Commercial trial of Temik on citrus under way

By Phil Stansly and Bob Rouse

The second year of a three-year evaluation of Temik brand 15G aldicarb in Southwest Florida commercial citrus is under way. Rhone-Poulenc and Alico Inc. are supporting the study with Alico providing a uniform 60 acre block of 6-year old Hamlin on Cleopatra mandarin rootstock in Felda, Fla. The block had been treated with Temik in three previous years.

Treatments, including a check, were replicated four times in a randomized complete block design with individual plots made up of two beds (four rows), each containing about 270 trees.

Applications of 33, 20 and 13 lbs./acre were made in early March 1992 and late February 1993 by Custom Citrus Care Inc. of Monteverde, Fla.

Rust mite populations are being monitored by Glades Crop Care of Jupiter, Fla. whose scouts take exhaustive counts at regular intervals. Each plot is being harvested and processed as a unit so that complete production data can be obtained. Additional trees were selected at random within each plot for size and quality analysis.

A pre-application nematode analysis made revealed the block was virtually free of citrus or burrowing nematodes. Rust mite counts were low early in the first year, even in control plots, due to an acaricide application the previous December.

Additional applications of oil were made in June and August. An August readout of rust mite numbers showed a significant rate response to Temik five months post-treatment. However, numbers were low and differences were not reflected in the level of rust mite damage on fruit evaluated at harvest.

Yields ranged from 5.9 to 6.2 boxes/tree the first year of the test with differences among the treatments not significant. Yield in terms

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A custom-made pneumatic applicator was used to place a precisely calibrated amount of granular material under the canopy on both swale and row-middle sides of the tree.

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of lbs. solids per box ranged between 5.89 and 6.22, with the control being 5.92. There were also no differences in lbs. solids on a per tree basis.

Fruit quality and fruit size showed only a couple of subtle effects. Although there were no differences among treatments in Brix, acid or percentage juice per fruit, the 20 and 33 lb. Temik rates had significantly higher ratios because of slightly lower acid content.

Fruit were generally distributed as expected among the standard size categories. However, the 33 lb. Temik rate shifted more fruit to the size 100 carton sizes resulting in fewer fruit in the 163 size category. The percentage distribution of the remaining fruit fell within the same size categories over all treatments.

Possible reasons why few significant differences between treated and untreated plots occurred the first year include: the block had a history of Temik treatment from which it was still benefiting and trees were already producing optimally and could not be pushed to greater production.

The next two years of data should help us choose between these two alternatives.

Whitefly and geminivirus: Summer fallow helps stem the tide in SW Florida tomatoes

By Phil Stansly

Strain "B" of the sweetpotato whitefly, now known as the "silverleaf whitefly" (Science 259:74-77), has been a serious pest of tomatoes in Florida since 1988.

The whitefly causes irregular ripening of tomatoes and transmits a geminivirus (tomato mottle geminivirus or TMoV). The first incidence of TMoV in Florida was reported in fall 1989. Losses due to the combined effects of whitefly and TMoV plus control costs for the 1990-91 season were estimated at $125 million.

This near catastrophe was followed in the 91-92 season by light infestations in Southwest Florida, with East Coast production areas more affected (C&V May 1992). The general pattern repeated itself in the 92-93 season except that the actual incidence of whitefly and geminivirus increased throughout the state.

Hardest hit were Dade County, West Palm Beach County and some fields in Palmetto-Ruskin. Tomato production in the Caribbean and Central America has been more severely affected. Most dramatic was a 50 percent or more reduction of process tomato acreage in the Dominican Republic due to whitefly transmitted geminivirus (C&V Dec. 1992).

The situation described above brings two questions to mind: Why was this year worse than last year, and why does Immokalee continue to be spared from whitefly and virus, relative to other areas?

Whiteflies migrating into fields early in the season originate from weeds, crops or crop residues present during the summer. Whitefly survival is lowest in weeds because these plant hosts are dispersed and abound with predaceous insects.

Furthermore, weed hosts are not sources of TMoV with the exception of "yellow tropical soda apple," *Solanum viarum*. In the Immokalee production area there are essentially no crops grown during the summer. Southwest growers have learned that postharvest sanitation pays off with cleaner tomatoes the following year because whitefly survival on weeds is low and virus practically disappears in the absence of tomato.

In contrast, crop hosts such as malanga, okra, sweetpotato, winter melon and ornamentals on the East Coast provide a summer bridge for whitefly survival.

Warm weather and a good winter market this year kept the fall crop in the field longer than usual allowing whitefly populations to build up more than they did last year. However, with low initial populations in the fall coupled with sufficient space to locate spring crops out of harm's way, the white-fly/geminivirus problem remained manageable this year for most Southwest tomato growers. ❍

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