AgriLIFE EXTENSION
Texas A&M System

TEXAS IPM

Issues in Agriculture

The Newsletter about Integrated Pest Management for the El Paso Valley

Volume: 35
Issue: 12
Date: December 15, 2010

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Announcements

- The **2011 Pesticide Applicator Training** will be held on January 25 at the YISD (Ysleta Independent School District) auditorium, 9600 Simms (Exit I-10 at McRae), El Paso, Texas 79925. Time: 7:30 A.M. - 3:00 P.M. Registration: Includes lunch, refreshments, and handouts. $40.00 Early registration (before January 19, 2011). $50.00 on-site registration. License holders must present a valid pesticide applicator's license or a driver's license to receive credit for the training. Make checks payable to: Greater El Paso Pest Control Association (or GEPPCA) and mail them to: AgriLife, Ysleta Annex, 9521 Socorro Road, Suite A2-Box 2, El Paso, TX 79927. Five CEUs may be obtained for TDA, SPCS, NMDA, Commercial, Non-Commercial, and Private Pesticide Applicators. For general information, please call AgriLife (915) 860-2515. For licensing or credit information contact Mario Saavedra (TDA) at (915) 859-3942.
- **2011 Pecan Crop Conference** at the Texas AgriLife Research Center, 1380 A&M Circle, El Paso, TX 79927 on Thursday, January 20, from 8:00 AM to 1:00 PM. Salinity damage and corrective management in pecan orchards. More information: Dr. Jaime Iglesias; phone: (915) 860-2515.
- **Beltwide Cotton Conferences**, Atlanta Marriott Marquis Hotel, Atlanta, GA. January 4-7, 2011 (Tuesday-Friday). More information: http://www.cotton.org/beltwide
- The TDA **cotton stalk destruction deadline** for our region is February 1st, 2011. At that time, cotton stalks should be plowed, chiseled, or disked to a depth of 6 inches.

2010 COTTON VARIETY TRIALS:

UPLAND COTTON: This test was established at Dr. Harvey Hilley's Farm in Esperanza. It was planted on May 5 and harvested on November 19. Plots had a row length of 811 feet and were planted using approximately 18 lbs of seed/acre, at rows 38 inches apart. Each plot contained four rows which were all harvested. The first replication was not taken into account at harvest due to plant damage by Texas cotton root rot. The total harvested row length in the trial per variety was 9,732 feet. The following average seed cotton yields (in bales) were obtained:

Variety	Average/acre (seed cotton bales)	Lint turnout	Seed turnout
DP 1050 B2RF	3.23	37%	52%
FM 9160 B2F	3.19	36%	55%
PHY 565 WRF	3.09	35%	54%
DP 164 B2RF	3.09	35%	53%
DP 0935 B2RF	3.02	35%	54%
DP 1044 B2RF	2.97	35%	53%
FM 9170 B2F	2.96	36%	55%
PHY 375 WRF	2.96	38%	53%
DP 0949 B3RF	2.93	37%	52%
ST 4288 B2F	2.87	35%	53%
FM 1740 B2F	2.86	37%	52%
DP 1048 B2RF	2.74	44%	53%

PIMA COTTON: This test was established at Mr. Ramon Tirres' Farm near Clint. It was planted on April 26 and harvested on November 11. Plots had a row length of 600 feet and were planted using approximately 18 lbs of seed/acre, at rows 38 inches apart. Each plot contained six rows, but only the four center rows were harvested to measure yield. The total harvested row length in the trial per variety was 9,600 feet. The soil pH was 7.9, a SAR value of 2.0, and a total dissolved solids of 1,280 ppm. The surface water for irrigation had a pH of 8.1 and a TDS of 625 ppm. The fiber analysis for this trial is in process and it is not presented here. The following average seed cotton yields per acre were obtained:

Variety	Average/acre (seed cotton bales)
DP357	2.33
DP340	2.23
Cobalt	2.15
PHY830	2.01
PHY800	1.93

Seed cotton was estimated at 1,440 lbs/bale.

The **Entomology Science Conference 2010** (Texas A&M - College Station) was highly informative. It included entomological research summaries and discussions on cotton, pecan, corn, soybean, potato, sorghum, rice, grape, turfgrass, insecticide resistance, insect physiology, urban pests, ornamental plants, livestock, and others. Following, I present highlights of some of the presentations on cotton and pecan at this meeting:

Cotton Entomology Research in the High Plains: Overview and Potential Areas of Collaboration / Megha Parajulee and David L. Kerns: The Texas High Plains is the engine of the U.S. cotton industry. This is the world's most concentrated cotton-producing region. Research areas include insect-plant interaction, molecular ecology, biology & behavior, systematics & morphometry. A multi-year area-wide survey identified alfalfa, sunflowers, mustard, pigweed, and Russian thistle as primary hosts of *Lygus hesperus*. Russian thistle and alfalfa are the hosts that consistently attract more adults and nymphs. Cotton has a tremendous ability to compensate fruit loss especially if it happens during early plant stages. Up to 33% early fruit loss usually results in no significant yield differences.

Omnivory of Western Flower Thrips (WFT) in Cotton: Implications for Management Strategies / Justin Fiene, Christian Nansen, Marvin Harris: WFT spread from western U.S. since the late 70s. Currently, they are worldwide and extremely polyphagous. WFT feeds on pollen, leaf foliage, spider mites, and mite eggs. In 2009, thrips was considered the number one pest in U.S. cotton. The cotton plant is vulnerable to thrips damage from seedling to 5-6 leaf stage, as it delays plant maturity. Female thrips feed more on plant juices than on mites. Immature thrips feed equally on plants and mites. Females live much longer than immatures and females are 35.4 times more destructive than immature thrips. Potential for host plant resistance breeding programs: in no-choice conditions, pima cotton is more susceptible than upland cotton, but in choice experiments, WFT prefer upland over pima cotton.

Evaluation of Systemic Granular and Cotton Seed Treatment Insecticides With and Without Foliar Acephate / Roy Parker: Foliar applications of Orthene (acephate) resulted in the lowest number of thrips, but there was no effect on plant damage. Orthene applications did not result in any yield gain. Orthene had the lowest yield. Temik, Gaucho Grande, and Cruiser as seed treatments for thrips resulted in a significant increase in cotton lint production compared to the untreated check. Temik was the highest yielding treatment.

Effects of Neonicotinoid Insecticides on Induced Defenses to Spider Mites in Cotton and Corn / Adrianna Szczepaniec, David Kerns, Micky Eubanks: Neonicotinoids leave a good first impression: reduced environmental impact, long residual toxicity, and highly effective. However, imidacloprid has resulted in spider mite outbreaks. Why? The natural enemy elimination hypothesis has not proved conclusive, but there is increasing evidence of plant-mediated effects. Changes in plant physiology and compromised plant defense following imidacloprid applications may have a direct effect on spider mite fecundity. Imidacloprid decreased expression of defense genes in tomato plants. Thiamethoxam applications decreased expression of defense genes in cotton as well. Imidacloprid had a two-fold increment in mite abundance in tomato. However, there is no evidence of spider mite outbreaks in cotton fields following imidacloprid applications.

Treatment Timing Targeting Cotton Fleahoppers. When and how many treatments are needed? / Roy Parker: This study used PHY367WRF as the cotton variety and Centric 40WG at 1.25 oz/acre to control thrips. Treatments **A**: 1, 2,3, 4 (weeks of squaring); **B**: 2, 3, 4; **C**: 3, 4; **D**: untreated check (UTC). UTC had greater number of unopened bolls. All insecticide-treated plots had greater yields than UTC.

Sampling Sucking Bugs and Symptoms of Boll Injury on Cotton: Are There In-season Predictors of Lint Loss, Seed Loss and Boll Rot? / Mike Brewer, Darwin Anderson, Scott Armstrong: The cotton fleahopper was the key sucking pest from squaring to bloom. Green plant bug was an important pest in late bloom. Up to 25% of bolls showed boll rot in coastal areas. Green bolls had signs of rot when infested with green plant bugs.

Sampling Strategies for Cotton Fleahopper and the Green Plant Bug (*Creontiades signatus*) / Darwin Anderson, Mike Brewer, Scott Armstrong, Raul Villanueva: Treatments: visual, KISS (an air blower coupled with a sweep net), beat cloth, beat bucket, and sweep net. The beat bucket has greater advantages because it picks up less trash and it is easier to check captured insects. The sweep net has a lot of variability because insect scouts use different plant canopy depth, force, and net impact angle. KISS takes the shortest time, picks up very little trash, and is very efficient in sampling young plants. Experience plays a large role in sampling accuracy especially as plants become larger. The beat bucket and sweep net performed better especially for experienced samplers.

Evaluation of New Insecticides for Cotton Aphid Control / Brant Baugh, David Kerns, Rick Minzenmayer, Dustin Patman, Chris Sansone: CMT-4586 at 8 fl oz/A (spirotetramat + imidacloprid) performed well. Intruder at 0.6 oz (acetamiprid); Centric 2.5 oz (thaimethoxam); Bidrin 8 fl oz (dicrotophos); Trimax Pro 1.8 oz (imidacloprid); Carbine 1.5 oz. (flonicamid); Belay 4 oz (clothianidin)=was a poor performer. Neonicotinoids are hard on lady beetles. Carbine is easy on beneficials. Intruder, Bidrin, and carbine are good choices for aphid control.

Controlling Mixed Populations of Bollworms, Fall Armyworms and Pink Bollworm Monitoring / Manda Cattaneo, Brant Baugh, Dustin Patman, Warren Multer, Tommy Doederlein, Charles Allen, David Kerns: Applications of Mustang Max, Karate, or Holster resulted in good bollworm control. Belt performed poorly.

Imidacloprid Resistance Monitoring and Insecticide Efficacy Screening in Pecans / Bill Ree: Black-margined aphids: in laboratory studies, concentrations of imidacloprid at ¼ of the lowest recommended rate (according to the label) in aphid samples obtained from an organic orchard (no insecticide used in the last 12 years) resulted in 100% mortality of black-margined aphids one day after treatment. Using aphid samples obtained from a "problem orchard", 16% of black-margined aphids survived, at the highest labeled rate (7 oz/A), after 3 days of exposure. This shows a wide range of susceptibility. **Stink bug tests:** bifenthrin applications (Brigade WSB) at 8 and 12 oz/A provided 93 and 100% mortality at 7 days with 48 hour exposure respectively. Brigadier (bifenthrin + imidacloprid) provided good control at the lowest and highest labeled rates, resulting in 90 and 87% mortality at 7 days, with 48 hr exposure, respectively.
