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COTTON RESEARCH COUNCIL

PROJECT TITLE: DEVELOPMENT OF PHEROMONE TRAPPING DEVICES
FOR MONITORING HELIOTHIS ADULT ACTIVITY

PROJECT CODE: CS15L

SUPERVISOR: A. Wilson

FINAL REPORT

AIMS

To further develop a system to monitor relative abundance of Heliothis armigera and H. punctigera continuously through the growing season, and subsequently to relate moth catch to egg lay.

This 3 year study examined the relationships between catches of Heliothis adults in monitoring traps and the abundance of eggs on cotton crops. In the first year paired traps of the two Heliothis species set up on the edge of cotton blocks showed a bias towards H. armigera in total catch compared with the proportion of the two species found in egg identification. The bias was greater with funnel than cone traps.

In the final 2 years experiments were conducted to compare the catch of the two species in traps sited on the edge and 40m within the crop to determine whether trap siting may influence the trapping bias.

Substantial differences in catch were found with a 3 month total mean for four replicates of 558 H. punctigera moths on the edge and 2864 inside the crop; for H. armigera the figures were 703 and 3099 respectively. The funnel traps also showed an advantage with increased catches from 92 to 381 for H. punctigera and 196 to 392 for H. armigera at the inner location. Not only were the catches higher at the inner locations but the proportion of H. armigera to total catch for the two species was closer to that found by egg identification. It appears therefore that the bias towards H. armigera in previous observations was partly caused by trap design and partly by incorrect trap location.

