



## Sheep CRC Wool Industry Case Studies

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# Handle and Next to Skin Comfort Evaluation of Lightweight Knitted Wool Fabric



## INDUSTRY CASE STUDY

# Different Yarn Suppliers

### Background:

The Sheep CRC in Australia has developed tools to predict next to skin comfort and to quantify the handle attributes of lightweight, knitted, wool fabrics. The Comfort Meter gives a value that relates to the perception of prickle in next to skin garments. The Handle Meter gives a value to seven identified attributes of fabric handle as well as a value for overall handle.

### Application:

I want to change my yarn supplier but I need to know that my product will be as good or better. If I keep the same yarn specifications, the same knitter and the same finishing routine will I produce a fabric with the same handle in a lightweight, single jersey, wool fabric?

### Material:

Four single jersey fabrics were measured on the Comfort meter and the Handle meter. All four fabrics were knitted to the same specification (pure wool, 165gsm) but the yarn was sourced from 4 different suppliers. All yarns were nominally of the same fibre and count specification. Fabrics were knitted by the same knitter and given the same finishing routine.

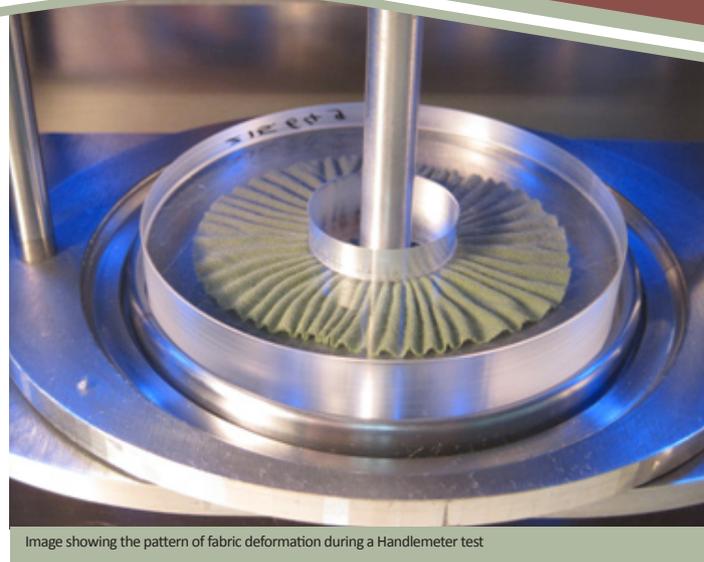
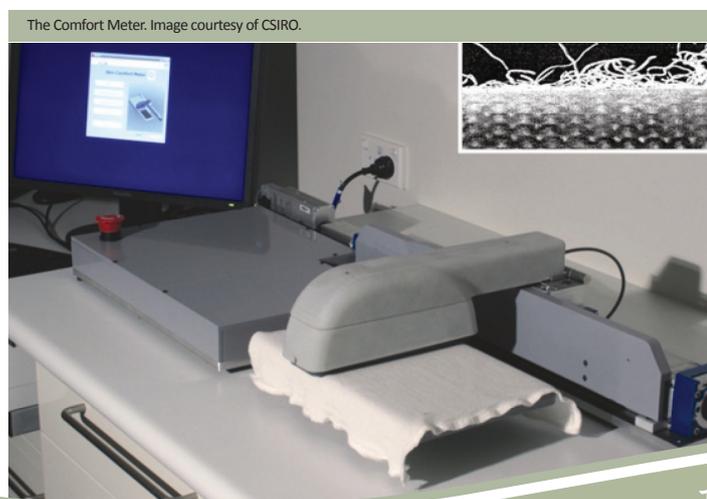


Image showing the pattern of fabric deformation during a Handlemeter test

### Results:

FABRIC	COMFORT METER	SOFTNESS	SMOOTHNESS	WARM FEEL	Hairiness
Supplier A	480	7.1	6.5	6.1	5.3
Supplier B	467	6.6	6.5	6.1	4.3
Supplier C	448	7.3	6.8	5.8	4.0
Supplier D	501	6.5	6.4	6.6	4.8

### Outcome:

In this example the measurement of the comfort and handle showed that there were subtle differences amongst the fabrics from the different suppliers. The differences in comfort are not statistically significant. The handle testing showed that the fabric from supplier D was least preferred. In this case supplier C was preferred as a soft, clean, cool handle was desired for the product. Important aspects of the quality of the product have been measured and can be monitored in future production. Using the Comfort and Handle meters is the only way to objectively evaluate fabric for comfort and handle.

The Sheep CRC for Sheep Industry Innovation is a collaboration established and supported under the Australian Governments Cooperative Research centres Program. It includes Australia's sheep industry bodies AWI and MLA along with Australia's premier research and education institutions.

*Transforming wool, meat and the sheep that produce them*