

Performance Recording in Drought Conditions

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Many regions of Australia have received below average rainfall throughout autumn and winter 2018. Given the seasonal conditions, we thought it would be timely to discuss some of the issues that come up in regards to recording performance information in drought conditions. This article will discuss whether performance information recorded under drought conditions is valid for genetic evaluation purposes, and outline some of the trait specific considerations that sheep producers should consider if continuing to collect performance information under challenging seasonal conditions.

Can I still record performance information in a drought?

Yes. Many producers are worried that light weights on their animals will lower their ASBVs, but this is not the case. OVIS analyses animals within contemporary groups; that is, animals that have had equal opportunity to perform. It is not the raw weight of an animal that is important, but rather how that animal has performed relative to the rest of its peers.

Consider the weights of the 12 animals shown in Table 1. In a non-drought year, under normal seasonal conditions, the average weaning weight of these animals is 32 kg. The animals range from 39 kg (Animal 4) to 26 kg (Animal 10); there are a number of animals that have performed above the average of the contemporary group and a number of animals that have performed below the average of the contemporary group. Their ASBVs will reflect their performance relative to the other animals in their contemporary group.

Now consider the weights of the 12 animals shown in Table 2. In a poor year under drought conditions with limited feed the average weaning weight of these

Table 1. Non-Drought Year Weaning Weights	
Animal	Weight
Animal 1	38
Animal 2	27
Animal 3	37
Animal 4	39
Animal 5	28
Animal 6	32
Animal 7	31
Animal 8	30
Animal 9	35
Animal 10	26
Animal 11	36
Animal 12	29
Average	32 kg

Table 2. Drought Year Weaning Weights	
Animal	Weight
Animal 1	33
Animal 2	22
Animal 3	32
Animal 4	34
Animal 5	23
Animal 6	27
Animal 7	26
Animal 8	25
Animal 9	30
Animal 10	20
Animal 11	31
Animal 12	24
Average	27 kg

animals is 27kg. While the weights are lower than they would be in a non-drought year, we still see a spread in weights, with the heaviest animal weighing 34 kg, and the lightest animal weighing 20kg. As was the case in the non-drought year, some animals perform above the average of their contemporary group, while others perform below the average.

Can Drought Conditions Impact Performance Recording?

While the poor performance of animals due to drought conditions can be handled by the OVIS analysis, there are numerous factors that have the potential to compromise the effectiveness of performance recording under drought conditions. Usually, these factors revolve around the forced implementation of management practices that can cause considerable disruption to routine stud operations and/or the poor condition of stock.

For example:

- Animals may be placed on agistment, often on a number of properties. This can make performance recording difficult (e.g. yards and/or scales not available on all properties) and can result in animals that would normally be managed together being split into multiple management groups (e.g. one or more management group per property).
- Flocks may have an increased and varied incidence of disease and/or sickness. Where animals are sick and this has had an effect on performance, the sick animal should not be directly compared to other animals which are not sick. Thus, increased incidence of sick animals will impact on contemporary group formation for the flock.
- A large number of animals may be sold. Once again, this may impact contemporary group structure.

What Management Practices can be taken to reduce the disruption of drought?

There are a number of strategies that can be taken to minimise the disruption that drought has on the effectiveness of performance recording.

- Where possible, the number of animals within each contemporary group should be maximised and/or maintained. OVIS will use the performance information of an animal more effectively if there are a large number of other animals to compare it with.

- If a contemporary group has to be split for management reasons (e.g. splitting weaned lambs into different paddocks) create the new groups based on criteria such as sex, prior management groups and measurement dates so that animals that are automatically part of the same contemporary group are kept together. In addition, try to get a measurement on all animals before splitting the group (e.g. weigh all lambs before splitting into different paddocks).
- Care should be given to submit accurate management group information. A different management group should be entered for any animal or group of animals that have been treated differently or exposed to different non-genetic influences on performance. For example animals that are supplementary fed more should be placed in a different group to those that do not receive as much supplementary feed.

What other considerations should be made when recording performance information under drought conditions?

In addition to the above strategies, there are several other considerations when recording performance information in drought conditions.

- Animal should only have ultrasound scanning information recorded if they are in adequate condition. To obtain effect results, animal should have a minimum average fat depth of 1.5mm and minimum weight of 35kg. This ensures that there will be sufficient variation between animals to allow their performance to be reflective of genetic differences
- Performance information should be recorded for animals even if they have lost weight. Animals are only directly compared to other animals that have been treated alike. It is how the animal performs relative to the other animals in the contemporary group that is important, not the raw measurement itself.

Conclusion

Sheep producers are able to continue to record performance information in drought conditions. As it is the relative performance of an animal that is important (e.g. how did the animal perform relative to the rest of the animals in the contemporary group) and not the raw performance value, a decrease in production due to drought conditions will not lower an animal's ASBVs.

For further information on recording performance information in drought, please contact us.

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