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Citrus Center

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Late Breaking News on Asian Citrus Psyllid and Greening

See the article on the back page

Citrus Pest Update: The Hot and Dry Weather Brings Mixed Fortunes

M. Sétamou and J. Victor French

Traditionally, population and infestation levels of the citrus rust mite—the most important pest of Texas citrus— start to rise in mid to late spring requiring chemical sprays to be initiated in groves. However, this year, citrus rust mites have been found in only a few orchards and generally in low populations. This undoubtedly is due to the very hot dry conditions that have persisted this spring in South Texas. However, with the recent rains in some Valley locations, the citrus rust mite populations will likely be on the increase and growers will have to be on the lookout and possibly apply chemical sprays for control.

In contrast to the citrus rust mite, false spider infestations have been heavy in some orchards and growers may need to apply chemicals for control. Infestations of false spider mites build up on fruit in the interior tree canopy and all too often go undetected until the feeding injury known as 'leprosis-like' or nail head rust spotting appears on the fruit. Many miticides used for citrus rust mite control (see 'Arsenal of Miticides Available in Texas' in this issue) are also effective in the control of false spider mites. These mites are generally more prevalent in sub-tropical regions and population build-ups are favored by hot and dry climate.

Similar to the false spider mites, citrus mealybug populations have been on the increase and especially on oranges. Female citrus mealybug lays eggs under the button at the stem end of the fruit and these eggs are seldom exposed to chemical sprays until the newly hatched nymphs begin to move out onto the fruit. As citrus mealybugs populations and feeding increases, more and more honeydew is released and becomes the substrate for development of sooty-mold fungus that blackens the fruit and leaves. There are both chemical and biological options that are effective for mealybug control. The ladybird beetle, *Cryptolaemus montrouzieri*, called the mealybug destroyer, is an effective predator of citrus mealybug. Several chemicals can also be effectively used for the control of citrus mealybugs, but in this case the timing of sprays to control mealybugs is of considerable importance. Early detection of infestation is a key aspect of citrus mealybug management if not populations become too difficult and costly to deal with. Chemicals such as chlorpyrifos (e.g. Lorsban), bifenthirn (e.g. Talstar), fenpropathrin (e.g. Danitol) diazinon, insecticidal soap, and citrus oil (e.g. Citri-King, Oroboost) can effectively control citrus mealybug.

The invasive Asian citrus psyllid is also found but at low populations except on orange trees where high densities of the psyllid are generally recorded. Undoubtedly, psyllid populations will increase on new flushes as the season progresses.

Damage caused by the citrus leafminer is also on the rise in the Valley. Dooryard trees are particularly affected by citrus leafminer because of the lack of effective natural enemies. Efforts are underway to introduce citrus leafminer parasitoids from Florida.

Arsenal Of Miticides Available For The Control Of Phytophagous Mites In Texas Citrus

M. Sétamou & J. Victor French

With the enactment of the Food Quality Protection Act (FQPA) of 1996, many miticides which have proven to be effective in the control of citrus rust mite and other mites are no longer available. The last miticide to be pulled off the market is the long "beloved" Kelthane 50WSP (a.i. dicofol) which has been used for years in the control of mite pests in Texas citrus.

Despite this loss of labels for some pesticides, new miticides that are environmentally friendlier are constantly being developed and added to the arsenal of pesticides available for mite pest control. However, many growers continued to use a limited number of chemistries for the control of citrus rust mite and other mite pests. To ensure that citrus rust mite and other mites do not develop resistance to these frequently used miticides, it is recommended to rotate the chemistries of miticides selected in spray programs. Here we present an updated list of miticides available for mite pest management in Texas citrus.

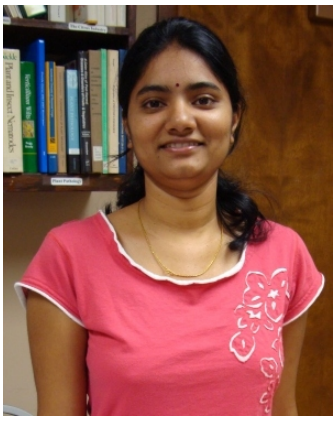
Table: Miticides available* for control of citrus rust mite and other phytophagous mites in Texas

Miticide	Active Ingredient	Producer	Target & Mode of Action
Agri-Mek	Abamectin	Syngenta	Juveniles & adults, contact or ingestion
Abba	Abamectin	Makhteshim Agan	Juveniles & adults, contact or ingestion
Zoro	Abamectin	Cheminova	Juveniles & adults, contact or ingestion
Carzol	Formetanate	Gowan	Contact on nymphs & adults
Comite	Propargite	Chemtura	Contact on juveniles & adults
Danitol	Fenpropathrin	Valent	Nerve toxin to juveniles & adults
Envidor	Spirodiclofen	Bayer	Contact on all stages
Portal (= Fujimite)	Fenpyroximate	Nichino	Contact on all stages
Lorsban	Chlorpyrifos	Dow AgroSciences	Contact Ingestion, Inhalation
Micromite	Diflubenzuron	Crompton	Growth regulator
Nexter	Pyridaben	BASF	Contact on juveniles & adults
Neem Oil (Aza-Direct, Neemix)	Azadirachtin	Multiple	Contact on juveniles & adults
Omite	Propargite	Chemtura	Contact on juveniles and adults
Petroleum Oil	Oil		Contact on all stages
Sevin	Carbaryl	Bayer	Contact and ingestion
Sulfur	Sulfur		Contact
Temik	Aldicarb	Bayer	Ingestion
Vendex	Fenbutatin-oxide	Dupont	Contact to juveniles & adults
Vydate	Oxamyl	Dupont	Contact and Ingestion

*Mention of a chemical does not constitute an endorsement of a specific label, but this list is provided to ensure that growers are aware of the different options available.

Congratulations to Shilpa Marepally

Mani Skaria, John da Graça, and Shad Nelson



Shilpa Marepally has successfully completed an MS degree program in the Agronomy and Resource Sciences Department under the direction of Drs. Mani Skaria, John daGraca and Shad Nelson. Her research project was, "Molecular identity, infectivity, and differential gene expression associated with *Olpidium*-like fungus in citrus and vegetables." Her work has added additional information on the natural spread of citrus psorosis virus infection in orchards planted with psorosis-free plants, many years ago. She had identified the fungus as a true *Olpidium*, most likely *O. brassicae*. This is the first time this fungus has been reported on citrus. It does not cause serious disease symptoms on its own, but it could be significant when it functions as vector of psorosis virus. The natural spread of psorosis infection in Texas is a phenomenon first studied by Drs. Timmer and Garnsey, three decades ago. With the help of graduate students and visiting scientists, we are constantly identifying pieces of information on this interesting but thus far not so fully understood fact of natural spread of psorosis disease of citrus.

Apart from completing her thesis, she recently got married and secured a job in the financial world – she will be working for ICICI bank in Hyderabad, India. Our heart felt congratulations and best wishes for Shilpa with her new job and her married life.

People News

John da Graça

Robert Saldaña, who has been assisting the entomology department since last year while on the A & M Experiment Station (now AgriLife Research) payroll, has now formally joined the Citrus Center as a Research Associate in Dr Sétamou's lab. Welcome aboard.

Dr Boris Castro, who joined the AgriLife Research & Extension Center early last year, and had developed a close working relationship with the Citrus Center, contributing articles to this newsletter amongst other activities, has resigned and moved to California where he has accepted a position with DuPont. We thank him for his contributions, and wish him well.

Dr Greta Schuster joined the Department of Agronomy & Resource Sciences in Kingsville in January. Part of her appointment is as an extension plant pathologist in the Valley, and during the summer she will be working out of an office at the AgriLife Research & Extension Center in Weslaco.

Three graduate students who have just completed their first semester taking classes in Kingsville, are beginning their research this summer. **Raul Hinojosa** is working with Dr Nelson, and **Sravani Garlapati** and **Manjula Talari** will be joining Dr Sétamou's laboratory. In addition, **Danielle Sekula** and **Pete Ochoa**, who took their classes from the TTVN classroom in Weslaco, will be conducting their research at the Center. Pete works for Customs & Border Protection and is conducting a Mexican fruit fly project, and Danielle is working on rust mite.

Leadership and Administrative Changes in Kingsville

John da Graça

The President of Texas A & M University-Kingsville, **Dr Rumaldo Juarez**, is stepping down from his position at the end of June. He will remain on campus, and will assume the position of Associate Vice-President of Research & Graduate Studies. **Dr Robert Strawser**, a Texas A&M System Regents Professor at the Mays Business School in College Station, has been appointed as interim President.

The Provost, **Dr Kay Clayton**, is also stepping down. She has accepted the post of Provost at Texas Women's University. **Dr Ronn Hy**, Dean of Arts & Science, has been appointed interim Provost.

Oscar Castillo, Associate Vice-President (Support Services) retired at the end of May, and **Dr Alberto Olivares**, Dean of Graduate Studies will retire at the end of August; Dr Juarez will then assume these latter duties. **Sandra Rexroat**, Director of Research & Sponsored Programs (RSO) has been appointed to be the Director of the University Archives; her place at RSO has been taken by **Sandra Garcia**, who was formerly in the sponsored research office of Texas A & M University-Corpus Christi.

The Center worked closely with all the departing leaders. We are grateful for their leadership and support, and we wish them well in their new roles and activities. We also look forward to working with the new administrators.

Asian Citrus Psyllid and Greening Found in Louisiana

John da Graça

In late May, Asian citrus psyllids were detected in Louisiana for the first time. Surveys by the USDA has so far found them in several residential properties and retail nurseries in four parishes around New Orleans. None has so far been found in orchards or production nurseries. One Mexican lime tree has tested positive for the greening bacterium. This is a serious development considering that Louisiana is a neighbor of Texas, and highlights the need for speedy action on all fronts - research, psyllid control, regulatory action and public outreach. The source of the infection in Louisiana is not known, but everyone is reminded that it is illegal to bring citrus plants or propagative material into Texas from anywhere outside the state.

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