Issues in Agriculture

The Newsletter about Integrated Pest Management for the El Paso Valley

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ANNOUNCEMENTS

- You can download this and other IPM newsletters, check updates, and view upcoming events at the El Paso Texas A&M AgriLife Extension IPM website: http://elp.tamu.edu/integrated-pest-management/
- **Turn Row Meeting**: On June 25, anyone interested in discussing pest management and agronomic issues of cotton or pecan is cordially invited to meet at Mr. Ramon Tirres Farm on North Loop Dr., ½ mile west of intersection with Webb Road. This will be a good opportunity to check the performance of pima cotton varieties in local conditions and observe the cotton plant stand density test. Plot maps will be provided so you can make your own observations. Dr. Jaime Iglesias and Dr. Salvador Vitanza will discuss crop and pest management topics. This meeting is free of charge. Participants will receive certificates with one Continuing Education Unit.
- **Gardening 101 Workshop Series**: All sessions are free of charge and will be held at the Multipurpose Center on 9301 Viscount. On July 11, from 4:00 PM to 5:30 PM, the topic of discussion on this date will be RAIN WATER HARVESTING. Information: Denise Rodriguez Texas A&M AgriLife Extension (915) 860-2515.
- **Texas Pecan Growers Association Annual Conference & Trade Show:** July 13-16, 2014. Embassy Suites, San Marcos, TX. Contact TPGA, 979-846-3285 or pecans@tpga.org

GENERAL SITUATION:

We have experienced consecutive triple-digit maximum daily temperatures since May 31. Only this coming Sunday (99°F) and Monday (98°F) maximum temperatures are forecasted below 100°F. Then, it is back to 100°F and above for the foreseeable future. According to the National Weather Service weather report, using data collected at El Paso International Airport, a total of 0.64 inches of precipitation have been recorded this year. Compared to the 1.82 inches average (period from 1981 to 2010), we are running a deficit of 1.18 inches.

COTTON:

The crop is developing normally and most cotton fields look fine, but there are a few fields showing water/heat stress, weak plant development, and large row skips. Cotton plants range from 5 to 8 true leaves corresponding to different dates of planting.

I have not found significant pest problems yet. Soon, we will need to pay attention to the cotton fleahoppers and Lygus bugs. Cotton plants will begin squaring and become susceptible to cotton fleahopper and Lygus feeding. Cotton fleahoppers feed on pinhead or smaller squares in the terminals. Lygus bugs feed on squares and small bolls. Both cotton fleahoppers and

Contrast between good-looking and stressed out cotton fields in El Paso on June 5, 2014

Lygus feeding cause shedding of the squares. For the last couple of years, Lygus bugs have occurred at damaging population levels. Last year in particular, many cotton growers in our region had to make insecticide applications to manage Lygus bug problems.

Heat Units: http://www.cottonheatunits.com/ is a user friendly website that makes it convenient to calculate heat units based on your exact planting date and average temperatures for El Paso. This site also provides forecasts for the heat units that may be accumulated in the next 7 days. However, this website does not let you use your own weather data. Cottonheatunits.com calculates observations and forecasts using data from the National Oceanic and Atmospheric Administration's National Weather Service and long-term historical averages from the National Climate Data Center.

Using the website http://www.cottonheatunits.com/, with weather data collected at the El Paso International Airport, and 8 planting dates (from April 15 to May 13) I generated the following table:

Planting date	Accumulated heat units until June 5	Historical average heat units until June 5	Forecast heat units until June 12
April 15	696	577	759
April 19	673	556	701
April 23	638	532	652
April 27	589	504	640
May 1	577	472	616
May 5	553	440	555
May 9	492	400	507
May 13	444	356	701

Degree Days: DD-60s required for cotton development.

Event	DD-60s from Planting
Emergence (stand establishment)	45-130
Apperance of first square	440-530
Appearance of first flowers	780-900
Peak Blooming	1350-1500
First open boll	1650-1850
Defoliation	1900-2600

Please join us in our **Turn Row Meeting** on June 25 at Mr. Ramon Tirres Farm on North Loop Drive to discuss issues on cotton and pecans (see announcement at the beginning of this newsletter).

PECAN:

This is the time to be monitoring the **second generation of pecan nut casebearer** (PNC) moths. Carlos Perez, Co-Manager of El Paso Valley Cotton Association Inc. in Clint, started capturing PNC moths on June 2. He found 57 moths in just one trap on Monday! On Tuesday June 3, he found 10 moths in one trap. This is the second PNC generation and not a late first generation. This year we found a wide range of PNC life stages and several growers had to make more than one insecticide application to achieve adequate control. The first PNC captures in El Paso region occurred on April 23, but I was finding PNC larvae in shoots as late as May 12. Adding up the days it takes for the different PNC life stages according to AgriLife publication "*Controlling the Pecan Nut Casebearer*", I come up with a range of 41 to 54 days for the first PNC moths to appear. There are 40 days between April 23 and June 2, so most likely we are seeing the second PNC generation in our traps now.

Moths captured on April 23	**Days to develop**	
Eggs hatch in	4	5
Larvae feed for	28	35
Pupation	9	14
Adult emergence	41	54
2nd-generation	June 3	June 16

Honeydew accumulation on pecan leaves

In the last few days, the **blackmargined pecan aphids** have reached or surpassed action thresholds (25 per compound leaf). In some orchards, pecan trees are completely covered in "goma" or "honeydew". Both adults and nymphs remove sap from the leaves resulting in loss of nutrients. However, management of this pest is often contentious. Some pecan IPM professionals are cautious in their recommendations to apply insecticides due to the fact that this pest develops resistance quite readily; while some consultants advise the use of insecticides as soon as leaves become shiny. One thing is certain: you should make your decision whether or not to control this pest based on actual aphid counts and not the accumulation of honeydew on the leaves. Field research in our area has shown that imidacloprid-based insecticides (group 4A) result in little or no blackmargined aphid control. I would not recommend the use of insecticides in the group 4A, at least for a few years, for aphid control in our region. One of the most commonly used insecticides in El Paso and Hudspeth Counties this year is Beleaf™ 50 SG (flonicamid, group 9C). Last year, Dr. Mark Muegge and I conducted a field trial in a commercial pecan orchard near Fabens, which included 10 treatments arranged in a randomized complete block design (RCBD) with 4 replications. We concluded that aphid nymphs were substantially lower in the Endigo, Voliam and Beleaf treated trees relative to the untreated check trees. Interestingly, the NIS and Agriflex treated trees had significantly higher BMA nymph population densities relative to the untreated check trees.

SALTCEDAR BIOCONTROL:

Most saltcedar plants in El Paso and Hudspeth Counties look healthy and strong. Only a few plants seem to be struggling. Unfortunately, I have searched for Subtropical Tamarisk Beetles (STB) in numerous sites throughout El Paso Lower Valley and West Hudspeth County without success. Today, I could not even find STB at the location where I found them on May 20, southwest of Fort Hancock next to the international border. There were no larvae or adults present at any site that I inspected. My optimism leads me to believe that STB are occurring at low population levels and that by the end of the summer they will be abundant again. Probably the beetles, which "disappeared" from the site where I found them thriving 16 days ago, simply dispersed to nearby areas and are not easy to find at the moment. Other entomologists in Texas believe that the beetles did not overwinter in the sites where the trees were heavily defoliated last year. Rather, once the trees were defoliated, the emerging adults flew away in search of green saltcedar trees and overwintered in those sites, which may have been miles away. If so, it may be later this summer before beetles return to the now green saltcedar trees at the sites that I am monitoring. Thus, while beetles initially arrived in "a wave of large numbers", the pattern may now be a patchwork of trees, with and without beetles, as beetles move around the landscape in search of green trees. I have found numerous saltcedar branch tips with spider webs (see illustration), not mites. After looking at several web samples under the microscope, I could not find spiders or mites, but there were several flies, seeds, and sand particles captured on the webs. Honeybees are abundant on saltcedar flowers. I found several sites along the drainage canals where saltcedar plants had been burnt by herbicides, but the plants had managed to sprout new leaves. Some large saltcedar plants have been uprooted using machinery to clean the drainage canals and allow better water flow.

Spider webs on saltcedar plants

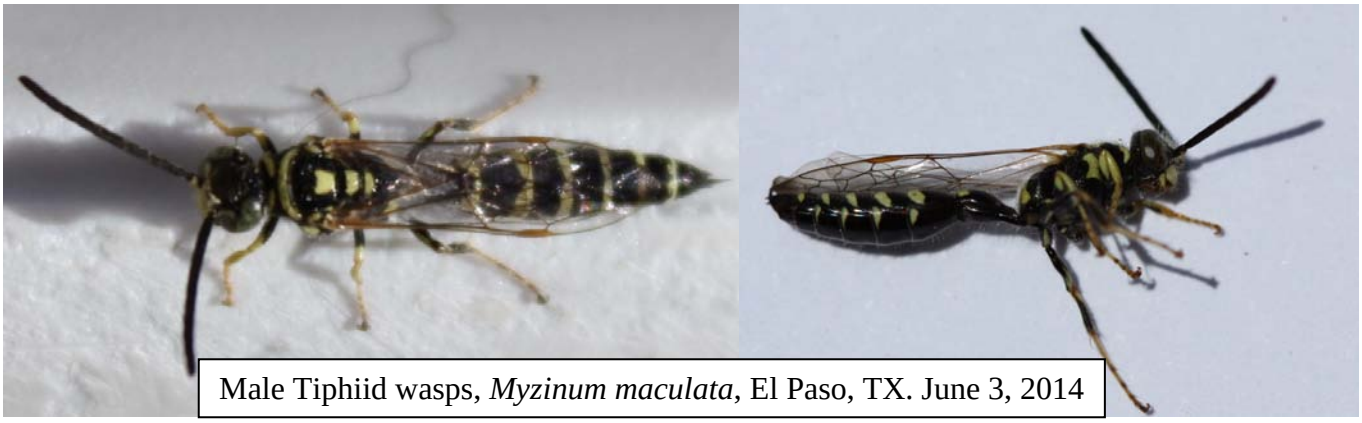
JUNE BEETLES AND BENEFICIAL WASP:

If you care about having a beautiful lawn, you might be interested in learning about the relationship between June beetles and parasitoid wasps in the family Tiphiidae. Even if you do not have a lawn, the relationship between these two insects is definitely an interesting one.

June beetles, also called June bugs or May beetles, are relatively abundant at the moment. They started emerging from El Paso lawns during the last week of May. These beetles are attracted to lights at night and you may find them, during the day, on the ground below outdoor lights. The most common species in El Paso is *Phyllophaga crinita*; which is considered the most important turfgrass pest in Texas. According to the Texas A&M AgriLife Extension publication "*White Grubs in Texas Turfgrass*" (https://insects.tamu.edu/extension/publications/html/e211.html)

June beetles in El Paso, TX on June 2, 2014

Larvae of this species devour the roots of warm season grasses like Bermudagrass, Zoysiagrass, St. Augustinegrass, and Buffalograss. Most lawn damage occurs during summer and fall seasons; especially when grubs reach half an inch to an inch in size. If your lawn is attacked by white grubs every year, you could prevent damage by using one of the many insecticides recommended for white grub control available at local garden stores. But if the damage occurs occasionally, you should sample your lawn 4 weeks from the time you first noticed the adult beetles. Probably this year, sampling should be done by the last week of June or early July. If you find 5, or more, white grubs per square foot, you should apply a labeled pesticide to minimize damage to your lawn. Most insecticides are more effective controlling early stages of the larvae than third instar (i.e., larval stage) or older larvae. If you find less than 5 larvae per square foot, you may decide not to apply an insecticide and leave white grub control in the competent "hands" of the parasitoid wasp, *Myzinum maculata* Fabricius. A parasitoid is a parasite (usually in the larval stage) that eventually kills its host. ***Myzinum maculata*** is a wasp in the family Tiphiidae, commonly called Tiphiids. Adult Tiphiids feed on pollen and can be found on flowers while their larvae are ectoparasites (external parasites) of scarab larvae or white grubs. The photos of Tiphiids in this newsletter depict males, approximately half an inch long,



Male Tiphiid wasps, *Myzinum maculata*, El Paso, TX. June 3, 2014

that I captured floating in a swimming pool. Male Tiphiids are slender and smaller than females. Males tend to congregate on vegetation early in the morning or in summer evenings to wait for females for mating. After fertilization takes place, the female Tiphiid searches for subterranean white grub larvae and lays a single egg on the grub's abdomen. Later, the egg hatches and the wasp larva feeds, externally, on the white grub. The wasp larva first consumes non-essential tissues prolonging the life of its host. During this time, the white grub becomes paralyzed and eventually dies. At the end of the feeding process, the wasp larva builds a cocoon to overwinter and pupate, emerging as an adult in late spring or early summer to repeat the cycle once more. So it goes the life story of this "beneficial parasite". In conclusion, there is no reason for concern if you find Tiphiid wasps around your house. These wasps help us reducing white grub population levels. They should be viewed as beneficial insects and should be protected when possible.

More information on *Myzinum maculata*: http://orange.ifas.ufl.edu/mg/mg_compendium/pdffiles/in/IN85700.pdf.

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