MANAGEMENT STRATEGIES FOR LARGE SCALE PLANTING OF BT COTTON

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Abstract

During the 1995 farming season I had the opportunity to examine several Bt plots and one large seed increase plot. My objective was to learn as much as I could about the Bt cotton and how it fits in our area of the Mississippi Delta. I think it is important to note that most cotton growing regions have different problems or specific management strategies that fit a certain area.

Introduction

One project I undertook was to trap tobacco budworm, *Heliothis virescens* (F.) (TBW) moths in both Bt and non-Bt areas. This was done on a large acreage of Bt cotton. I wanted to see if the Bt cotton had an effect on the number of moths I caught over the season. We also made frequent egg counts to compare egg deposition in Bt vs. non-Bt cotton throughout the season.

Materials and Methods

TBW moths were trapped using standard *Heliothis* pheromone traps placed in the center of a large Bt planting and the numbers were compared to counts in a non-Bt field using the same trapping methods. Tests were conducted at Sumner, MS, on Frank Mitchener's farm.

Results and Discussion

I found that I had about the same number of moths throughout June, but later in July and August I had fewer moths in the traps in the Bt. I felt that the Bt cotton greatly reduced the number of worms going through in June, therefore, reducing the number of moths I caught in July and August (Table 1). An important point here is that this reduction compares the Bt cotton to the non-Bt which was sprayed twice in June for worms. This tells me that the Bt cotton killed more worms in June than two applications on our non-Bt. Plant mapping showed this also. I found a 10 percent higher 1st position square retention in the Bt cotton. Square damage in June was a result of worms. The Bt cotton had 99-100% retention while the non-Bt had 89-90% retention through June. I also noticed differences in *Heliothis* egg deposition in July. The egg counts were the same in June in both the Bt and non-Bt. I noticed fewer worm eggs in the Bt cotton during the second generation. I also noticed a 7 to 10 day delay in the onset of the July egg lay (Table 2).

Management options

1. Manage for earliness.
2. Manage to prevent resistance.
3. Make IPM a part of your program.
4. Implement plant mapping.
5. Reevaluate PGR's.
6. Intensive scouting for secondary pests.
7. Use of the Lepton test kit.
8. Develop thresholds for worms and square damage.

Table 1

1995 Moth Trap Captures

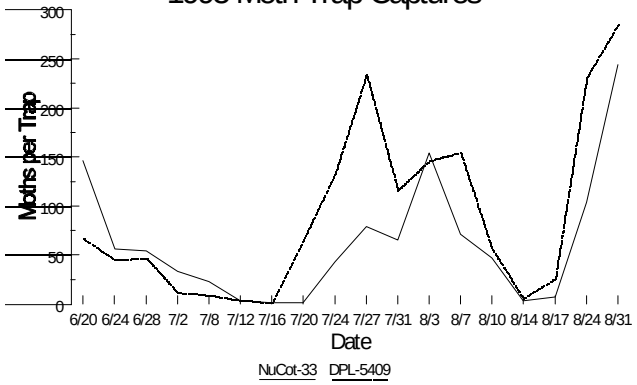
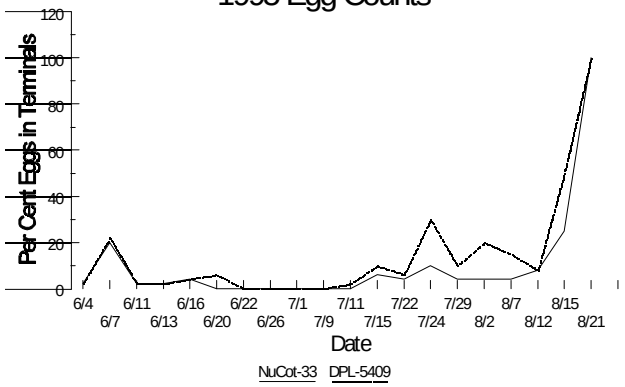


Table 2

1995 Egg Counts



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