

Cotton Research and Development Corporation

Final Report

“Purchase of New Nitrogen Analyser”

CSP69C

July 1995 to June 1996

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“A final report prepared for the Cotton Research and Development Corporation”

Project Title: Purchase of New Nitrogen Analyser
Project No: CSP69C

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Introduction:

A wide range of projects are underway which aim to improve cotton production through increased understanding of aspects of cotton physiology, agronomy and plant resistance. Most of these projects require accurate estimates of nitrogen concentration. This project provided funds to purchase a new nitrogen analyser.

Objectives:

To purchase a new nitrogen analyser in order to provide faster, more accurate analysis of cotton samples for a wide range of projects.

Results and Discussion:

A Perten Inframatic 8100 near infrared reflectance (NIR) analyser has been purchased. Calibrations for cotton stem, leaf and whole plants have been completed. Calibrations for roots, boll walls, seed and petioles are nearly completed and a calibration for total soluble carbohydrates is soon to be commenced.

The instruments has been used by a wide number of projects eg. DAN 82C/107C (P. Wright), CSP46C (L. Wilson), CSP68C (V. Sadras), CSP57C (S. Milroy), CSP67C (M. Bange) and UNE16C (L. McDonald). The NIR analyser is currently being used to analyse an average of 5000 samples per year. This represents a saving of approximately \$50000 compared to commercial laboratory rates.

Conclusion:

The instrument has proved to be more reliable, faster and more accurate than the previous NIR at the research centre and as such the project has fulfilled all of its objectives.