FINREP 97

PLANT
INDUSTRY

CSIRO
AUSTRALIA

CSIRO Division of Plant Industry
Cotton Research Unit
Locked Bag 59
Narrabri NSW 2390

Field Experiments with Cotton at Myall Vale

(Project CSP59C)

Final Report

Noted as acceptable for this type of project
13/12/98

Report compiled for the Cotton Research and Development Corporation

COTTON RESEARCH AND DEVELOPMENT CORPORATION
FINAL REPORT

PROJECT CODE: CSP59C

ORGANISATION: CSIRO Cotton Research Unit

PROJECT TITLE: Field experiments with cotton at Myall Vale

STAFF INVOLVED: (see below)

Aims:

This project aims to support numerous cotton research projects by enabling the production of experimental crop at ACRI. Experiments cover the disciplines of breeding, agronomy and entomology conducted by staff of CSIRO Cotton Research Unit at the Australian Cotton Research Institute.

The grant provides supplementary funds to cover costs of growing and harvesting experimental crops with almost all operations conducted by Staff of NSW Agriculture. Costs are charged according to NSW Agriculture estimates of growing costs and are balanced by revenue from the sale of cotton lint. CRDC provides only the additional expenses.

Over the three years of CSP59C (1/7/95 - 30/6/97) a series of agronomic, breeding and pest management studies were completed. An indication of the scale of research is detailed below with that for 1996/97.

Area of Research	**Area of Cotton**	**Staff Involved**
Cotton breeding	28 ha	Dr. G. Constable, Plant Breeder P.E. Reid, Plant Breeder Dr. N.J Thomson, Plant Breeder L. Heal, Senior Technical Officer C. Tyson, Technical Officer L. Carpenter, Technical Officer M. Barnes, Technical Officer
Agronomy		
Varietal responses to irrigation regimes Row spacing, nitrogen, Pix, potassium Compensatory physiology of cotton	4.2 ha	Dr. S. Milroy, Agronomist Dr. M. Bange, Agronomist Dr. V.O. Sadras, Agronomist
Nitrogen application efficiency	3.4 ha	Ian Rochester
Entomology Transgenic cotton research	0.5 ha	Dr. G.P Fitt, Entomologist C.L. Mares, Technical Officer
Refugia Experiments	9.9 ha	Dr. G.P Fitt, Entomologist C. Tann, Technical Officer
Mite ecology and management	5.4 ha	L. J Wilson, Entomologist D. Lally, Technical Officer
Total Area	51.4 ha	

The experimental crops were grown on a small scale (up to 10ha) using conventional agronomic and irrigation management, combined with specialised data collection appropriate to each experiment. All research expenses beyond the cost of growing crops is provided by CSIRO or by other CRDC grants to individual researchers. Trials were all machine picked and plant samples handled and prepared on site. The project ensures the ongoing progress of work done by the CSIRO Cotton Research Unit from which the cotton industry benefits greatly. New conventional and transgenic cotton varieties are now released regularly, including improved high yielding and disease tolerant selections of Siokra, Sicala and Sicot types.

Current agronomic and entomological work will improve management of Helicoverpa, mites, thrips, water and nitrogen and provide a foundation for more sustainable management systems. Much of this work is encapsulated in computer based Decision Support Packages such as entomoLOGIC and hydroLOGIC whicb form part of a developing suite of software tools known as cottonLOGIC.