TEXAS A&M UNIVERSITY-KINGSVILLE

CITRUS CENTER

(956) 968-2132

WESLACO, TEXAS 78596

June 2006

NEWSLETTER

Vol.24 No.3

FUNDS FOR A NEW CITRUS CENTER BUILDING APPROVED

The State Legislature approved $9.5 million in funding for a new Citrus Center building during its recent special session in Austin. Funding will be provided through Tuition Revenue Bonds (TRBs). The Center is currently housed in converted World War II barracks that were moved to Weslaco from the now defunct Harlingen Air Force Base in 1948. Additional space was created in 1971 by closing in an area in the middle and surrounding the building with a façade. The structures have served the center well, but they are well beyond their useful life. An earlier TRB funding request in 2001 was unsuccessful, but thanks to the tireless support of the citrus industry in the Valley and leaders in Kingsville, state legislators have now agreed to fund a new building. The new two story building, targeted for completion in May 2010, will house state-of-the-art research and teaching laboratories, offices, classrooms and support services to meet current and future scientific needs. In addition to advancing citrus research, these modern research and teaching facilities will also support continued growth of the research, education and service missions of collaborating research institutions in Weslaco, including the Texas A&M Agricultural Research & Extension Center and the USDA-ARS Sub-Tropical Research Center, and help establish Weslaco as a premier plant research and education center of excellence.

We are grateful to the many people who contributed to this success. They include legislators Senator Eddie Lucio and Rep. Armando Martinez, the former and present TAMUK Presidents, General Marc Cisneros and Dr Rumaldo Juarez, the former Center Director, Dr Jose Amador, Mr. Greg Garcia (A & M System Assistant Vice-Chancellor for Governmental Relations), the Dean and Associate Dean of the College of Agriculture, Natural Resources & Human Sciences, Drs Ron Rosati and Allen Rasmussen, and industry leaders, especially Ray Prewett, Jimmie Steidinger and Tommy Garcia.

J. Michael Gould & John da Graca

CITRUS PEST UPDATE

For multiple reasons, the Texas Citrus Industry, the Citrus Center and citrus growers regularly need an overview of arthropod pests affecting citrus. Because the citrus agroecosystem is continuously changing, only direct field observations can provide an accurate picture of arthropod pests and their impact on postbloom citrus. After all, the best investment in a grove care program is on site observation and monitoring. We surveyed 52 Valley orchards from March to May, 2006, to collect information on citrus pests and their natural enemies. The **Asian citrus psyllid** (Fig. 1) and the **Citrus leafminer** (Fig. 2) were the dominant pests found in all the orchards. Percent flush infestations per tree averaged 50% and 40% for the psyllid and the leafminer, respectively. **Citrus whiteflies**, **soft and black scales**, **citrus mealybugs**, **cotton and spirea aphids, orange dog** and **katydid** were also occasionally recorded in some orchards. However, except for some localized heavy infestations in few orchards, their numbers were generally too low to warrant any immediate action.

Many predatory ladybeetles were observed feeding on the psyllid but their populations have a 2-3 week lag period behind that of their Asian psyllid host. No natural enemy has thus far been recovered from the citrus leafminer. This opens avenues for a classical biological control program in which we will import parasitoids from Florida for laboratory testing and subsequent field releases. However, results of on-going trials showed that Admire® Pro provide good knock down and control of both pest species while preserving the activity of natural enemies. Soil application of Temik 15G alone provided some control but needs to be complemented with another pesticide application for a season long control of psyllid and leafminer.

Spring time infestations of **citrus rust mite** have been unusually low on Valley citrus undoubtedly due to the persisting drought. However, with the dry conditions spider mite populations have been on the increase-especially **citrus red mite** and most recently

See Pest Page 2

Pest from Page 1

relatively heavy infestations of **false spider mite** (*Brevipalpus* spp) have been identified in some orchards. False spider mites build in the interior tree canopy and often causes spotting 'nail head rust' on the fruit, severely downgrading its marketability. Growers definitely need be alert for this pesky mite which all too often goes undetected until the damage appears on the fruit. Unfortunately, Kelthane MF (dicofol) one of the most effective miticides for false spider mite control has been taken off the market. Growers will need to choose an alternative miticide e.g., Comite EC, Danitol 2.4 EC, or Vendex 50 WP. Envidor 2 SC which recently received a federal registration for use on citrus has also shown good efficacy against false spider mite.

M. Sétamou & J. V. French

Fig. 1. Asian citrus psyllid nymphs with profuse wax

Fig. 2. Damage of citrus leafminer

AERIAL BLIGHT CAUSED BY *PHYTOPHTHORA*

Aerial blight of citrus is a serious disease with symptoms on the upper leaves and stems. It can result in eventual death of plants in weeks. The incidence of this disease is governed by the temperature, relative humidity, rainfall, and wind. The disease is caused by the fungus, *Phytophthora parasitica* which is common in citrus orchards with tree symptoms of foot rot, gummosis, root rot and brown rot of fruit.

Aerial blight of nursery citrus is not very common in the Valley. However, a severe incidence of this problem was detected and reported in October 1991 (Recent attack of *Phytophthora* blight of citrus in the Valley, Citrus Center Newsletter Vol. 9, No.5). Recently, we found aerial blight of citrus in a nursery in Houston. Of the 19 suspected leaf and twigs cultured, 6 were positive for *Phytophthora* aerial blight infection.

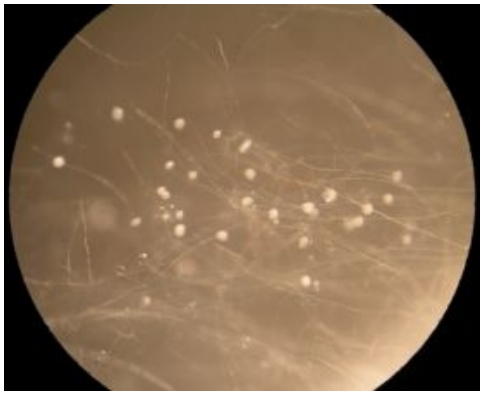

Fig.1. Sporangia of *Phytophthora* as seen under a microscope. Each round structure contains many zoospores that are capable of infecting another citrus plant.

Leaves of nursery trees infected with *Phytophthora* show dieback and blight. In potted plants, infected leaves fall off the plant and stay on the soil surface. Eventually, the shoot, root and crown will rot. Presence of irrigation water, fallen infected leaves on the soil surface in the pot, and wet soil are favorable conditions for the rapid growth and multiplication of a water mold like *Phytophthora*. In nurseries with overhead sprinkler irrigation, an infected plant would serve as source of *Phytophthora* infection to neighboring plants through splash. Generally, the higher the nitrogen fertility, the more susceptible they are to *Phytophthora* infection.

Phytophthora can remain dormant in infected and decaying plants parts in the soil or in potting

See Aerial Blight Page 3

CITRUS GREENING/ASIAN PSYLLID SURVEY UPDATE

In the February 2006 newsletter, we described the survey to be undertaken this year to determine the extent of spread of the Asian citrus psyllid, and if any greening-infected trees were present in either commercial groves or in dooryards.

So far, the psyllid has been found on citrus in 14 counties, including the three commercially important ones of the Lower Rio Grande Valley (Hidalgo, Cameron and Willacy). None has been found so far in three other counties. The Table lists the counties outside the LRGV surveyed so far. Of particular importance is the finding of psyllids at one location in Houston, because there are communities in the area with foreign origins who may have introduced citrus illegally from their home countries, perhaps being unaware that this is illegal. Some other locations in Houston visited do not appear to be infested with psyllids, but further surveys will be undertaken. In addition to returning to Houston, there are other areas which will be surveyed again, and counties we have not yet covered, such as those in east Texas, will be visited.

Although no typical greening-like symptoms have been observed at any location, leaves displaying deficiency-like symptoms have been collected from areas visited and sent to the USDA lab in North Carolina which is conducting all the molecular analyses for greening. So far, all have tested negative for the greening pathogen.

Psyllid finds in Texas outside LRGV

County	City	Psyllid+/-*
Bexar	San Antonio	+
Brazoria	Lake Jackson	–
Brooks	Falfurrias	+
Dimmitt	Catarina	+
”	Carrizo Springs	–
Duval	Concepcion	+
Fort Bend	Rosenberg	–
Harris	Houston	+
Kenedy	Sarita	+
Kleberg	Kingsville	+
”	Riviera	+
Nueces	Port Aransas	+
Uvalde	Uvalde	+
Webb	Laredo	+
Wharton	El Campo	–
Zapata	San Ygnacio	+
”	Zapata	+

* + = present; — = absent

John da Graca, Mani Skaria, Victor French, Mamoudou Sétamou & Patrick Haslem

Aerial Blight From Page 2

mix even in freezing low temperatures. The spores of this fungus, known as zoospores, can be spread onto leaves in splashed water droplets or moved in running water in the soil. Zoospores can swim and enter stomatal openings on leaves resulting in infection.

In nurseries, it is not unusual to find plants such as rhododendrons, azaleas, citrus, periwinkle, petunia, snapdragon, and pansy with aerial blight of *Phytophthora,* when environmental condition are right. In order to control this problem the following steps must be taken.

1. Remove all fallen, infected leaves from the pots so as to prevent the fungus from getting into the soil and eventually to the root system.

2. Develop an ability to distinguish *Phytophthora* blight from other lesions

3. Maintain good root health of plants and avoid high nitrogen

4. Avoid over irrigation

5. Apply systemic fungicides such as Aliette and Ridomil as preventive control strategy

6. Use potting media containing *Phytophthora*-suppressive hardwood and pine barks with superior aeration and drainage properties

Mani Skaria

DR ROSATI RESIGNS AS DEAN

Dr Ron Rosati, Dean of the College of Agriculture, Natural Resources and Human Sciences (ANHRC), has resigned from his position to take up an appointment as Vice-President for Academic Affairs at Alfred State College in New York State. He takes up his new post on July 1. Dr Rosati became Dean in 2001, and during the past 5 years he has worked tirelessly to promote the College, and much of the credit of the College, such as its current position of attracting more research dollars per faculty than any other agriculture state in Texas, must go to him. Dr Rosati frequently visited the Center in Weslaco, and was a regular participant in the Advisory Committee meetings. We thank him for his support and leadership, and wish him continued successes in his new position.

Dr Allen Rasmussen, Associate Dean, will serve as interim dean while a national search is conducted to find Dr Rosati's replacement.

Subscriptions to the bimonthly Newsletter are $5 a year or $8 for two years. International rate is $7 a year. Make checks payable to Texas A&M University-Kingsville. Address comments or inquiries to Newsletter Editor, Texas A&M University- Kingsville Citrus Center, 312 N. International Blvd, Weslaco, Texas 78596 or, in the case of signed articles, directly to the staff member named. Articles appearing in the Newsletter may be reproduced, in whole or in part, without special permission. Newspapers,periodicals and other publications are encouraged to reprint articles which would be of interest to their readers. Credit is requested if information is reprinted.

Texas A&M University-Kingsville
Citrus Center
312 N. International Blvd
Weslaco, TX 78596