

REAL MEASURES OF WOOL KNITWEAR HANDLE



Australian Sheep CRC researchers have developed a system to specify fabric handle in next-to-skin knitted fabrics. Using a specially-developed instrument and software, The Wool HandleMeter™, we can accurately predict 7 key fabric handle attributes that describe lightweight knitted fabrics. The attributes are smoothness, softness, warm feel, dry feel, hairiness, tightness and weight. The Wool HandleMeter™ is currently undergoing commercial trialing to evaluate its performance.

Background

The knitwear market represents about 60% of consumer expenditure on wool apparel and the “Handle” or hand feel of the garment is an important component of the purchase decision. There are opportunities to improve wool’s market share in next-to-skin knitwear through the development of high quality products with superior fabric handle and comfort.

To address these opportunities, rigorous and reliable fabric and fibre specifications are required together with measuring devices for quality assurance. Australian researchers in the Sheep CRC are well on the way to delivering them.

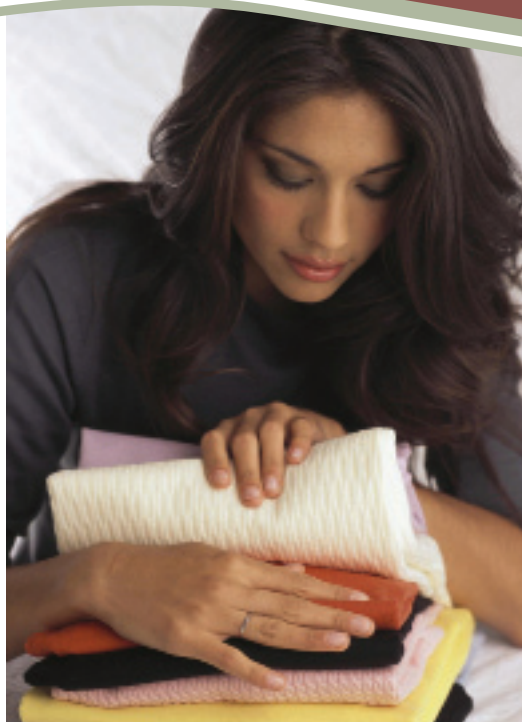


Image courtesy of AWI

Goal

The research program’s ultimate goal is to take the market for casual, lightweight, next-to-skin products to new levels. In conjunction with the Wool ComfortMeter™, the Wool HandleMeter™ will provide the tools to overcome the misconception that if a fabric feels soft it will be comfortable next to the skin, and take advantage of wool’s inherent quality as an apparel fibre. It will build on wool’s position of being natural and sustainable, and underpin its advantages in moisture, heat and odour management.

Delivering measurable and predictable quality

Information is everything in a supply-chain. Retailers and manufacturers will be able to specify a value for fabric handle and comfort in their buying orders; this in turn will generate specifications for wool types and processing procedures to meet these requirements.

Transforming wool, meat and the sheep that produce them

The instrument

The 'Wool HandleMeter™' was developed by the Sheep CRC. It is based on a traditional technique used for centuries whereby a woman would assess the quality of a fabric by passing it through her wedding ring – the easier the fabric passed through the softer the fabric would feel. This age old technique separates fabrics based on their extensibility, stiffness, surface roughness and friction.

Researchers have measured a range of over 70 next-to-skin knitted fabrics and also had them assessed by a panel of experienced judges for smoothness, softness, warm feel, dry feel, hairiness, tightness and perceived weight. The Wool HandleMeter™ has been able to predict the judges ratings for these fabric handle attributes based on the test results – an objective, repeatable value which encapsulate fabric handle.

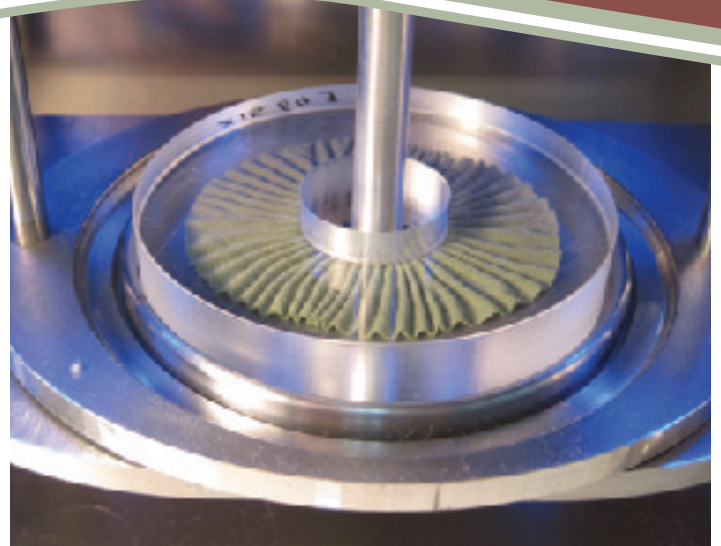
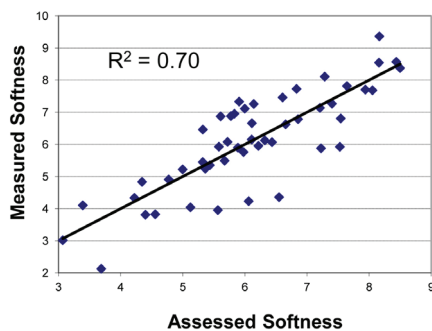


Image showing the pattern of fabric deformation during a HandleMeter™ test

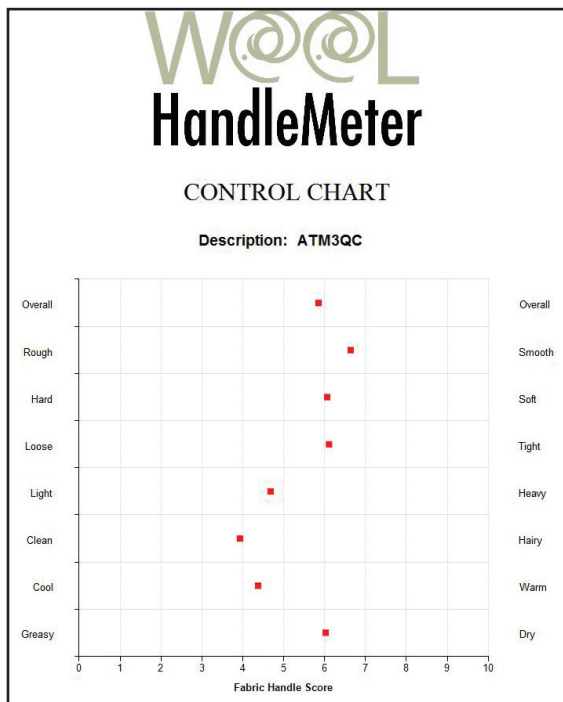
Softness



Commercialisation

The Sheep CRC will soon be undertaking commercial trials with key supply chain companies using the equipment and research information for fabric development and quality assessment to evaluate the performance of the Wool HandleMeter™.

“This technology has been developed in conjunction with experienced judges from supply chain companies. The research demonstrates that while these judges gave similar ratings to a wide range of fabrics, there were also individual differences in handle preference. The new CRC technology provides a consistent, objective value for attributes of aesthetic fabric quality which are important in the final purchase decision.” — Trevor Mahar, Leader of the Australian Sheep CRC Fabric Handle Project.



ABOUT THE SHEEP CRC

The Cooperative Research Centre for Sheep Industry Innovation (Sheep CRC) is a partnership of the country's key industry bodies working with researchers to turn innovations into successful new products, services and technologies.

The Sheep CRC's work involves a collaboration including Australian Wool Innovation (AWI), The Merino Company, Australian Wool Testing Authority (AWTA) and other Australian and overseas supply chain companies that provide products for testing and evaluation, technical expertise, and commercial focus.

More information is available via:

<http://www.sheepcrc.org.au/research/wool-quality.php>

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