

EXECUTIVE SUMMARY

This report presents the results of a six month investigation into the need for and feasibility of developing an automatic moisture measuring system for cotton. The report was commissioned by the CRDC in response to a proposal from the NCEA to develop a module-scale moisture scanner using different technology to that in existing equipment.

The investigation established that there is a significant need for reliable instruments to scan seedcotton modules and ginned lint bales and accurately give the moisture content. Such technology is sought in cotton processing applications from picking to baling. Industry personnel agree that the accurate determination of cotton moisture levels would allow increased returns to growers. During processing the scanner would indicate local moisture content within modules and allow the proper setting of burners, reducing overdrying and damage to the fibre. It would also reduce fuel costs to the gins, and provide more confidence when trialing minimum drying and cleaning setups for "gentle ginning".

In another form the same technology could also allow merchants and ginners to accurately check bale weights and provide more rigorous control of moisture content during classing and spinning operations.

The report has been completed in three stages. The problems and issues to do with moisture measurement were first identified (Section 2), the range of technologies available to address those issues was then evaluated (Section 3), and the expert opinions and reactions of ginners and other industry personnel in Australia and the USA were then obtained (Sections 4 & 5).

The studies and discussions confirmed that the proposed moisture measuring scanner would bring considerable benefits to the industry, and may well provide an exportable product. It was also established that gin operators would prefer the initial system to be located on the module feeder rather than on the weighbridge as was originally proposed. They also confirm that the system be developed to allow improved process control in ginning.