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COTTON RESEARCH AND DEVELOPMENT CORPORATION

FINAL REPORT

PROJECT TITLE: **DYNAMICS OF Bt PROTEIN IN INGARD COTTON: MECHANISMS OF VARIABLE EFFICACY AGAINST *HELICOVERPA***

PROJECT CODE: **CRC3C**

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DYNAMICS OF Bt PROTEIN IN INGARD COTTON:
MECHANISMS OF VARIABLE EFFICACY AGAINST *HELICOVERPA*

There were at least ten commercial fields of Ingard in the 1996/97 season with low efficacy pre flowering and requiring up to three insecticide sprays. Most other commercial Ingard fields required none or one insecticide when adjacent conventional cotton has been sprayed for *Helicoverpa* five times. Variability was also evident in 1997/98 although with lower pest pressure in some districts that year, performance of Ingard was relatively better

This project set up pilot studies to investigate physiological causes of variation in Ingard efficacy. The information will assist with crop management to minimise efficacy problems and plant breeders may utilise the findings to breed for improved stability of efficacy.

It was found that shade and low temperature could affect Bt levels and efficacy against *Helicoverpa*. Those preliminary studies require further study to confirm the result and to clarify the mechanism.