Issues in Agriculture

The Newsletter about Integrated Pest Management for the El Paso Valley

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ANNOUNCEMENTS

- **NEW LOCATION**! Please come and visit our new facilities. El Paso Texas A&M Extension Service new offices are on the right hand side corner of the Ascarate Park entrance: 301 Manny Martinez Sr. Dr., El Paso, TX 79905. New phone: (915) 771-2354 and fax: 915-771-2356.
- **EL PASO BUGS** websites keep growing. "El Paso Bugs" is a gallery of local insects and related invertebrates. These sites could be used as an insect identification tool or simply as a way to enjoy learning about arthropod species that you observe in your gardens, houses, farms, or landscape. The websites display mostly my photographs, but we recently received the first contributions of insect photos from fans of El Paso Bugs. You can submit good quality close up photos to my email. Proper credit will be given. To visit this site go to: http://elp.tamu.edu/integrated-pest-management/el-paso-bugs-thumbnails-2/ . Our Facebook page is more interactive. There you can comment or ask insect-related questions: https://www.facebook.com/ElPasoBugs.

GENERAL SITUATION:

After several weeks of unseasonably warm temperatures, we had a break with three days of rainy/cloudy weather. After tomorrow, we will be seeing drier and clearer days with maximum temperatures in the mid 80s. The growing season is winding down and some cotton growers started applying defoliants a week ago. Cotton aphids have been extremely abundant this last part of the season and have covered plants and bolls with their honeydew. Recent moisture may contribute to form "sooty mold" and produce a dark layer on cotton leaves and lint. Pecan bacterial leaf scorch has been identified in New Mexico and is most likely present in Far West Texas too. Beneficial insects in cotton, pecan, and alfalfa are at high population levels. Red imported fire ants have been confirmed in El Paso.

PECAN:

Pecan Bacterial Leaf Scorch: On September 18, a group of pecan growers held a meeting at the USDA Southwestern Cotton Ginning Research Laboratory in Las Cruces with the purpose to provide updates on pecan bacterial leaf scorch (PBLS). PBLS is caused by Xylella fasitidiosa, a xylem-limited bacterium that lives in more than 150 plant species causing disease symptoms in 10 to 20 percent of these species. The pathogen interferes with water movement within the tree. Currently, any xylem-feeding insect should be considered a potential vector. It is important to know that this bacterium does not affect human health in any way. At this meeting, Drs. Natalie Goldberg and Richard Heerema announced that the presence of PBLS was confirmed in Arizona pecan trees in

July 2015 and in New Mexico pecan trees a month later. Much about this disease and its implications to local pecan orchards remains unknown. Among other questions that need to be answered: How long has this disease been in our area? How widespread is it? How did it get here? What is the

Rebecca A. Melanson, Louisiana State University AgCenter

Jason M. French, New Mexico State University

specific subspecies of the bacterium? What are the main local vectors? What is its effect on the health, longevity, and yield of the pecan trees? How can it be managed? Ongoing research efforts may provide valuable information with practical implications to protect the pecan industry in our region. Drs. Goldberg and Heerema suspect that the disease has been in the southwest for a long time and that it is widespread. They evaluated 35 trees and 14 of them (40%) resulted ELISA positive. The infected samples originated from three NM counties. The pathogen has been detected in a wide range of health status from asymptomatic trees (healthy-looking) to broadly affected ones. It has been found in young and in very old trees. Several years ago, it was identified by NMSU personnel in grapes, chitalpa, catalpa, and peach (in New Mexico) and most recently in oak, sycamore, and pecan. Dr. Goldberg is hopeful that PBLS may have little or no negative effects on well-managed trees. Factors that may stress the pecan trees include: elevated soil salinity, drought, long periods of standing water, freezing temperatures, high pest pressure, poor soils, too little or too much fertilization, pruning (branches or roots), soil compaction, hail damage, etc. For pecan growers, the focus should be in reducing stress levels of the trees whenever possible. Drs. Goldberg and Heerema stated: "*Unfortunately, there is NOT a completely reliable diagnostic test for this pathogen in pecan. The NMSU Plant Diagnostic Clinic is using the ELISA test (serological test), which is the standard for identification of this pathogen. Unfortunately, it can give a false negative. Researchers at NMSU are developing a PCR protocol which will be much more sensitive (it will be able to detect very*

Pecan tree affected by pecan bacterial leaf scorch.
Dr. Natalie Goldberg, New Mexico State University

small amounts of the bacterium) and much more reliable." At this point, it cannot be said with a high degree of certainty that a pecan tree is free of the pathogen. This fact has obvious implications in providing plant health certificates and in the desire to buy pathogen-free materials. Dr. Heerema added: "*The idea that minimizing environmental stresses is the best management strategy for this disease aligns well with reports from the Southeastern US, where they have been dealing with this a bit longer*." Jason Brock, extension plant pathologist at the University of Georgia, wrote in the Southeastern Pecan Growers Handbook, "[Pecan bacterial leaf scorch] *is more severe when trees have a heavy crop load, are under drought stress, or subject to any other stress factor*." and "*Damage* [due to pecan bacterial leaf scorch] *can be reduced by employing cultural practices that reduce stress to the trees*. *Basically, the healthier the tree, the better fit it will be to cope with the bacterial infection*." Dr. Goldberg emphasized that this is only the beginning of the discovery of PBLS in pecans in the Southwest and although much remains unknown, they are learning more each week.

COTTON:

Southwestern cotton rust remained at a low incidence level after the scare it gave us in late July. I believe applying Quadris (Azoxystrobin) at that time was the right management decision.

The pest du jour is the **cotton aphid**. This is the largest and most widespread cotton aphid population that I have seen in the 9 years I have been in El Paso. Mr. Ray Jones, who has been scouting cotton for 47 years, said that this cotton aphid population is undoubtedly the most widespread infestation of cotton aphids he has ever observed in El Paso. Most fields are covered with aphid honeydew and the cotton plants shine under the sun. Fortunately it is almost the end of the growing season, especially for upland cotton varieties, and several cotton growers started applying defoliants last week. The exception could be some pima cotton fields; which may benefit by a couple more weeks of growth. The attached photo of cotton aphids is missing the winged forms (alates), but it depicts parasitized aphids (in black), healthy ones (they may come in yellow, cream, tan, and orange colors), and aphid exoskeletons (the white shells resembling aphids). To see an interesting YouTube video of a winged aphid shedding its exoskeleton go to: https://www.youtube.com/watch?v=UrjfuErFbss

Cotton aphids, *Aphis gossypii*. 9/17/2015

There is also some incidence of **whiteflies** in cotton fields. Whiteflies produce honeydew too, but usually in less quantity than aphids. They are most obvious when you use a sweep net to sample bugs in cotton and see them flying around. When inspecting the underside of the leaves, most times you can observe one or a few, but they are much less abundant than what I have witnessed in previous years. Again, going the route of applying defoliants could make more sense than attempting to control this pest by using insecticides.

Sweetpotato whitefly, *Bemisia tabaci*, on cotton. 9/17/2015

OTHER PEST PROBLEMS:

RED IMPORTED FIRE ANT (RIFA): I regret to inform you that the ant samples I collected from Ascarate Park have been confirmed as red imported fire ants by Dr. Robert Puckett (Assistant Professor and Extension Entomologist, Texas A&M University). Approximately two months ago, I found what I suspected to be RIFA in El Paso. Dr. James Trager, the Missouri Ant Curator, confirmed via photographs, that I had submitted to http://bugguide.net/, the presence of RIFA in the city of El Paso. Immediately, I mailed specimens to Drs. Brad Vinson and Robert Puckett (Texas A&M Professors) for their diagnosis. The next logical step, now that they have been confirmed, would be to evaluate the extent of its distribution in El Paso and Hudspeth Counties and consider if it can be eliminated by the county authorities. Please contact me if you suspect of RIFA presence in your vicinity. This finding may have profound implications for our region. I will report to you on any significant developments. For information on fire ant control go to: http://fireant.tamu.edu/controlmethods/twostep/

Red imported fire ant, *Solenopsis invicta*.
Photo credit: Texas A&M University.

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