

There are large differences between the staple strength of sheep. Some of these differences are due to the genes the animals carry, and these are passed on to their progeny.

The practical aspects of breeding to reduce fibre diameter and improve staple strength are discussed in a paper written by Linda Hygate and presented at the Australian Sheep Veterinarians Annual Conference in 2001. You can download a copy of that paper by [clicking here](#).

Using genetics to cost-effectively improve staple strength

It has been known for some time that staple strength can be improved using advanced genetic selection strategies. However, in many cases these are not cost-effective. The use of tactile ("hands on" $\hat{\square}$) methods to improve staple strength were investigated in the World's Finest Ram Project, at the South Roxby research farm in the western District of Victoria, from 1996-2002.

Results

Hogget coefficient of variation of fibre diameter (CVFD) was shown to be a useful indicator of adult staple strength (SS) in these fine wool sheep.

The correlation between sire estimated breeding values for CVFD, measured at a hogget shearing, and SS measured a year later, was -0.61. Responses to selection using a number of breeding objectives suggest that decreasing fibre diameter will lead to decreases in SS.

However, including direct measurement of SS as a selection criterion will lead to slight gains in SS over one generation of selection.

These results were published in the Proceedings of the Association for the Advancement of Animal Breeding and Genetics biennial conference, held in 1999.

[Hygate LC (1999). Role of classing comments in merino sire evaluation schemes. Proc. AAABG 13: 161-164]