7/86 to 6/89 1989 V C 1989/CS33L 86/952

FINAL REPORT - COTTON RESEARCH & DEVELOPMENT CORPORATION

PROJECT CODE: CS33L

PROJECT TITLE: A Nitrogen Management Model For Cotton

SUPERVISOR: Mr A.B. Hearn

FINAL REPORT:

The aim of the project is two fold: to draw up a nitrogen budget for cotton under various conditions that are known to affect the crop's response to nitrogen; and to continue to develop the SIRATAC fruit model, in particular by refining the cotton nitrogen sub-model. The value to the industry will be to improve the efficiently of nitrogen fertilisation and pest management. Cotton growers apply between 100 and 200 kg/ha of fertiliser nitrogen to the crop, costing the industry as a whole approximately $15 million annually. At best only 50% of the nitrogen applied is taken up by the crop. Study in more detail of the fate of all nitrogen applied to the crop, and the factors affecting it, is a vital step towards improving the efficiency of nitrogen fertilisation. Incorporation of nitrogen in the SIRATAC fruit model will strengthen the application of SIRATAC pest management to situations where nitrogen is limiting, and will be a step towards using the SIRATAC model for nitrogen management.

Eight hectres of cotton were planted in 1986 in anticipation of an appointment for a Research Scientist being made.

The Research Scientist position was advertised world wide in August 1986 and attracted a field of seven applicants. Two applicants of excellent quality being interviewed. The position was offered to the most outstanding applicant but was declined by him when his current employers offered him better conditions. The other applicant also declined the position when he was offered a permanent position with another CSIRO Division.

The position was again advertised world wide in December 1986, this advertisement attracting a field of four applicants, with only one applicant meeting the essential criteria of the position. The applicant was interviewed but advised in April 1987, that he was withdrawing his application.

Due to the difficulty of making an appointment to this position this project ceased and the research became part of project CS50L submitted by the Division of Plant Industry for the 1987/88 financial year.