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## Final Report for CRC 28

As part of the fibre to fabric initiative and the major CRDC funded project being undertaken by Dr Grant Roberts at NCEA, this small project aimed to transfer technology being used by Ms Patty Bel at the USDA research laboratory to Australia. White specks (undyed neps) in dyed fabric samples are a quality problem that arises from neps of immature cotton. Dr Grant's research aimed to correlate the white speck neps back to fibre properties and gin parameters. The number of white speck in a fabric sample were being measured at the USDA by first scanning a sample of fabric (approximately A4 size) using a commercial computer scanner and then the image analysed to determine the number of white specks(neps) using specially written software.

Unfortunately the project hit a range of technical difficulties that mean that the original objectives were not met. The major difficulties were:

- Uneven lighting across the face of the commercial computer scanner lead to inconsistent measurements
- The software from the US contained a range of minor bugs. Following extensive testing and comparisons with the USDA it was found that the version supplied to CSIRO gave different results from the version being used at the USDA.

However during the project it was realised that a much better approach would be to measure the number of white specks in dyed yarns rather than fabrics. CSIRO TFT already had technology for examining the colour of dyed yarn and this approach would avoid the expensive and time consuming stage of manufacturing/weaving fabric from the yarn. It was thus decided that it would be more efficient to stop the current work on dyed fabrics and to redirect the effort into the new direction. This new approach evolved into a new project CRDC CTFT5C which indeed did prove to be successful.

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