

7/89 to 6/92.

**FINAL REPORT TO:  
COTTON RESEARCH AND DEVELOPMENT CORPORATION**

**Project Number:** DAN 47L  
**Title:** HIGH YIELD PACKAGES FOR COTTON  
**Organisation:** NSW Agriculture  
**Address:** Agricultural Research Station  
PMB Myall Vale Mail run  
Narrabri 2390 Tel: 067-931105  
**Research staff:** Dr G A Constable, Senior Research Scientist (first two years)  
vacant in last year of project  
**Administrative contact:** Mr R C Scott,  
Professional Officer (Industry funds). Tel: 063-616119

**Aims:**

1. Determine optimum combinations of fertiliser, irrigation and growth regulator (Pix).
2. Investigate causes of, and solutions to, nutritional disorders.
3. Evaluate methods of interpreting plant tissue analyses.

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**Summary:**

The aims listed above were achieved with about twenty field experiments over three seasons. Further sampling of 66 commercial crops was undertaken.

- Yield responses to Pix were relatively small (maximum yield responses 5%). There were consistent vegetative responses to Pix with height reductions of about 20 cm. No worthwhile maturity responses to Pix were measured. This project identified a method of evaluating crop growth to predict yield response to Pix.
  - Two nutritional disorders were examined. Firstly, the long fallow (Galathera) syndrome is undoubtedly due to poor infection by mycorrhiza. Zinc fertilizer strategies and possible soil management strategies were identified to minimise the problem. Secondly, waterlogging induced iron chlorosis was identified, but the condition was not completely solved by iron fertilizer: removing foliar symptoms did not necessarily improve yield.
  - Nutrient diagnosis. A database has been established to indicate desirable levels of all nutrients in cotton leaf tissue. In conjunction with experiments where deficiencies are confirmed, this data can be used to assist with diagnosis of crop nutrient status.
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