one another, it is essential that small herds have as shorter calving period as practical. A calving period of 6 to 8 weeks is ideal.

2. *Run all calves under the same management conditions*

Where possible, all calves should be run under the same management conditions. If calves are to be split into different groups it is useful to weigh the whole group before it is split. For example, it is possible to take 200 day weights anywhere between 80 to 300 days of age, so you can weigh all male calves as a group before a portion of them are castrated.

3. *Weigh all animals on the same day*

As BREEDPLAN will only directly compare the performance of animals that has been recorded on the same day, it is important to weigh all animals within each contemporary group on the same day.

4. *Inclusion of commercial/unregistered animals ***

Many breeders have a small stud herd run in conjunction with commercial animals. If you have a commercial herd of similar breed content to your stud animals, it may also be possible to record these animals with your relevant Breed Association/Society. This will allow a greater number of animals to be included in the same contemporary group.

5. *Associated Herds*

In the situation where two herds run their animals together on the same property, BREEDPLAN can associate the two memberships to allow the performance of calves in both herds to be directly compared together.

6. *Use more than one sire*

More than one sire should be used in any joining program. BREEDPLAN requires at least 2 sires to be represented in each contemporary group if the performance of the progeny is going to contribute to the calculation of EBVs for their sire. Where AI programs are used they should be timed so that AI sired calves are born at the same time as calves sired by natural joinings.

7. *Supply recipient dam details*

Herds that use embryo transfer need to identify the breed and age of the recipient dams of ET calves. If the breed of recipient dams is not supplied ET calves are split into single animal analysis groups and therefore their own performance cannot be used. To maximise the analysis of ET calves by BREEDPLAN, it is preferable if the recipient dams used are all the same breed.

If you require any further information about small herds or have any queries regarding the submission of performance data to BREEDPLAN, please do not hesitate to contact staff at the BREEDPLAN office.

*** Please note, option 4 is not available for all Breed Societies/Associations.*