

Fabulous Fibre:
reducing micron
count of finer wool
quality UK sheep
breeds to increase
productivity,
sustainability and
resilience for farmers
and in the wool
industry





Summary

Fabulous Fibre: reducing micron count of finer wool quality UK sheep breeds to increase productivity, sustainability and resilience for farmers and in the wool industry

The goal is to exploit natural variation in wool fibre diameter (micron) so farmers can produce separate lines for sale based on micron, and to drive genetic improvement programmes to reduce micron in strong wool (high micron) to a level that commands a price premium.

1. Develop a low-micron wool measurement method for use on farm.
2. Estimate how much variation in micron is genetic.
3. Describe a method to identify and group fleeces of similar micron to market lines of wool.
4. Describe a future programme for genetic improvement of micron, to reduce variation in, and lower average of, wool micron in maternal sheep.



Flock Data

Table B. Sire mating groups and fibre diameter (micron) metrics.

Sire mating group		Sire ID	Sire's own micron	Sire progeny group size	Progeny group average micron
Blue		15088	27.8	100	26.0
		15159	28.0		
		15367	24.2		
Green		15546	26.5	63	26.7
Orange		15517	25.0	54	25.2
Purple		11579	26.6	59	26.7
Red		15367	26.9	55	26.9
		15532	26.9		
TOTAL				331	

Table D. Estimates of heritability from the fitted models described.

Variable	Units	Heritability (%)
Fibre diameter	micron	60.6
Fibre micron variability	micron	51.0
Fibre diameter – coefficient of variation	%	40.3
Staple length	mm	25.2
Spinning Fineness	micron	60.4
Fibre curvature	deg/mm	27.1
Comfort factor	%	52.0



Summary

- Fibre diameter is strongly heritable and so ideally suited to improvement through genetic selection.
- Other wool traits appear favorably related.
- We require larger study to estimate the critical genetic correlations needed for optimized selection indexes across all key traits (not just wool) linked to flock profit.





See wool in a whole new light

Reducing the micron count of finer wool quality UK sheep breeds to increase productivity, sustainability and resilience for farmers and the wool industry.

**Current
Romney Fleece**

£1.05

Micron: 30-34

Typical Products: Knitwear, Upholstery

**Fabulous Fibre
Wool Fleece**

£6.00
(est)

Micron: 27-28 (Target)

Typical Products: Fine Knitwear

Interested?



Future Planning



Given the positive heritability results from the project, the consortia are looking to run a future project in the upcoming FIP calls.

As part of this hopeful future project, Frank, NSA, and UK Agri-Tech Centre have met with Innovis Ltd to see about their potential involvement.

Frank and NSA, have also talked to some of the other breed societies to see if they are interested as well.



Next Steps

- 25 micron?
- How to identify finer wools when graded or on farm
- Processors and manufacturers of clothing/apparel need UK produced fine wools
- Important to find sufficient volume of wool to process – minimum 2 tonnes



Bronte
BY MUON

All of our British Romney
wool can be traced back to
the individual farm.

Through British Wool, we are able to
trace all of the wool that we acquire
to any one of the 35,000 farms across
the UK from which British Wool
sources its wool.



Snowline Sheep and Fine Wool – The Future?

- Do you have white woolled sheep and are you happy with the low price you receive?
- Have you given up on wool and moved to shedding breeds with little or no wool?
- Did you know there is a safe middle option of producing wool below 30 microns, which sells at a premium price?

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