



WONDERS OF WOOL

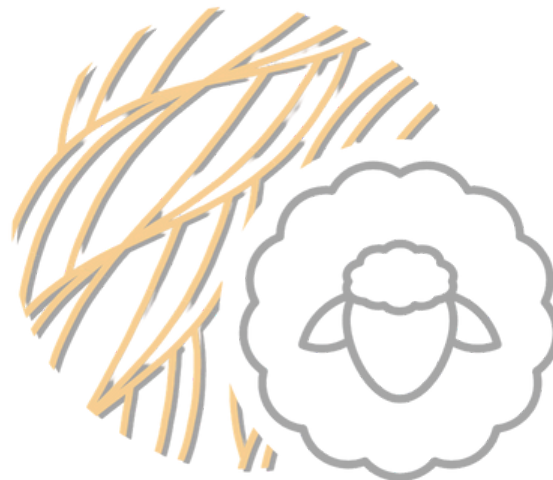
Wool is a sustainable, climate-smart product. It is renewable, hard wearing, fire resistant, biodegradable and versatile.

Its value has decreased over decades of substitution by synthetic fibres.

Shearing is seen as an inconvenience to most farmers and is performed for animal welfare rather than income. The shift to wool-shedding breeds could threaten the long-term supply of UK wool.



FABULOUS FIBRE



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ABOUT

Delivered as part of Defra's Farming Innovation Programme in partnership with Innovate UK, Fabulous Fibre aimed to determine how quickly and effectively wool micron can be reduced without affecting meat quality and yield.

Once seen as a low-value by-product, wool is now being recognised as a renewable, biodegradable smart material that could transform the sustainability of modern industries.

By decreasing the fibre micron through selective breeding, it is possible to produce a product of high value.



INTRODUCTION

Frank Langrish produces more than 20 tonnes of Romney and Romney cross wool from his 4,000 ewe flock. He was spending £15,000 on shearing costs yet only receiving £5,000 from its sale.

Through research, he found New Zealand farmers had increased the value of the wool by decreasing the micron (diameter) of the wool fibre to produce finer, softer wool suitable for high-end textiles offering a higher premium.

On average a 30micron fleece will fetch 30p/kg whereas a value of 25micron will fetch 250p/kg.



GENETICS

The Fabulous Fibre project was a pioneering genetics and breeding initiative to improve the quality and value of UK wool for outlets requiring a soft, fine material.

Frank's breeding ewes were individually tested for a range of fleece qualities to identify those with high and low micron values. Rams with a micron value of less than 30 were split between five mating groups and the progeny were individually analysed for fibre diameter, staple length, spinning fineness, curvature and comfort factor.

Results showed 90% of the lambs from the breeding programme had wool fineness less than 30micron, without making a difference to the quality of the lambs for the meat market.



OUTCOME

The project demonstrated by producing finer wool it is possible to:

Increase profitability: Finer wool commands higher prices, enhancing farm income as lower micron wool is softer and more desirable for textile applications.

Improve sustainability: Offers improved utilisation of a naturally sustainable fibre helping to deliver net zero targets and more widely environmental protection, increased biodiversity, carbon sequestration, employment and support for rural communities delivered from UK sheep farming.

Expand market opportunities: Finer wool opens the doors to new markets like high end textiles, creating diverse income sources.

The project demonstrates fibre diameter can be changed through breeding and genetics, due to high genetic heritability.

