

The Integrated Pest Management (IPM) Newsletter for Row Crops in the Lower Rio Grande Valley

Manda Cattaneo ♦ Extension Agent - IPM ♦ mgcattaneo@ag.tamu.edu

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2401 East Highway 83
Weslaco, Texas 78596
Telephone (956) 968-5581
Fax (956) 969-5639



LRGV IPM Website:
<http://lrgvipm.tamu.edu>
IPM Website: <http://ipm.tamu.edu>
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Cotton Insects in General

Cotton aphids continue to be found in scattered fields throughout the Valley. We have not picked up any significant bollworm or beet armyworm activity in the fields that we are scouting. Beneficial activity has decreased in most fields. This is partially due to a lack of food sources (i.e., aphids). Cotton leaf perforators were found in a dryland field south of Santa Maria.

Boll Weevil

Boll weevils have yet to cause significant damaged in most fields. However, boll weevil activity has increased in a few areas. As more fields reach cut out, boll weevil activity will concentrate on the squares at the top of the plant and migration from field to field will likely increase. This will lead to increased boll weevil activity in the later planted fields or fields that have been delayed due to weather conditions.

Whitefly

Whiteflies can be found at varying levels in just about every cotton field. Sooty mold can be observed in large sections of some fields. We have had the opportunity to put out two whitefly insecticide trials this year. The results from the first insecticide trial were sent out with last weeks newsletter. Correction to the rate in the first trial...Intruder was applied at 2 oz/acre and Oberon was applied at 4 oz/acre.

Our second whitefly trial was applied on Monday June 19. Attached are the results on adult knock down activity. Oberon and Courier are effective against the immatures stages of whitefly. Therefore these products were not statistically different from the untreated check on adult knock down activity and will be evaluated in two weeks based on nymph counts. Please see the attached preliminary results.

In the Lower Rio Grande Valley, whitefly populations can build up in spring vegetables, then move into the cotton. Once the cotton matures and is defoliated the whiteflies will migrate into fall vegetables. Therefore the first management strategy should be focused on an area wide effort to reduce migration. Below are a few suggestions on area wide management.

SUGGESTIONS FOR WHITEFLY MANAGEMENT

1. **Consider planting early in the spring to avoid high infestations in the summer.** Trap data collected in 1991 indicated dramatic population increases throughout the Valley starting in mid to late April. Early planted melons escaped heavy infestations. Early plantings of cotton generally did not

- experience as severe as infestation as did the later plantings.
2. **Plant resistant varieties where available.** Cotton varieties with hairier leaves have been associated with heavier whitefly populations.
 3. **Destroy old crop residues that harbor whitefly infestations.** Crops left in the field after harvest support large populations of SPW. Crop residues are not sprayed which allows the SPW to reproduce unchecked. Crop residues should be destroyed immediately after harvest.
 4. **Avoid planting next to crops infested with whiteflies.** Separation of plantings (in space or time) from infested crops should greatly reduce potential whitefly problems in subsequent crops. Whiteflies will overwinter on a number of crops including crucifers (cabbage and broccoli), greens, cucurbit residues and ornamentals. Crucifers, because of their large acreage, constitute the largest reservoir of whiteflies. The worst problems experienced in cotton in 1991 were fields adjacent to abandoned crucifer fields.
 5. **Delay planting fall vegetables until migrating whitefly populations have diminished.** Average trap captures indicated a dramatic decline throughout the Valley as the cotton was harvested and destroyed. Whitefly susceptible crops grown in the fall (cucurbits, tomatoes and crucifers) are likely to experience the heaviest pest pressure. Delaying planting dates until adult populations decrease could reduce infestations to potentially manageable levels. Less susceptible crops (peppers, carrots and onions) can be planted on normal schedules.
 6. **Adopt spraying methods that improve coverage, especially underneath leaves.** Whitefly populations develop on the underside of leaves and thorough coverage is essential to contact immatures and adults. Immature whitefly are not mobile (except crawlers) and will not move about to contact insecticides; therefore, insecticides must be placed directly on immatures to obtain maximum benefit.
 7. **Incorporate 1-2% oil or soap mixtures in (high volume spray) pesticide treatments.** Higher volumes are necessary for good coverage, which is needed for effective oil and soap use. (Caution: high concentrations [5%] can result in phytotoxicity and soaps can increase the pH of spray mixtures, adversely affecting the activity of some insecticides).
 8. **Use insecticides selectively, with action thresholds, to preserve beneficial insects.** Most beneficial insects are extremely sensitive to broad spectrum insecticides. Thus, any unnecessary applications (targeted at whitefly or any other pests) will eliminate beneficials while providing little or no benefits.
 9. **Alternate insecticides to avoid the development of insecticide resistance.** Whitefly has developed resistance to a variety of insecticides. Continuous use of one insecticide class will result in removal of susceptible individuals from the population and leave only resistant insects to reproduce. Alternation of insecticide classes will reduce the selection pressure and delay the development of resistance.
 10. **Consult your Extension Service for the effectiveness of insecticide treatments.** A variety of insecticides and insecticide combinations are constantly being evaluated by numerous researchers. The most recent results should be consulted before making control decisions.

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