

## Issues in Agriculture

*The Newsletter about Integrated Pest Management for the El Paso Valley*

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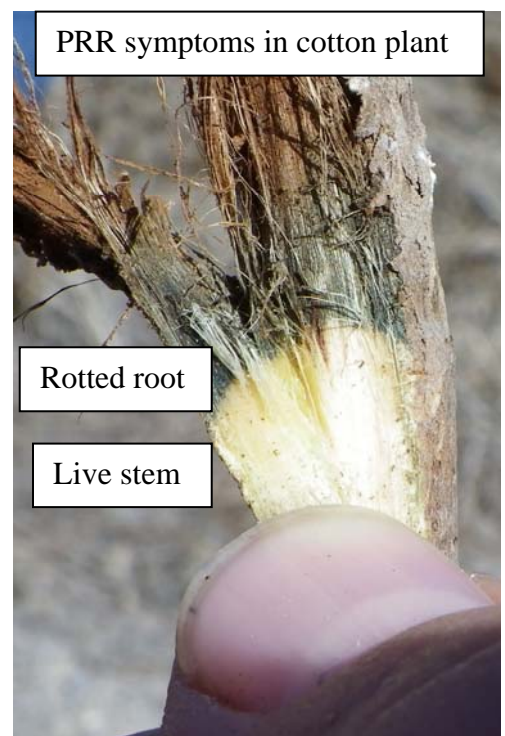
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## Announcements

- The TDA **cotton stalk destruction deadline** for our region is February 1<sup>st</sup>, 2011. At that time, cotton stalks should be plowed, chiseled, or disked to a depth of 6 inches.
- **East Texas Nursery Conference:** October 27, 2010. Harvey Convention Center, Tyler, TX. Conference. Registration Fee: \$40 onsite. For more information: Contact Scott Ludwig at 903-834-6191 or [swludwig@tamu.edu](mailto:swludwig@tamu.edu). Register online at <http://agrilifevents.tamu.edu/>
- **Beltwide Cotton Conferences**, Atlanta Marriott Marquis Hotel, Atlanta, GA. January 4-7, 2011 (Tuesday-Friday). More information: <http://www.cotton.org/beltwide>
- **Western Pecan Growers Annual Conference and Trade Show**, Hotel Encanto, Las Cruces, NM. March 6-8, 2011. Contact Olivia Carver or [oliviakcarver@aol.com](mailto:oliviakcarver@aol.com)
- **Bug Bytes** is a bimonthly podcast by the Texas A&M Department of Entomology in collaboration with Solpugid Productions. This podcast series takes you on a global expedition to discover what insects, spiders and other similar animals know that we don't! <http://entowww.tamu.edu/podcast/>

**GENERAL SITUATION:** On October 20, El Paso Lower Valley and Hudspeth County received 0.5-1 inch of precipitation. Hail damage was observed mainly in populated areas. Luckily, the crops in our region escaped with little or no damage. Rain and winds did not significantly increase strung out cotton. This has been one of the worst years for Texas cotton root rot or *Phymatotrichopsis* root rot (PRR, caused by the fungus *Phymatotrichopsis omnivora*) in cotton, alfalfa, and pecan in Far West Texas and southeastern New Mexico. PRR has severely affected cotton fields especially near Fort Hancock and Esperanza. Dr. Soum Sanogo, Associate Professor of Fungal Plant Pathology at NMSU, reported that alfalfa fields in Eddy County, NM (especially near Loving, Carlsbad, and Artesia) had 10 to 50% of areas damaged by PRR. Many of these fields had not been affected by this disease in the recent past. Dr. Tom Isakeit, Professor & Extension Specialist in Field Crops at Texas A&M, determined that alfalfa fields near Fort Hancock had patches affected by PRR too. Some 4-5 year-old pecan trees near Clint and Fabens have died recently and PRR is the prime suspect. Root samples from these trees were just sent to NMSU and Texas A&M; diagnosis is pending. Why has PRR been so aggressive this year? Plant pathologists agree that the cause must be environmental. High temperatures coupled with high humidity provide the ideal conditions for PRR development. According to David J. Novlan, NOAA - El Paso Weather Forecast Office, this summer (Jun-Aug) has been the second warmest, since 1895, in El Paso. He points out that during this monsoon season (Jun 15-Sep 30) there were 30 days with maximum temperatures above 100°F; which is twice the normal value. Precipitation was variable both in areal coverage and amount, but I believe that irrigation water should be enough to encourage PRR expression.

**COTTON:** Bollworms were the key insect pest in some pima fields this season, but careful monitoring and timely insecticide applications kept them in check. In regards to plant diseases, undoubtedly, *Phymatotrichopsis* root rot (PRR) has been the top concern. That is why the turn-row meeting on October 12 was urgently needed and had great attendance. On that day, Drs. Thomas Isakeit and David Drake visited with the growers from 9:00 AM to 11:30 AM at Tyn Davis' Farm near Fort Hancock. Dr. Isakeit said that the results of their field research on PRR suppression by using Flutriafol (Topguard®), in San Angelo and some other Texas locations, are extremely promising. He plans to conduct a field trial in 2011 in our region to test this compound in pima cotton in our environmental,



soil, and management conditions. Dr. Isakeit also said that the key characteristics to determine PRR in cotton include sudden plant death (a decline lasting 4-6 days), rotted, dark root tissue coupled with

live or light color stem tissue, light hyphal strands on main root near the soil surface, and dried leaves attached to the plant. Verticillium wilt could be confused with PRR, but in most cases of verticillium wilt in cotton, plants lose their leaves and the roots do not appear rotted. He took samples of cotton plants with leaf spots to examine later in his laboratory and found that



Dr. Isakeit training growers on Texas cotton root rot

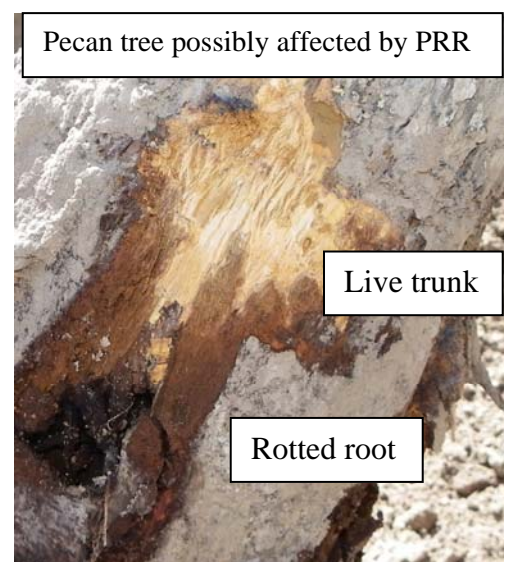
they were affected by *Alternaria*. The incidence of *Alternaria* this late in the season should not result in yield reduction. He also took samples of a callus area formed on the root near the soil surface, in a significant number of cotton plants, that some cotton growers suspected was due to nematodes. Dr. Jim Starr, Professor & Nematologist at the Texas A&M Dept. of Plant Pathology and Microbiology determined that the root callosity was not caused by nematodes. Dr. Isakeit kindly provided the following summary of his research efforts:

"In 2010, we conducted flutriafol trials for control of cotton root rot in several production areas of Texas. The main emphasis was research into methods of application and our significant finding is that this fungicide could be put out at planting and result in a disease reduction much later in the season when the disease hits. Specifically, significant control was obtained with a liquid formulation applied at planting in the furrow with a seed firmer. One attempt was made to apply it with liquid fertilizer at planting, but the fungicide did not mix with the fertilizer. A granular formulation applied at planting also had activity. Seed treatments with the fungicide did not work, nor did knifing it in after stand establishment. A spray to the lower stem of young plants worked at several locations, even when the volume of water was as low as 15 gpa. However, future research will focus on at-planting applications, since that will not require additional operations. This fungicide is not labeled on cotton and we would like to see another year of efficacy data with at-planting applications to be confident that growers can make the most effective use of the fungicide. The company supports registration of this fungicide and is poised to initiate the critical residue studies. It is conceivable that with good efficacy data in hand, we could support making this fungicide available to growers in 2012, by means of a Section 18. We will be investigating this option and start preparing for it."

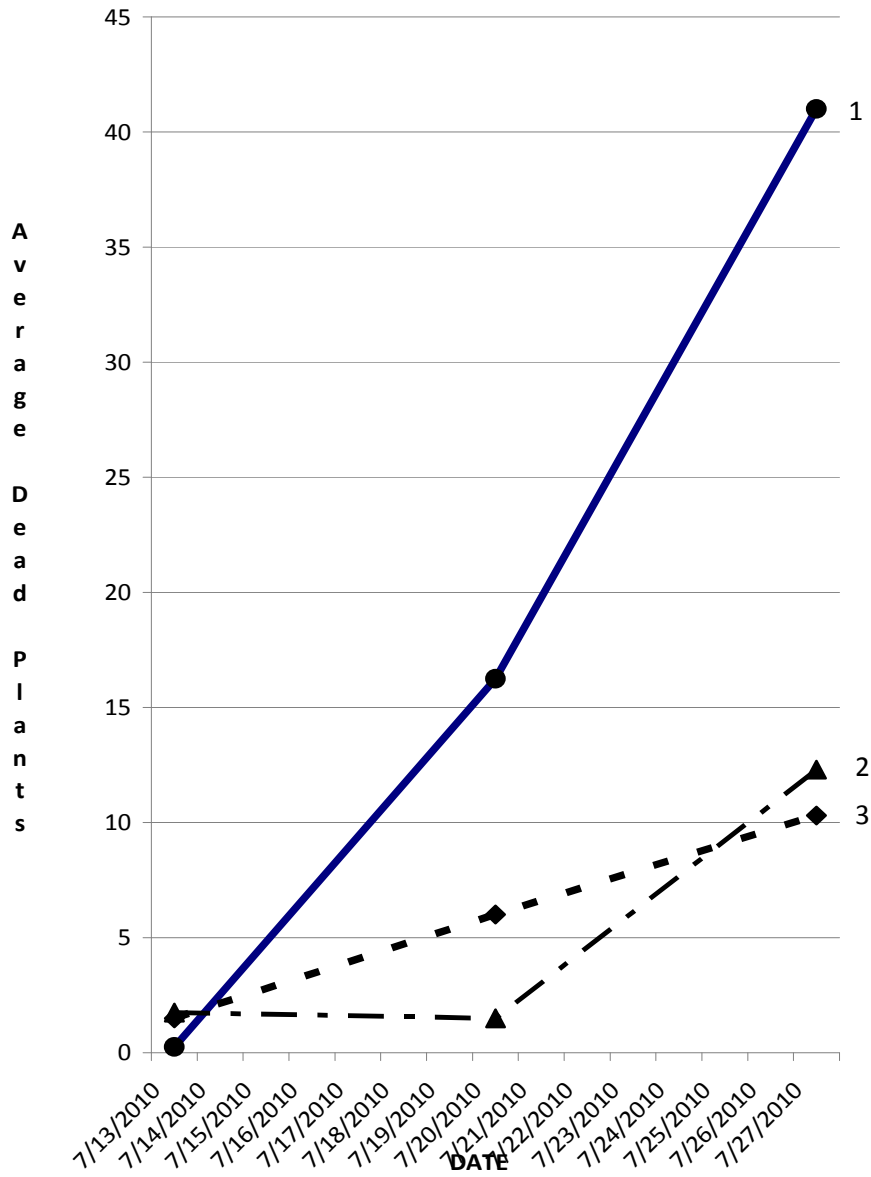
If you submit cotton plant samples for diagnosis, please collect plants that are declining or have died recently because symptoms can be observed more easily this way. PRR is more challenging to diagnose in alfalfa and pecan. In the case of alfalfa, collect plants that occur at the edge of areas affected by PRR. In pecan, look for rotted roots with fungal strands on the surface.

**PECAN:** Several pecan trees have died recently and PRR is the prime suspect. Dr. Jaime Iglesias and I have been surveying affected farms. Some pecan orchards received insecticide applications against the black-margined and black aphids. Currently, most orchards have aphid population levels occurring below threshold. Pecan leaves will be dropping soon and the benefit from insecticide applications right now is iffy at best.

**Black-margined aphid insecticide efficacy trial:** Dr. Mark Muegge, Associate Professor and Extension Entomologist at Texas AgriLife Extension, is conducting this test approximately 3 miles south of Fabens. He summarized it as follows: "The black margined aphid (BMA) *Monellia caryella* (Fitch), and the black pecan aphid (BPA) *Melanocallis caryaefoliae* (Davis) are perennial insect pests that frequently exceed economically damaging levels in Far West Texas pecans. New insecticides and insecticide formulations for aphid management in pecans are frequently introduced to the pecan industry. In-field studies are therefore needed to provide unbiased information regarding the effectiveness of these products for aphid management, potential for off target mortality of beneficial organisms, and the reduction of aphid resistance to existing insecticides. This study examines the efficacy of 3 different classes of insecticides (pyrethroids, spirotetramat, and imidacloprid) and 2 different formulations; Brigade (in a Wettable Powder) and Hero (mixture of 2 pyrethroids) for control of black margined aphids." Test results and analysis will be published soon.



## Comparison of Flutriafol Rates & Methods



Research plots in San Angelo, TX

1. Untreated control
2. Stem drench applied after emergence
3. Liquid applied at planting