

Executive Summary

Introduction

This report summarises the findings from the CRDC funded project "Managing soils to avoid compaction problems in cotton growing". The project ran from 1989/90 to 1991/92. It had the principal aims of:

- developing a management system for cotton growers that would minimize tillage requirements, and
- avoiding current problems with soil compaction associated with heavy machinery.

The project was based on a controlled traffic approach so that compacted machinery lanes and compaction free plant zones were separately maintained.

The operation of the project was split between three interacting teams of experts. The teams worked on what became known as the Model, the Laneway and the Guidance subprojects. Separate detailed reports from each of these teams are included in this report.

The Modelling team assessed and quantified the dynamic changes in seedbed conditions by monitoring various soil physical and thermal properties. The information obtained could guide the industry as to the minimum tillage requirements of a cotton crop in a controlled bed environment.

The Laneway team developed guide-lines for the installation, operation and maintenance of suitable compacted laneways for cotton growing.

The Guidance team developed prototypes of automatic equipment that could allow farm equipment to be operated accurately and repeatedly on the compacted laneways over several years.