

CITRUS CENTER

(956) 968-2132

WESLACO, TEXAS 78596

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NEWSLETTER

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CHANGE OF ADDRESS FOR CITRUS CENTER

The Citrus Center has a new mailing address effective immediately.
312 N. International Blvd, Weslaco TX 78596

ANTS ON THE MARCH

Both the Texas Leaf-cutting ant (TLCA) and the Red Imported Fire ant (RIFA) have been especially troublesome in citrus orchards this season. TLCA is a traditional, long time citrus pest—whose colonies are most prevalent on the sandier soils in the western part of the Valley. Colonies often cover a 500-1000 sq. ft. area, with 50 or more active mounds located on the orchard floor or adjacent non-cropland. Overnight, foraging TLCA can strip a young citrus tree clean of foliage, carting it off to their underground nests. The leaf tissue serves as a substrate for fungal gardens on which the ants feed.

RIFA is a relatively new pest of Texas citrus that I first reported on in the February, 1996 Issue of the Citrus Center Newsletter. RIFA colonies are increasing in eastern and mid Valley orchard and rapidly replacing the less aggressive, long established Tropical Fire Ant (TFA). RIFA colonies consist of relatively large 'dome shaped' mounds of encrusted soil, (see arrowed picture) while TFA colonies have flattened mounds of loose soil. Because RIFA colonies often have multiple queens, they have potential of producing far more eggs, brood (ant larvae) and workers than do the TFA colonies. Both fire ant species not only interfere with biological control of other citrus insect pests, but also inflict very painful stings when orchard workers inadvertently step on their mounds.



Center ant control trials. Volcano's active chemical ingredient (ai), sulfluramid, is formulated with citrus pulp as a highly attractive ant bait. Volcano is scattered over the central ant nest area (dense concentration of TLCA mounds) at a rate of 18 oz (dry volume) per 1000 sq. ft. The worker ants find the bait, carry it into their underground nests, distribute it to the queen(s) and other ants, thus eliminating the entire colony. Excellent control of TLCA has been achieved in 2-4 weeks. The trial data will be used to support a Special Local Needs Registration for Volcano to control TLCA in non-bearing citrus orchards and adjacent non-cropland.

Brigade 10%WP® and Capture EC® (products of FMC Corp.) have given excellent RIFA control in trials over the past two seasons. Both formulations, with bifenthrin as the active chemical ingredient, are applied as a spray drench to active RIFA mounds/nests. At a recommended rate of 0.25-0.50 lb ai/acre (in a minimum of volume 30 gal water), 4-8 oz of spray mix is applied to each mound (depending on surface area) using a Solo backpack sprayer. The chemical kills

worker ants on contact, with mounds/nests totally inactive by 1-2 weeks post-treatment. In a few instances, it has been necessary to retreat a mound 1-2 months later when RIFA became re-established. Data from these trials will also be used to support a Brigade Registration for RIFA control in Texas citrus. More information on both TLCA and RIFA will be forthcoming in future Newsletters.

J. Victor French

Volcano®, a promising new Leaf-cutter Ant Bait (product of Griffin L.L.C), is currently in Citrus

DOORYARD CITRUS CANKER SURVEY IN CAMERON COUNTY

We have recently been collecting samples for citrus canker testing from dooryard citrus trees in Cameron county. This is a joint effort between the Citrus Center and the USDA-APHIS-PQ Harlingen Work Unit, and financed by USDA-APHIS-PPQ. The potential presence of the canker bacterium, in association with the citrus leafminer, is of considerable concern, and since dooryard citrus types are diverse in both their types (see graph) and origins, they can be a source of exotic diseases. So far, we have tested over 800 samples, and none was found to be infected. They were also tested for tristeza, and again no infected samples were detected.

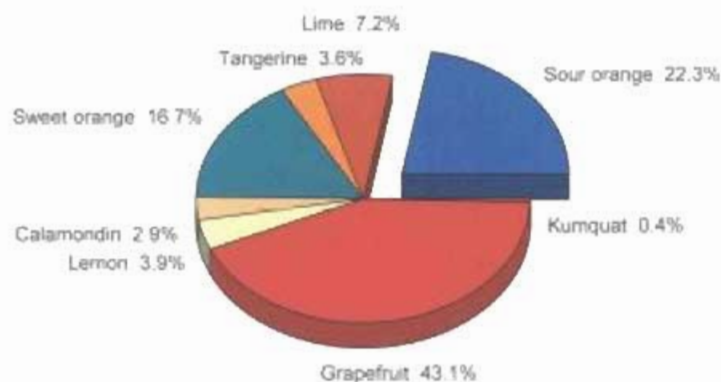
An interesting observation has been that some 22% of all dooryard trees are sour orange, probably from rootstocks that grew back after the 1989 freeze. Some growers have successfully topworked such trees to change to a more desirable scion variety. If anyone is interested in the technique, please contact the Citrus Center.

We gratefully acknowledge the help of Robert Vlasik, Joe Garcia, Juan Sanchez, Joe Sanchez, and Bill Harkins.

Mani Skaria and Hongqin Miao

Dooryard Citrus in Cameron County

Source: USDA APHIS PPQ Harlingen Work Unit



From a total of 822 trees

HEDGING & TOPPING

While I wrote a two-page discussion on this subject in Valley Citrus Notes (<http://horticulture.tamu.edu/newsletters/citrus/AUG00.html>) a thumbnail sketch is appropriate here because it is a subject about which grower seem to have more questions than answers. Hedging should be initiated as soon as tree canopies begin to encroach into the space designated for the middles, which should be about 7-8 feet wide. The idea is to cut no more than one foot of twigs and foliage on either side of the middles so as to avoid significant yield reductions. Hedging at 10-15 degrees from vertical will usually be most satisfactory for culture, harvest, production and pest control, though greater and lesser angles are used.

The preferred time to hedge is during the winter, after harvest and before spring flush. For Valencias, you really should wait until after harvest—it is preferable to cut off a few newly-formed fruit than those ready for harvest. The same is true for grapefruit, unless you can arrange with the packinghouse to complete harvest before spring flush.

With vigorous orchards, a two-year hedging program may be sufficient, i.e. hedge odd-numbered middles the first year, even-numbered middles the second year and start over the third year. I would probably top the same middles as are being hedged. Topping angles of 25 to 30 degrees from horizontal are common, starting about 12 to 14 feet above ground.

In overcrowded orchards, hedging will cut into one inch and larger wood, thereby substantially reducing production for at least one or maybe two years. In this case, hedging/topping of alternate middles is almost essential so that the non-hedged/topped middles can somewhat compensate for the reduced production.

Fertilization should be based on the severity of the hedging. In the properly managed program, no reduction would be required as nothing larger than twigs are removed. In already overcrowded groves, however, fertilization should be scaled back to two-thirds or three-fourths of normal in order to preclude excessively rank regrowth and coarse, puffy fruit (and severe sheepnosing in Rio Red).

If you are not sure whether your orchard needs hedging, it probably does—as the real question is not whether to hedge, but when, how and how often to hedge. The information here is simply a guideline—the actual program has to be defined by the individual grove and grower, as no two of either is exactly alike.

Julian W. Sauls, Ph.D.

Professor & Extension Horticulturist

VISITORS TO THE CENTER

A number of visitors came to the Citrus Center during the summer. Dr Heinz Wutscher, retired horticultural scientist from the USDA in Florida (and formerly from Weslaco), spent some time visiting with Mani Skaria and John da Graca. Dr Carmen Hernandez-Brenes (Dept of Food Technology, Monterrey Tech) visited with Bhimu Patil, and also from Mexico, Drs Ciro Valdes-Lozano and Aurora Garza-Zuniga (Agriculture Faculty, UANL, Marin) came by. Dr French hosted Dr. J.P. Michaud and Mr. Andrew Chow, Entomologist and graduate student, respectively, from the University of Florida's Citrus Research and Extension Center in Lake Alfred, FL. Dr. Michaud is a collaborator with Drs. French and Skaria on a joint Tristeza/Brown Citrus Aphid Research Project. They were hosted and toured the Center on June 21, 2000.

Mr. Tad Westermann and Dr. Keith Griffith, Texas Sales Representative and Florida Technical Representative, respectively, for Uniroyal Chemical Co. Visited to discuss citrus rust mite control with Uniroyal's newly labelled Micromite miticide. June 28, 2000.

Dr. Norihiko Mimori and Mr. Kimihiro Ishikawa, Research Entomologist for Nissan Chemical Co. from Santama, Japan and Farm Manager of Nissan's US Indiana Research Station, respectively. They visited Dr. French and toured Citrus Center research plots treated with Nissan's new experimental miticide/insecticide July 26, 2000.

GRADUATE STUDENTS' SYMPOSIUM

On June 23 a successful symposium for graduate students of the Citrus Center and the Department of Agronomy & Resource Sciences in Kingsville was held at the Center. Fourteen students, half of whom work at the center while the other half are from Kingsville, presented outlines of their research projects. In addition, five new students were introduced. The day was an ideal opportunity for the visitors from Kingsville to see the student research being conducted at the center, and for them to describe their work. The gathering had quite an international flavor, with students coming from China, India, Mexico, Colombia, South Africa, England, Egypt, Chile and even the USA.

John da Graca



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