
Issues in Agriculture

The Newsletter about Integrated Pest Management for the El Paso Valley

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Announcements

- **2012 Workshop Texas Pest Control Association & Greater El Paso Chapter.** March 29-30, Wyndham Airport Hotel, 2027 Airway Blvd, El Paso, TX 79925. Non-member registration: \$150, after March 15: \$175. TPCA member: \$125, after March 15: \$150. Information: www.texaspest.org or 512-467-6675.
- **Section 18 Label for Topguard (flutriafol):** The Texas Department of Agriculture has been granted approval by the Environmental Protection Agency to issue a Section 18 exemption allowing the use, for the year 2012, of Topguard (flutriafol) for the control of cotton root rot caused by the fungus *Phymatotrichum omnivorum* in Texas cotton at planting. AgriLife's Dr. Tom Isakeit and Rick Minzenmayer led research on the effect of this product on cotton root rot. Dr. David Drake provided the following important points: Topguard can only be applied as a "T band" at planting. The rate is 16 to 32 fluid ounces per acre. The higher rate is the maximum per year and there is a limit of one application per year. It cannot be put through any irrigation system. Read carefully the fine print about careful placement. It needs a rain or irrigation to activate and will not work in dry conditions. There is a 180-day replant restriction of non-labeled crops. Section 18 labels have the same user restrictions as restricted use pesticides. Both the El Paso Valley Cotton Association Inc. in Clint and the Valley Gin Company in Tornillo wrote letters of support to obtain approval for this exemption. You can obtain additional information by contacting the El Paso County AgriLife office.
- **Financial support by West Texas Pecan Association:** I would like to give special thanks to WTPA for voting, during their annual meeting on Feb 28, to continue funding half of the Texas Pest Management Association annual membership dues. They approved to raise this contribution in case additional funds are needed. WTPA also increased their financial support to Kids, Kows, & More.

2011 PEST HIGHLIGHTS:

Now that we are preparing for the 2012 crop growing season, it is appropriate to recapitulate the pest developments during the 2011 season.

ALFALFA: The American Serpentine Leafminer (ASL), *Liriomyza trifolii* damaged over 30 acres near Fabens in early May. This was the first large ASL outbreak reported in El Paso. ASL is one of the most widespread and economically-important leafminers in the world. It is a polyphagous pest that feeds on a wide variety of row crops, ornamentals, weeds, and native plants. It can maintain continuous populations even when crops are not in cultivation. The good news is that we are definitely not dealing with the Alfalfa Blotch Leafminer, a major alfalfa pest in other parts of the country; especially the Midwest.

PECAN: The pecan nut casebearer appeared up to two weeks earlier in other Texas regions. In El Paso, it was detected approximately four days earlier than usual. The first generation had medium size populations, which caused very little damage. The second generation was more abundant and resulted in pesticide applications. Most growers made only one application, if any, against this pest during the year. Navel orangeworm moths were reared from a cracked pecan nut collected near Tornillo, TX in late January 2011. It is a pest of citrus, walnut, almond, pistachio, macadamia, and figs in California. El Paso pecan growers should not be worried about this insect at the moment because the navel orangeworm cannot enter a pecan nut unless there is a crack in the shell. It has the potential to become a stored pecan pest only if the shelled kernels are stored without refrigeration which rarely happens.

Termites: *Zootermopsis laticeps* is a termite species in the family Termopsidae called "dampwood termites" which may be found affecting pecan trees. These termites damage mostly dead, rotting wood and may weaken the tree structural support. This is the largest, least understood, and most primitive termite in North America. Thankfully, no Formosan Subterranean termites have been found in El Paso; which is a very aggressive termite species that can seriously damage pecan trees.

Pecan leaf scorch: Fortunately, the symptoms observed were probably the result of freeze damage in early February combined with sustained high temperatures (over 50 days at or above 100°F) and strong, persistent winds. Pecan Bacterial Leaf Scorch (PBLs), *Xylella fastidiosa*, was not detected in samples

submitted to plant pathology labs at Texas A&M and NMSU. Dr. Nancy Goldberg reported this bacterium in Las Cruces, NM (2006) in grapes and chitalpa. Later, she also found it in peach and catalpa. This pathogen has not been detected in pecan in southern New Mexico or far west Texas.

Pecan aphids: The blackmargined pecan aphid, *Monellia caryella*, was the most abundant aphid species in our area and its population levels triggered several insecticide applications. Some growers only made applications to control the black pecan aphid, *Melanocallis caryaefoliae*, which reached damaging levels in late July and again later in the season. Mark Muegge and I conducted insecticide efficacy tests for pecan aphid control in 2010 and 2011 in local commercial pecan orchards. Based on the data generated in these trials and laboratory studies conducted by Bill Ree and Dr. Juan Lopez in College Station, Bill Ree and Mark Muegge published a two-part article in the January and February 2012 issues of the Pecan South magazine titled "Pecan Aphids - Project Addressing Aphid Resistance to Imidacloprid". At the end of the first part of this article they concluded: "*The laboratory and field test results clearly show that, at least in some orchards, resistance of black margined pecan aphid to the 4A class (neonicotinoids) of insecticides is evident. Further studies are needed to determine the extent of this resistance issue, and efforts to reduce and reverse this problem should be undertaken.*" In the Part 2, they ask: "*If an insecticide is being applied for aphids, is the entire orchard being treated the same? In other words are 'Pawnees' and 'Cheyennes' being treated the same? If so, why? If only certain sections or varieties of an orchard are treated, then this will leave unexposed populations that can help reduce resistance levels.*"

COTTON: According to the Texas Boll weevil Eradication Foundation, 31,278 acres were planted in El Paso and Hudspeth Counties. Of those, 10,817 acres correspond to B.t. varieties and 20,461 acres to non-B.t. cotton. This was an increase of 2,643 acres compared to last year's cotton acreage. The boll weevil is practically eradicated in our area, pink bollworm is almost gone, but pests such as: lygus, bollworm, beet armyworm, cotton fleahopper, thrips, aphids, whitefly have the potential to cause problems.

Boll rot and scorched cotton leaves: Stressed out plants, due to lack of adequate soil moisture coupled with high temperatures, suffered damage to soft developing tissues in the bolls and leaves. This damage was not caused by *Aspergillus*, *Fusarium*, or *Alternaria*; which were secondary saprophytes.

Verticillium wilt damage was severe in a few pima cotton fields near Fabens, Tornillo, and Esperanza. Plants usually wilted following irrigations. This was a non-defoliating *Verticillium* strain. It resembled Texas cotton root rot, but in this case the roots were not rotted and their tissues exhibited a light color. *Fusarium* wilt and *Verticillium* wilt have a close resemblance, but can be distinguished because *Fusarium* wilt produces a continuous staining of the vascular tissues, especially in the lower portion of the stem, whereas *Verticillium* wilt causes a speckled staining of the same tissues. Dr. Jaime Iglesias submitted cotton plant samples to Dr. Michael Davis at the University of California-Davis and the results indicated that it was not *Fusarium*.

GRAPES: The western grapeleaf skeletonizer was abundant in 2011. Its larvae have tufts of long black poisonous spines that cause skin welts on field workers. These larvae can skeletonize the leaves and severely defoliate vines. Control using insecticides is not difficult.

- **PESTS ALERTS:** **Brown marmorated stink bug (BMSB):** Dr. Carol Sutherland reported that a pest control operator found live BMSB inside an 18-wheeler in Deming, NM during the first week of November 2011. Bill Ree said that BMSB live specimens were found in Corpus Christi in a mobile home that had come from Pennsylvania.

Bagrada bug: Dr. Carol Sutherland said that it has been found in Deming, Las Cruces, Dog Canyon near Alamogordo, Socorro, Los Lunas. They have been detected attacking garden turnips, but not on any other crops yet. The *Bagrada* bug is a major pest of Brassica crops, including seed crops and canola

Red imported fire ants (RIFA): The Texas Department of Agriculture did not include El Paso County into RIFA quarantined areas based on new information about morphological identification overlap between the RIFA and native ants. This means that we will not have to comply with additional regulations for now. This situation may change in the future based on new findings.

Insecticide Resistance Management: The Insecticide Resistance Action Committee (IRAC) is composed of an international group of crop protection professionals, and was formed to give advice on the prevention and management of insecticide resistance. The IRAC mode of action classification is considered *the* definitive global authority on the target site of insecticides. At present, there are 28 main insecticide groups plus compounds of unknown or uncertain mode of action (UN) each with sub-groups that may range from A to E. Cross-resistance potential between subgroups is greater than between groups (see list at <http://www.irac-online.org/>). For instance, the mode of action of Imidacloprid (nicotinic acetylcholine receptor agonists) is classified under the group 4A; which also includes acetamiprid, clothianidin, dinotefuran, nitenpyram, thiacloprid, and thiamethoxam. If you want to rotate chemistries in your pest management program, you should alternate between main groups (1-28) and not between subgroups (A-E).

The Texas AgriLife El Paso IPM Program is partially supported by the following organizations:

El Paso Pest Management Association
Texas Pest Management Association
Valley Gin Company, Tornillo
West Texas Pecan Association

Table 1. Pima Cotton Variety Trial at Mr. Ramon Tirres Farm, Clint, TX 2011. Planted: 4/19/2011. Harvested: 11/28/2011.

Variety	Yield per plot (lbs)	Yield per acre (lbs)	Gin turnout %	Lint/acre (lbs)	Mic.	Length	Unif.	Strength	Elon.
Hazera	772	2949.9	41.73	1231	3.65	1.36	83.13	35.33	5.65
DP357	698	2668.1	40.29	1075	3.69	1.36	83.55	36.73	5.60
DP340	680	2598.4	40.78	1060	3.80	1.36	83.88	37.28	5.23
PHY805RF	588	2245.9	41.74	937	3.89	1.38	84.60	38.38	4.95
Cobalt	620	2370.1	39.09	927	4.10	1.38	85.00	39.40	4.93
PHY802RF	583	2228.7	40.50	903	4.10	1.37	84.98	39.45	4.80

Note: the upland variety trial, consisting of 18 varieties, was terminated due to poor plant emergence.

Table 2. Effect of Selected Insecticides on Blackmargined Pecan Aphid. Fabens, TX, September 18, 2010.

Treatment	Appl. Rate	Label Rate	Insecticide (MoA) Class	Average blackmargined aphids /3 compound leaves				
				Before treatment	3 days after treatment	1 % change 3 days after	16 days after treatment	% change 16 days after treatment
Check	-	-	-	21.1	9.3	-55.9	17.8	-15.6
Imidacloprid (Admire)	2	Medium	4A	14.1	7.9	-44.0	24.9	+76.6
bifenthrin (Brigade)	20	Medium	3A	12.6	1.4	-89.0	0.44	-96.5
Spirotetramat (Movento)	8	Medium	23	8.7	0.8	-91.0	1.7	-80.5
zeta-cypermethrin, bifenthrin (Hero)	10.3	Only Label Rate	3A	10.7	5.1	-52.3	3.0	-72.0

Table 3. Effect of Selected Insecticides on Blackmargined Pecan Aphid. Clint, TX, August 18, 2011.

Treatment	Appl. Rate (oz/acre)	Label Rate	Insecticide Class	Average Black Margined Aphids /4 Compound Leaves				
				Before Treatment	5 days after treatment	¹ % change 5 days after treatment	20 days after treatment	% change 20 days after treatment
Check	-	-	-	35.1	58.3	+66.1	95.0	+170.6
thiamethoxam (Centric)	2.5	highest	4A	37.7	83.0	+120.2	126.7	+236.1
Imidacloprid (Admire)	14	6x highest rate	4A	30.3	43.0	+41.9	95.6	+215.5
Imidacloprid, beta- cyfluthrin (Leverage)	2.8	highest	3A+4A	25.7	40.0	+55.6	137.7	+435.8
lambda-cyhalothrin, thiamethoxam (Endigo)	6	highest	3A+4A	39.0	30.7	-21.3	60.0	+53.8
zeta-cypermethrin, bifenthrin (Hero)	10.3	Only labeled rate	3A	41.7	72.0	+72.7	29.3	-29.7
bifenthrin (Brigade)	8	Lowest	3A	31.0	24.3	-21.6	44.3	+42.9
chlorpyrifos, gamma- cyhalothrin (Cobalt)	19	Lowest	1B+3A	49.3	24.0	-51.3	47.0	-4.7