



## 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 Knitters

#### 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 comfort 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:

If I change my knitter but keep my yarn supplier and yarn specification the same will I change the handle and next to skin comfort of my fabric?

#### Material:

Two single jersey fabrics were measured on the Comfort meter and the Handle meter. Both fabrics were knitted from the same pure wool, 2/72 Nm, top dyed yarn and both fabrics were 195 gsm. Each fabric was knitted by a different knitter. Each knitter used their own (circular) knitting machine, finishing routine and equipment.

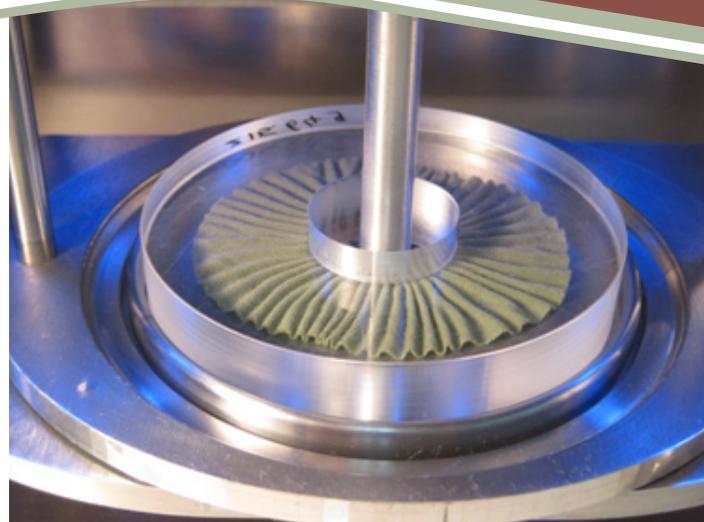


Image showing the pattern of fabric deformation during a Handlemeter test

#### Results:

FABRIC	COMFORT METER	SOFTNESS	SMOOTHNESS	WARM FEEL	DRY FEEL
KNITTER A	441	4.9	5.3	4.7	7.1
KNITTER B	471	5.2	5.4	5.5	5.9

**Comfort Meter value:** A lower value has better next to skin comfort. Differences less than 100 units are not significant.

**Handle Meter value:** The higher the value the stronger the perceived sensation.

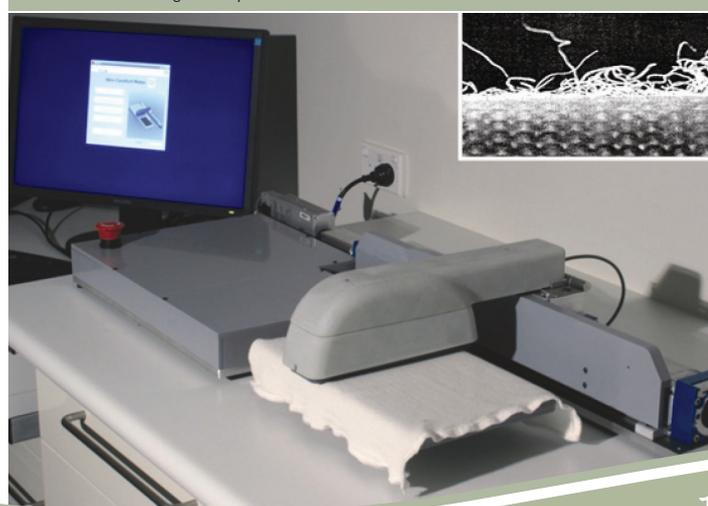
#### Outcome:

In this example the measurement of comfort and handle showed that changing knitters resulted in no significant change in comfort but did result in a significant change in fabric handle. The new knitter supplied a fabric with a higher rating for fabric softness and a cooler feel.

If this is required for the product then the benefits 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.

The Comfort Meter. Image courtesy of CSIRO.



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