Dag Score

NZGE Technical Note

Subject:	Selection against susceptibility dags
Related to:	Reduced susceptibility to breech flystrike
Date:	Updated May 2025

Summary

- Selection for reduced dags reduces crutching costs and workload
- Dagginess is moderately heritable (about 30%)
- Selection for reduced dagginess in lambs is correlated genetically and phenotypically with reduced dags as adult ewes
- Selection for reduced dags also selects for reduced susceptibility to breech flystrike
- Selection for reduced dags does not select for reduced parasite susceptibility

Background

The accumulation of dags around the breech of sheep is associated with financial penalties when presenting animals with dags at processing, reduced wool value, increased workload and an increased risk of flystrike.

Dags can be caused by a variety of environmental factors such as sensitivity to changes in diet, internal parasites, ryegrass staggers and mineral imbalances. It is though some sheep have a more sensitive gut and such effects trigger scouring in some sheep more than others.

Genetics of dags

Dags are moderately heritable at about 30% when measured using a dag score post weaning in the autumn and as adult ewes. There is only a weak genetic relationship with other production traits, meaning selection to reduce dags will have little impact on other production Traits. Measurements of lambs post weaning (DAG3) and in Autumn (DAG8) is positively correlated with reduced dags as adult ewes.

Dags and Flystrike

Flystrike is a significant animal welfare issue, causing pain, reduced growth rates and is potentially fatal if untreated. Susceptibility to breech flystrike is moderately heritable (~30%) Dag score is positively correlated (rg = 0.71) with Breech strike, meaning selection for reduced dags also selects for reduced susceptibility to breech flystrike. A Survey of 11 NZ farms showed breech strike accounted for 88% of all flystrike sites. Breech bareness is also associated with reduced flystrike but has a lower genetic correlation with flystrike meaning selection on dag score is more effective to reduce flystrike. Ref 1

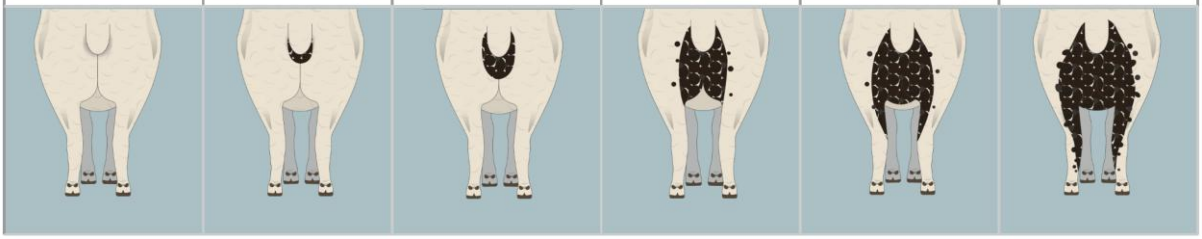
Dags and parasite resistance

Dags are not correlated with faecal egg count, thus selection for reduced dags is effectively independent of selection for decreased internal parasite load. Ref 2. Breeders wishing to breed for reduced susceptibility to parasites via reducing faecal egg count output, should consider using the WormFEC protocol.

Recording Dag Score

Dags are scored using a zero to 5 visual score based on the amount of accumulated faecal matter around the breech. Scoring relates only to faecal matter and not urine staining in ewe lambs, hoggets or adult ewes.

View a copy of the Visual Score Guide on our website

Score 0	Score 1	Score 2	Score 3	Score 4	Score 5
No dags.	Small amount of dags.	Dags around anal area. Not extending to udder or testicles.	Moderate amount of dags.	Dags extend to inside hocks.	Dags extend through crutch and down back legs to feet.
					

When to collect data

The evaluation uses two scores of dagginess in young animals and repeated annual dag scores on adult ewes to predict genetic merit for Dag Score. You do not have to record both dag scores on young animals, but the accuracy of the breeding values are greater with two scores. To get the best discrimination for genetic propensity to accumulate dags, scoring should occur when at least 50% of the animals in a mob have a dag score above zero.

DAG3 – is usually scored soon after weaning, generally from December to February. Lambs have typically NOT been crutched prior to DAG3 score. Record date and mob.

DAG8 – is scored in Autumn, generally from March to May. Usually crutched post DAG3 and well before DAG8 scoring.

DAGA – adult dag scores on ewes can be assessed annually, preferably at weaning if there is sufficient variation in dag scores. Dag scores on rams up to 12-15 months will be included in the analysis but older ram scores are not used.

Record Date and Mob information.

Record the date of scoring and a mob code, animals with the same mob code should have been run together, experienced the same feed, conditions and management (e.g. crutched not crutched, drenched, not drenched) during the period dags developed prior to measurement.

If there is more than one person scoring, then they should score separate mobs and a different mob code assigned. Contact your bureaus if you have further questions.

Drenching

Animals can scour for a number of reasons other than internal parasites. There is no need to avoid drenching in order to dag score, however in order to get the best discrimination for genetic merit for Dag score you should aim for at least 50% of animals in the mob to have a score greater than zero

Indexes and Breeding values

The evaluation produces two breeding values – Lamb Dag Score (LDAG) and adult dag score (ADAG). Lower breeding values for dag score show a lower predisposition to produce dags, higher values indicate a greater predisposition to dags. So more negative breeding values are better.

The breeding values are combined with relative economic values that reflects the cost associated with dagging and crutching lambs and ewes into a Dual-purpose dag (DPD) index. With indexes a higher value always indicates greater genetic merit for the trait.

Reference

1. *Estimates of genetic parameters for breech strike and potential indirect indicators in sheep. NZ Veterinary Journal 2015. Pickering, NK, Blair, HT, Hickson, RE, Johnson, PL, Dodds, KG and McEwan, JC.*
2. *Genetic Parameters for production traits in New Zealand dual-purpose sheep, with an emphasis on dagginess. Journal of Animal Science 2012. Pickering, NK, Blair, HT, Hickson, RE, Johnson, PL, Dodds, KG and McEwan, JC.*