

Bare Points Sheep

SIL Technical Note

Relates to: **Recording of Breech and Belly cover and Tail traits for Bare Points Sheep**
Written by: Sharon McIntyre, Sheryl-Anne Newman & Mark Young
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Summary

- A registered Goal trait to enable breeders to select for bareness to reduce the need for crutching, dagging or fly strike treatment, improving the welfare of sheep and decreasing production costs and losses.
- Production of breeding values for Breech, Belly bareness, Tail length score and Tail Skin bareness.
- Production of a Bare points sub index (Dual Purpose Bareness DPB) incorporating information from
 - Breech and Belly bareness scores at weaning
 - Tail length and length of bare skin under the tail
 - Dag score at weaning
 - Weaning weights
- Economic weightings are based on reduced crutching and dagging costs within flock associated with a 1 score increase in bareness

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The bare points module in SIL is designed to enable breeders to select for bareness to reduce the need for crutching, dagging or flystrike treatment, improving the welfare of sheep and decreasing production costs and losses. Animal welfare issues are of increasing importance to New Zealand sheep farmers, with major animal welfare problems such as flystrike causing significant production losses. It is estimated to cost the New Zealand industry \$40 to \$50 million annually (Beef + Lamb New Zealand, 1999) through production losses and control strategy costs, including insecticide, lamb shearing and crutching.

An alternative and more permanent approach is to breed for sheep that are genetically resistant to flystrike. Flystrike has moderate heritability and a high genetic and phenotypic correlation with dagginess, weaning weight and wool fibre traits (Pickering et al., 2012b), suggesting potential indirect prediction traits that could be used in a selection programme. Even in areas of lower flystrike challenge, there are advantages for bare points sheep due to the reduced costs and labour associated with less crutching and dagginess – the production of “easy care, low cost sheep”.

Breech and Belly bareness and Dag score at weaning, have a moderate (0.3-0.35) heritability and tail length and tail bare skin length have a moderate to high (0.4-0.55) heritability. There is a negative correlation between breech bareness and dag score, meaning increased bareness results in less dags. Preliminary work confirmed a weak negative correlation between bareness and fleece weight, this may be due to either; less belly and crutch wool reduces the overall fleece weight or possibly a more general reduction in overall fleece growth. Studies so far show a negative correlation of -0.2 between belly bareness and hogget fleece weight for cross bred hoggets.

Recording Bare Point Traits at weaning

Bare Points is a registered goal trait meaning breeders need to register with SIL to record and report the trait. Bare points breeding values and sub-index will only be produced for registered breeders with a minimum of two years data on a reasonable number of animals.

SIL recommends the same person “scores” or “measures” each individual trait for consistency. If more than one person assess the same trait (e.g. in a large flock), add an operator code (e.g. 1, 2) so that they are treated as recording mobs to remove any small biases between operators. Record or measure all lambs on the same day if possible and record the measurement date.

- Breech Bareness at weaning (BBREECH) is recorded on a 5 point scale (Appendix 1)
 - 1 = covered (wool up to and covering the anus)
 - 5 = bare (no wool around the breech and continues down the legs)
- Belly Bareness at weaning (BBELLY) is recorded on a 5 point scale (Appendix 2)
 - 1 = covered (wool completely covering the belly and deep into the leg axis)
 - 5 = bare (the entire belly area is wool free)
- Dag score at weaning (DAG3) is recorded on a 6 point scale (Appendix 3)
 - 0 = no dags
 - 5 = extensive dags around the rear and down legs.
- Weaning weight (WWT) in kgs at around 3 months of age

Optional recording traits - Tail characteristics

Tail traits are not currently included in the Bare Points sub index (DPB) but could be included in future, if sufficient data was collected.

- Tail length score (TLENSC) at tailing/docking on a 3 point scale (Appendix 4)
 - 1= short (less than 15cm)
 - 2= medium (15-25cm)
 - 3= long (greater than 25cm)
 - Tail length (TLEN) is converted to TLENSC in the analysis
- Tail bare skin (TSKIN) at tailing
 - The length of the bare skin area on the underside of the tail (cm)
- Date of measurement – as with all recorded traits, a date of measurement is required to adjust for the age of the animals

Recording Bareness at later ages

There is an option to record a belly bareness score at 18 months (BBELLY18) on SIL. Some sheep shed belly wool later; these sheep dry quicker for shearing and reduce the need for pre-lamb crutching. A liveweight at 18 months (LWMATE) should also be recorded. This data will not be used in the analysis currently but may be added in the future when sufficient information is available.

Other Bare Points traits available in SIL are breech bareness score at 18 months (BBREECH18) and two adult repeat traits of BBREECHMA and BBELLYMA. This data will not be used in the analysis.

Reporting Bare Points

Breeders can report

- Breeding values for Breech bareness (BBREECHeBV) and Belly bareness (BBELLYeBV)
- Breeding values for Tail Length (TLENSeBV) and Tail bare skin (TSKINeBV)
- The Bare Points sub index (DPB includes Bareness eBVs and economic weightings reflecting the values of reduced lamb, hogget and ewe dagging and crutching costs.
- Note: weaning weight and dag score information is also used in the prediction of bareness breeding values

Bare Points Goal Trait Group Summary

Predictor Traits	Analysis Traits	Breeding Values	Index
Bare Belly Score	BBELLY	BBELLYeBV	<i>Dual Purpose Bare Points (DPB)</i>
Bare Breech Score	BBREECH	BBREECHeBV	
Tail Length Score	TLENSeBV	TLENSeBV	
Tail Length	TLEN		
Bare skin under tail	TSKIN	TSKINeBV	
Dag Score at 3 months	DAG3		
Weaning Weight	WWT		
Optional		In Future	
Bare Belly at 18 months	BBELLY18	BBELLY18eBV	
Bare Breech at 18 months	BBREECH18	BBREECH18eBV	
Bare Belly Mixed Age	BBELLYMA		
Bare Breech Mixed Age	BBREECHMA		

References

Beef + Lamb New Zealand 1999. Research and development brief, Number 54. Combating flystrike and lice through using a model approach. Beef + Lamb New Zealand, Wellington, New Zealand 2p.

Pickering NK, Dodds KG, Blair HT, Hickson RE, Johnson PL and McEwan JC 2012b. Estimates of genetic parameters for flystrike in New Zealand Romney and Romney cross sheep. Proc. New Zealand Society of Animal Production 72: 189-191

Scobie DR, O'Connell D, Morris CAS, Hickey SM 2007. A preliminary genetic analysis of breech and tail traits with the aim of improving the welfare of sheep. Australian Journal of Agricultural Research 58:161-167.

Scobie DR, O'Connell, Morris CA, Hickey SM 2011. Inherited bareness of the belly reduces time taken to shear ewes and hoggets. Animal Production Science 51:176-18

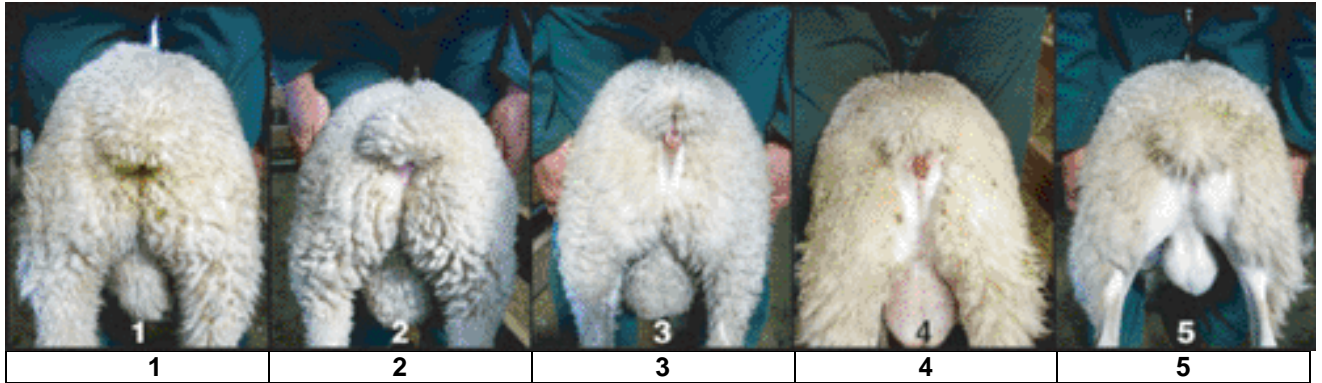
Need more information?

Contact your SIL bureau, send an email to silhelp@sil.co.nz or phone 0800 silhelp (0800 745 -435). A further technical note covering Dag score is available on the SIL website www.sil.co.nz

Note: This page can be printed and laminated as an in yard reference.

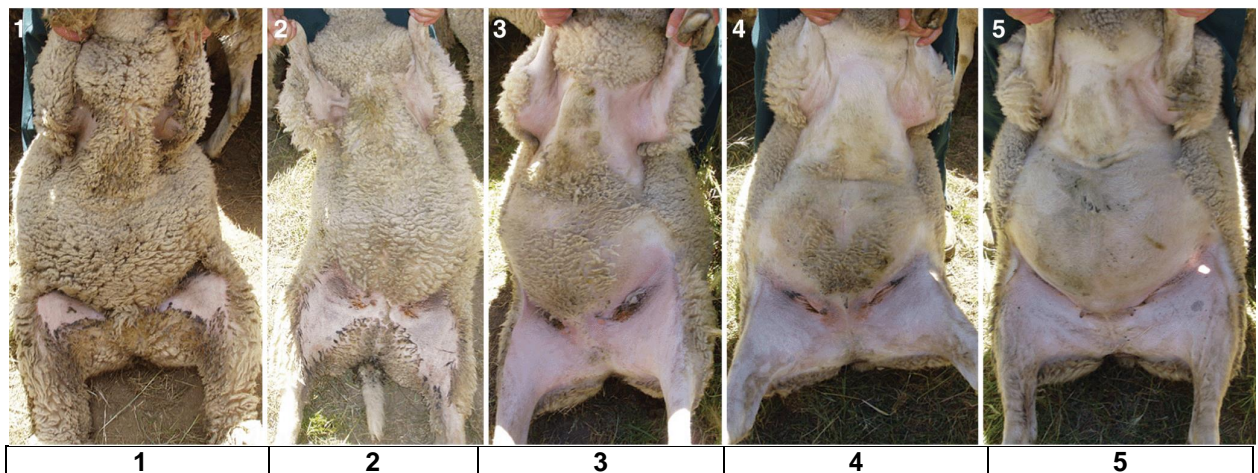
Appendix 1. Breech Bareness Scores (Trait = BBRECH)

Breech bareness scores from '1' with wool to the edges of the anus to '5' with a large bare area of skin around the anus (Scobie et al., 2007).



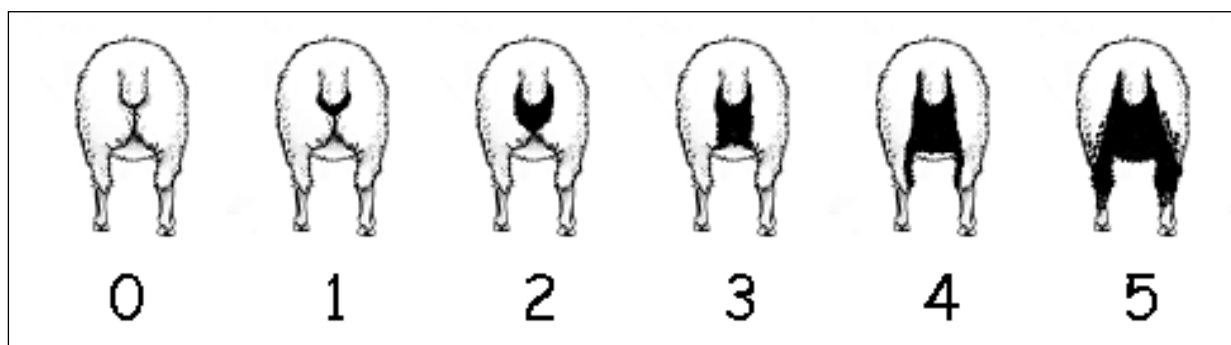
Appendix 2. Belly Bareness Scores (Trait = BBELLY)

Belly Bareness scores from '1' with wool completely covering the belly and deep into the leg axis, to '5' with the entire belly area completely free of wool (from Scobie et al., 2011)



Appendix 3. Dag Score – Note 0-5 scoring system (Trait = DAG3)

Dag scores from '0' for no dags through to '5' for extensive dags around the rear and down the legs. (Scobie et al., 2007).

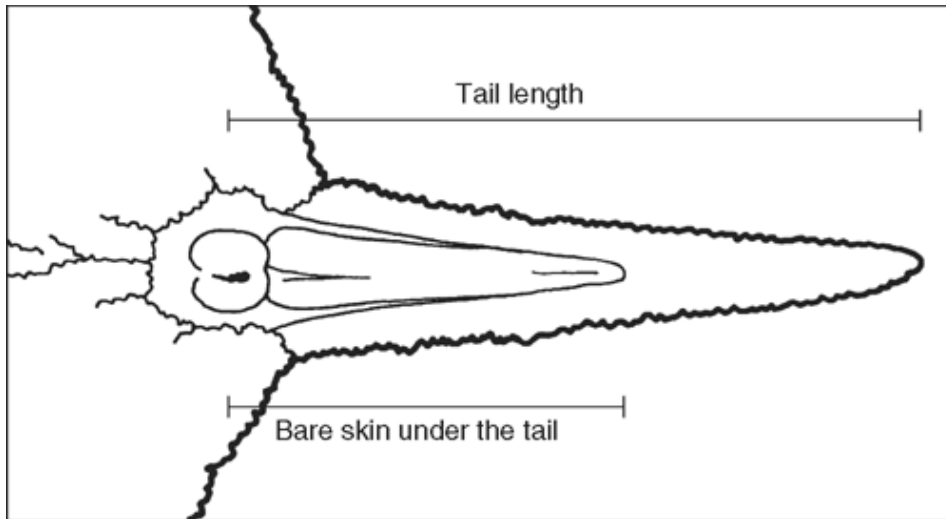


Appendix 4. Measuring tail traits at tailing/docking (Optional)

Measurement of tail length (TLEN) and length of bare skin under the tail (TSKIN) (from Scobie et al., 2007).

Tail Length is scored on a 1 to 3 scale relating to measured length (TLENSC)

- 1 Short less than 15cm
- 2 Medium between 15 and 25cm
- 3 Long greater than 25cm



The length of the bare skin on the underside of the tail is measured in centimetres (cm) from the anus to the start of the wool area. (TSKIN)

Note: Tail length of cm (TLEN) is converted to Tail length score (TLENSC) in the Bare Points analysis.