

SUGGESTIONS FOR SWEETPOTATO WHITEFLY (SPW) MANAGEMENT

RGV-SPW TASK FORCE

1. **Spring planted vegetables --- Consider planting early in the spring to avoid high infestations in the summer.** Trap data collected in 1991-95 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 an infestation as did the later plantings.
2. **Plant resistant/tolerant varieties where available.** Cotton varieties with hairier leaves have been associated with heavier whitefly populations than varieties with less underside hairs (trichomes). Tomatoes and melon varieties have very hairy leaves and often very easily devastated by whitefly populations. Pepper and carrot varieties have very smooth leaves and whitefly populations have less of an effect upon them. However, intensive whitefly management will still be necessary if initial whitefly populations are extremely high.
3. **Destroy old crop residues that harbor whitefly infestations.** Crops left in the field after harvest support large populations of whitefly. Crop residues which are not sprayed often allow the whitefly to reproduce and increase. Crop residues should be destroyed immediately after harvest.
4. **Avoid planting next to crops infested with whitefly.** Separation of plantings (in space or time) from infested crops should greatly reduce potential whitefly problems in subsequent crops. Whiteflies will over-winter 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 SPW. The worst problems experienced in cotton in 1991-95 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. SPW 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.** SPW populations develop on the underside of leaves and thorough coverage is essential to contact immatures and adults. Immature SPW 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 SPW or any other pests) will eliminate beneficials while providing little or no benefits.
9. **Alternate insecticides to avoid the development of insecticide resistance.** SPW 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.