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# FinewoolOutwest

The Newsletter of The Condobolin Fine Wool Project

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## Why grow fine wool?

*Fine wool bloodlines are consistently more profitable.*

Analysis of Australia - wide wether trial results has identified the relative genetic performance of over 190 bloodlines. The analysis removes environmental effects between trials and years, leaving only genetic differences between bloodlines.

Large differences in production between bloodlines have been identified by this analysis (Figure 1).

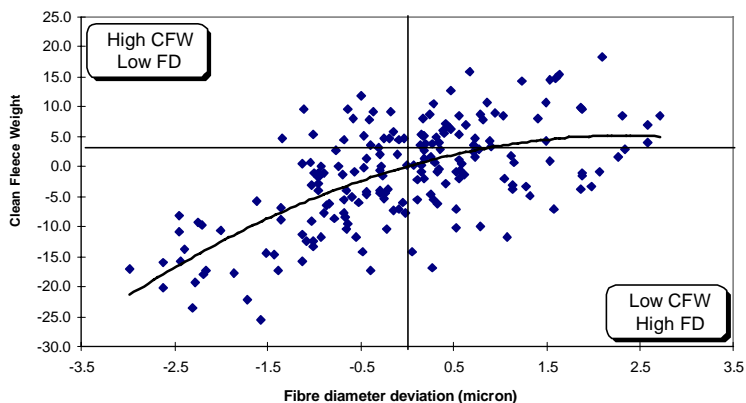


Figure 1: There are large differences in production between bloodlines.

The curved line of best fit through the bloodlines shows a varying trend for different sectors of the industry:

- for fine to medium bloodlines there is a large increase of 10% fleece weight for an increase of one micron in fibre diameter.
- for the medium wools there is only a moderate increase of 5% fleece weight per micron.
- for the medium to broad wools there is little or no increase in fleece weight with a micron change.

For the 192 bloodlines analysed, the finer bloodlines generally had superior style, shorter length and better colour.

The economic value of all traits were used to calculate gross margin values for each bloodline. These gross margins show substantial variation, ranging from 35 per cent above the average gross margin to 30 per cent below the average return (Figure 2).

The finer bloodlines, those towards the left of the figure consistently have higher gross margins and hence are more profitable.

The full results of the Australia-wide wether trial analyses is available in the Merino Bloodline Performance package produced by NSW Agriculture's Merino Breeding Group.

If you would like a copy of the package contact the group on

phone: 02 6391 3812, fax: 02 6391 3922 or email: [abs@agric.nsw.gov.au](mailto:abs@agric.nsw.gov.au).

## Fine bloodlines

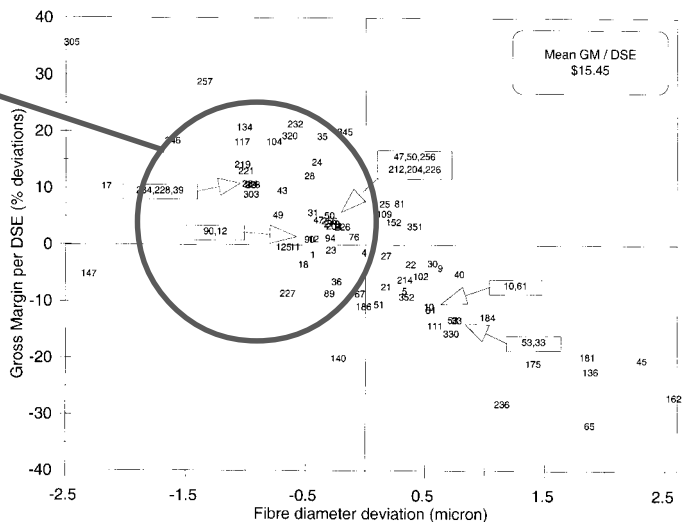


Figure 2: Finer bloodlines are more profitable

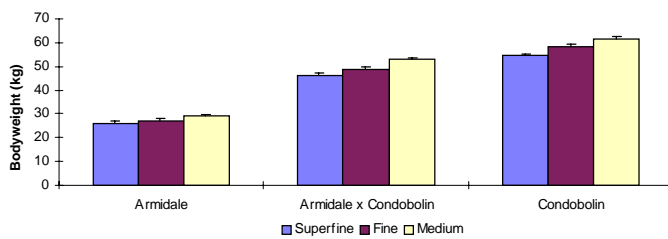
# Moving fine wool sheep west

*Are wool production and quality affected?*

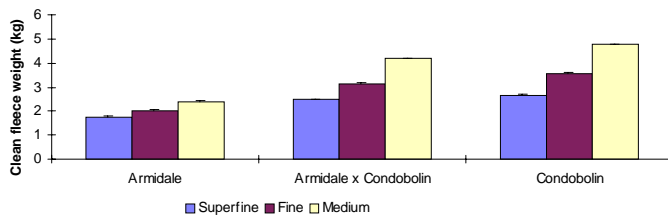
Most fine wool grown in New South Wales is produced by a small number of bloodlines located in the northern, central and southern tablelands. If fine wool production is to increase, it will most likely occur through the use of these fine wool bloodlines in other 'non-traditional' fine wool environments.

Fine wool bloodlines will be introduced into these new areas mainly through a combination of the use of fine wool rams over existing bloodlines as well as the actual transportation of fine wool sheep, be they ewes or wethers, from their traditional areas into these "new" environments.

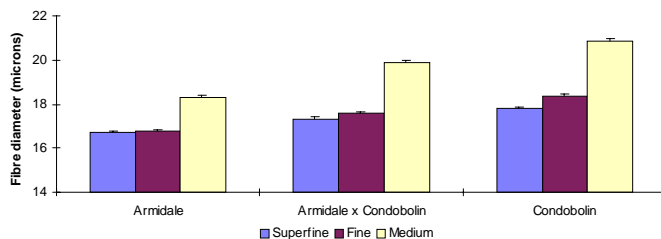
A recent analysis using data from the Condobolin Fine Wool wether flock, looked at the effect of moving sheep between environments on traits important to profit.



*Figure 1: Large increases in bodyweight occurred for all micron groups.*



*Figure 2: Clean fleece weights increased for all three micron groups.*



*Figure 3: There were only relatively small changes in fibre diameter*

The 11 bloodlines which make up the wether flock at Condobolin were grouped into their respective micron categories - superfine, fine and medium. The data was then grouped into location categories - Armidale (hogget

shearing), Armidale x Condobolin (first Condobolin shearing) and Condobolin (3, 4 and 5 year old shearings).

For all three micron groups there was more than a 100% increase in body weight between their hogget shearing in Armidale and their 3 year plus shearings at Condobolin (Figure 1). At each shearing the medium wool group were always the heaviest, followed by the fine and superfine groups.

Based on their body weights at Condobolin fine, and even superfine, wethers will achieve an acceptable carcass weight of 22kg (assuming a dressing percentage of 40%) when sold as 3 year olds or older.

Therefore producers shifting to fine wool production in these environments will not necessarily lose revenue as a result of selling fine or even superfine wethers as store sheep compared to traditional medium and broad wool types. This result will be confirmed in the future using slaughter information from fine wool sheep born into the Condobolin fine wool breeding flock.

Not surprisingly, the percentage yield of the wool decreased in the Condobolin environment. This was largely due to the differences in land usage and soil types between the tablelands areas, which are a predominantly grazing system on trap, granite and basalt soils compared to the Condobolin environment which is a typical cereal/sheep system based on red soils.

The clean fleece weight of each micron group increased at Condobolin (Figure 2). The increases between the Armidale and Condobolin shearings were 59, 80 and 100 per cent for the superfine, fine and medium groups respectively.

Despite these large increases in clean fleece weight, there were only relatively small increases in average fibre diameter of 1.1, 1.6 and 2.6  $\mu\text{m}$  for the superfine, fine and medium groups respectively (Figure 3).

These changes in fleece weight per unit change in fibre diameter are very large compared to what we would have expected from the Australia-wide wether trial analyses (see the "Why grow fine wool?" story).

As the large increases in wool production were associated with relatively small changes in fibre diameter and body size, it was surprising that there was little difference in staple length between the three environments, regardless of micron group. Therefore, there must then be some underlying change occurring in the wool follicles in the skin to affect wool production

and quality to such an extent. We will be investigating this using skin samples taken from the wethers at different ages.

In conclusion, the movement of fine and superfine Merino sheep to non-traditional environments, led to a dramatic increase in wool production accompanied by only relatively small changes in fibre diameter and virtually no change in staple length.

The benefits of this are two-fold:

- Firstly, despite the increase in production,

producers of superfine and fine wool in these environments will not suffer from price penalties for producing over length wools.

- Secondly, even though the yield and style of superfine and fine wool may suffer in non-traditional environments, this would be largely overcome by the additional production being achieved in Condobolin-type environments.

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## Fine wool fleece best at Condo show

During shearing, a number of fleeces were selected to be used at field day displays. Three of these fleeces were entered into the Merino fleece competition at this years Condobolin show.

One of the fleeces was judged to be the "Best Commercial Fleece" of those entered with a point score of 80 out of a total of 100. The fleece weighed 3.8 kg, and was appraised to have a yield of 73%, vegetable matter content of 0.9%

and a fibre diameter of 18.0  $\mu\text{m}$ .

Based on these results the fleece has an estimated value of \$33.75. This was about \$6.00 more than the second placed fleece which weighed nearly 9 kg! However, the appraised fibre diameter of the fine wool fleece was a little off the mark. At the 1998 shearing, the midside sample taken from this wether measured only 15.97  $\mu\text{m}$ !

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## From wethers to ewes and lambs

Since its inception, the Condobolin Fine Wool Project has been focussed on the wool production and quality of fine wool wethers in non-traditional environments and has answered basic questions on the ability of fine wool sheep to survive and produce wool in "non-traditional" fine wool environments.

However, this is only part of the story. If commercial wool producers are to make the switch to finer bloodlines in western environments, we need to determine the reproductive performance of fine wool ewes in

these environments as well as growth, survival and the suitability of fine wool lambs as breeding flock replacements or to the lamb and/or store sheep markets.

In response to questions and feedback from producers the emphasis of the Condobolin Fine Wool Project is shifting strongly toward a breeding flock. Results from the breeding flock to date as well as an outline of future work will appear in a future issue of "**Finewool Outwest**"

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## Merino breeding and selection workshops

This is a course for commercial Merino breeders who want to:

- understand breeding principles for better Merino breeding.
- achieve better selection skills for more profitable Merino breeding.

"Merino Breeding & Selection - A Commercial Focus" is a practical course that will put you in control of your breeding program.

This workshop aims to bring you up to date with the latest breeding technology and to develop selection skills that will significantly improve the production and profitability of your flock.

The presentation method of the workshop is very flexible and can be organised to suit the requirements of any interested groups. It can

be run as a single day workshop or spread over several sessions to suit your requirements.

The workshop consists of six modules and is supported by a detailed manual. The six modules are:

- Meeting your market needs
- Key features of a profitable Merino enterprise
- Developing a breeding objective to increase profit
- Benchmarking genetic performance
- Strategies for change
- Merino sheep selection

Many of the modules involve hands on sheep selection exercises.

This workshop is a joint project of the wool sub-program of NSW Agriculture and The Woolmark Company through their Rampower program. There is no cost to woolgrowers participating in this workshop before 30 June 2000. All you need is a group of about 20-25 wool growers.

For further information contact:

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## Sheep coats

*Can they protect the fleece from the environment and improve wool style?*

One of the reasons for fine wool production in New South Wales being largely confined to the tablelands region have been concerns about the deterioration of wool style and increased vegetable matter and dust contamination which was thought to occur in "non-traditional" fine wool environments.

In these environments sheep coats could be used to protect the fleeces of fine wool sheep and improve style and decrease the amount of vegetable matter and dust.

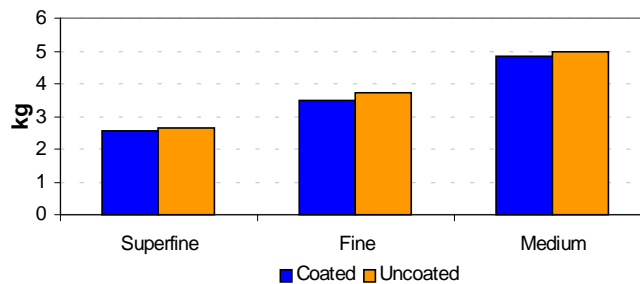


Figure 1: Coated sheep had lower greasy fleece weights

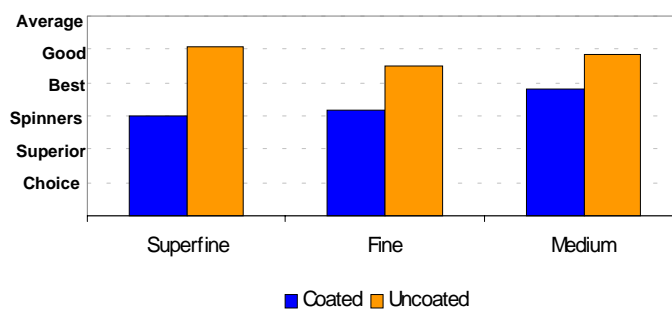


Figure 2: Coated sheep had better style

The use of sheep coats is not new. Since the 1930's, a number of trials have been conducted to assess the effect that coats have on the fleece of sheep. The earliest sheep coats used in Australia were made on-farm from fertiliser or

grain sacks. Today, the coats are made from a high tensile UV stabilised nylon material.

It is highly likely that this 'evolution' in sheep coat design and manufacture has contributed to the varied and sometimes conflicting reports on the benefits or otherwise of using coats and the impact they have on wool production, wool quality and processing performance of the fleeces they are protecting.

A proportion of the 1996 drop wethers at Condobolin were fitted with sheep coats to determine whether the coats are a viable value adding option for fine wool in non-traditional fine wool environments in terms of both wool quality and economics.

Some preliminary results from this study are:

- the greasy fleece weights of the coated sheep were lower than the uncoated sheep. This is due to the uncoated sheep having a higher dust and vegetable matter content than the coated sheep (Figure 1).
- the coated sheep has better style than the uncoated sheep, with little dust penetration, tip weathering and low vegetable matter contamination (Figure 2)

Each sheep coat costs between \$3.75 and \$5.00 and should easily be able to be used for 2 years. During this time it is likely to cover about 10kg of wool. Therefore, to cover the costs of using the coats, the coated wool needs to increase in value by between 38c and 50c per kg. Depending on the micron of the coated wool, the improvements in style alone, should lead to increases in value of this magnitude.

The midside samples from the coated and uncoated wethers have been sent to AWTA for measurement. A full analysis of the results will appear in a future issue of "**Finewool Outwest**".

## For more information...

For more information on any of the articles in "**Finewool Outwest**", please contact:

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