UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

COTTON - SPECIAL BULLETIN

THE HOME STRETCH:
Maintaining Quality Cotton During Late Season [1]

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The finish line for the end of the 2002 season may not be in sight, but we know it is getting close. Like long distance runners, we might be in danger of hitting the wall, doubting our own strength to finish this foot race. But now is the time to focus on the prize, quality lint.

I have had the opportunity to visit not only with San Joaquin Valley PCA's and growers but Arizona cotton extension personnel and growers as well. We all know the challenge we face but working together, exchanging experiences and sharing ideas increases our ability to produce the quality lint for which the SJV is known. We are planning several meetings to discuss aphid and whitefly management approaches:

- **Thursday, 1:30 PM August 29, 2002 at West Side Research and Extension Center**, 17353 W. Oakland Avenue, Five Points, CA. Directions can be found at:
  http://danrrec.ucdavis.edu/west_side/home_page.html

- **Thursday, 1:30 PM September 5, 2002 at Dos Palos Cooperative Gin,** 7870 W. Hutchins Road, Dos Palos, CA. Hutchins Road is north of Highway 152 and the gin is located between Palm and San Juan Roads.

Here are the key points that have been presented to me. I want to acknowledge the time and knowledge that Dr. Peter Ellsworth (University of Arizona, Cooperative Extension) and SJV cotton PCA's have so freely offered. Special thanks to Steve Wright, Larry Godfrey and Bob Hutmacher for their support and review in developing this summary of whitefly and aphid management programs.

1. **All things in moderation.** Follow good IPM practices. Sample and if the pest population exceeds the threshold, treat it. If you are approaching threshold, wait until you reach it, thus extending the period of protection. Treating too early reduces the effective period of protection.
2. **If the plant is green, keep it clean.** Aphid and whitefly will attack and produce honeydew as long as there are green leaves. If honeydew is produced, open lint is at risk. Beware of regrowth after defoliation that can be attractive to aphid and whitefly.

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[1] **Disclaimer** For discussion purposes, it is necessary to mention specific insecticide products. Such mention does not constitute an endorsement or a recommendation by the University of California.

3. **Determine how long you need to protect the exposed lint.** From today until defoliation and 14 to 21 days beyond, the lint is exposed. Many people are projecting a September 15 to 20 defoliation date. That is about 28 days until defoliation plus another 14 days until all leaves are dropped (October 4). The later the anticipated defoliation date the longer the period required for protection. Later-maturing fields will attract aphid and whiteflies from the surrounding area.

4. **Sampling unit and thresholds are developed on Acala cotton.** Pima may differ from Acala but thresholds have not been worked out for Pima so the 5th leaf is the only guideline we can offer

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5. **When to treat WHITEFLIES ?**
   - Whitefly - first application IGRs are strongly suggested, on the 5th leaf, 1 large nymph/leaf disk and 3 adults/leaf. Both Knack and Courier have been providing up to 28 days protection based upon AZ and CA research plots
   - Post IGR - 5 adults / 5th leaf

6. **Which products to use for WHITEFLIES ?** This choice is based on the duration of lint protection you have determined. The different "stages" or situations in the development of whitefly populations in cotton have been described previously in various meetings and in the *Insect Resistance Management Guidelines*, but can be reviewed by looking at a recent issue of the *CA Cotton Review* (Volume 64, July 2002) which is available on the University of CA Cotton website at: http://cottoninfo.ucdavis.edu. Based on Arizona experiences and some SJV observations:
   - Stage I - IGRs - long residual protection, up to 28 days with either Knack or Courier, attacks the nymphs. Prevents population from building by preventing egg hatch (Knack) or adult development (Courier).
   - Stage II - Reducing adults when they exceed 5 adults/5th leaf using endosulfan, Centric, Assail, or Curacron. The length of population suppression is variable depending on the product but 7 to 14 days might be expected.
   - Stage III - Reducing the adults when they exceed 5 adults/5th leaf using pyrethroids and organophosphates or carbamates. These tank mixes are useful just prior to defoliation to knock down the adult population that have exceeded threshold and helps prevent honeydew during the period when defoliation is taking effect. Suppression might last from 7 days to 14 days depending on the pyrethroid and tank-mix partner.

7. **APHIDS add as much to the honeydew contamination as whitefly.** Aphids need to be managed as much as whitefly. Treat when aphids exceed 10 aphids / 5th leaf when open bolls are present. Centric and Assail both have good activity but are both chloronicotinyls, and have the same mode of action as Provado. Organophosphates such as Lorsban continue to work well against aphid. Remember that under the Section 18 for Furadan, use conditions must be followed by your PCA. Take care not to apply pyrethroids too early for whitefly. Research has demonstrated the interaction between these products and aphid population buildup.

8. **SJV needs to continue to build on its experience.** We are still building research and demonstration experience. This industry is renowned for its ability to work as a team, especially when it comes to sharing product information. Late season whitefly and aphid management is a developing practice. We need to continue to share and discuss our experiences. Please contact your Farm Advisors whenever you have a question about treatment decisions, let us know and we can arrange to meet in the field with PCAs and growers. Together we will build a base of knowledge and experience that will be the foundation of honeydew-free, high quality SJV cotton.

9. **Prepare the crop for defoliation.** Follow the guidelines that Bob Hutmacher has suggested for irrigation cutoff (CA Cotton Review (CCR), June 2001 and July 2002) as well as his comments about late-season management decisions in MiteFax August 16 and 23, 2002. Timely crop termination is key to producing quality cotton. Maximizing defoliant efficacy reduces the period required for lint protection and reduces the danger of regrowth. New foliage developing on the terminal can lead to buildup of damaging populations of whitefly.

10. **Resistance management is Everyone's Responsibility.** Follow good insecticide resistance management practices. Alternate modes of actions if multiple applications of pesticides are required. Never put back-to-back applications of products with the same or similar modes of action.

11. **Study and follow the label.** Protect the environment and human health. Be very aware of human and environmental hazards as well as the pre-harvest intervals (PHI) of the products under consideration.

PHONE NUMBERS OF UNIVERSITY OF CALIFORNIA FARM ADVISORS AND SPECIALISTS WORKING WITH COTTON

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