



# FINAL REPORT – Executive Summary

For Public Release

## Part 1 - Summary Details

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**CRDC ID:** CMSE1901

**Project Title:** COMPARISON OF AUSTRALIAN DYE QUALITY

**Project Start Date:** 1/7/2018

**Project Completion Date:** 30/6/2019

**Research Program:** 3 Customers

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**Date submitted:** 10/10/2019

## Executive summary

Newer export destinations for Australian cotton have demanded larger volumes of traditionally 'lower' grade, i.e., shorter staple Middling and Strict Middling types for bulk knit fabrics that like higher grades are still required to dye brightly and consistently. In order to demonstrate the suitability of Australian cotton the CRDC sponsored a small project to demonstrate the yarn quality, dyeing ability and knitted fabric appearance of Australian cotton measured against competing growths in these markets.

The project was proposed after interactions with Bangladeshi spinners in 2016 and 2017; where comparisons were drawn between the dyeing-ability of Australian cotton and other growths used by Bangladeshi mills. A controlled mill trial was proposed to provide a comparison of 'lower grade' Australian cotton with other export growths, with which it might compete in this market.

Bales of shorter staple, Strict Middling type cotton from seven countries (Australia, USA, Brazil, China, Uzbekistan, West Africa and India) were supplied by the Australian Cotton Shippers Association (ACSA). Each bale was spun at CSIRO's industry-scale pilot mill into carded and combed medium-fine count yarn for evaluation. Bales were assessed on fibre and yarn properties, spinning performance, dyed colour and fabric pilling properties.

The results showed Australian cotton was best overall in terms of fibre, yarn and fabric properties. The Australian cotton was whiter (brighter) and produced relatively cleaner, more even and stronger yarn. These fibre and yarn properties translated into a bright, clean fabric with good (bright) dyed colour and better pilling resistance than the other growths. Whilst not representative in a proper sampling sense, the trial highlighted the widely accepted consistency of Australian cotton quality and the excellent efficacy with which it can be transformed into higher quality dyed yarn and fabric.