

Toward sustainable mirid management in cotton

Principal Investigators

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1. Summary:

Green mirids are a major obstacle in developing low insecticide use production systems. Adults cause terminal damage to seedlings and loss of pin squares on fruiting plants. This project aimed to provide a cost-effective management strategy for green mirids that could be used by all cotton growers and consultants.

Heliothis egg parasitoids could impact positively on heliothis mortality during the latter part of the season when some survival on Bt transgenic plants occurs. Their activity thus warranted investigation under the Bt transgenic/low insecticide regime.

We have developed a reliable and cost-effective plan for deciding whether a crop has sufficient green mirids to warrant controlling them. This method provides an industry-wide standard that all consultants can use to accurately estimate green mirid populations.

Consultants and farmers now have two different strategies, insecticides alone or with lucerne strips (as developed by Dr R. Mensah), to manage green mirids in cotton. After using the above sampling method, a decision on treating a crop for green mirids depends on the numbers found after sampling six sites per field.

Growers may not be able to solely rely on heliothis egg parasites to control late season larvae. However, they contribute to a fully integrated pest management program.

2. Aims:

To investigate sustainable mirid management in cotton by developing tactics that are compatible with current and future integrated pest management approaches in cotton.
To investigate the contribution of heliothis egg parasitoids on transgenic cotton during mid to late season.