



PANHANDLE PEST UPDATE



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Bt Rootworm Resistance Identified in Iowa Corn

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Field level resistance to Monsanto's Cry3Bb1 corn rootworm toxin has been found and confirmed for western corn rootworm in Iowa.

The full article is at <http://www.plosone.org/article/info:doi/10.1371/journal.pone.0022629>

The highlights from the Iowa study are these:

1. It seems only three years of continuous Cry3Bb1 corn is sufficient to produce control problems and detectable resistance.
2. Inheritance is non-recessive and heterozygotes (those that have only one copy of the resistance allele) seem to be able to survive on Cry3Bb1 plants.
3. There was no indication of resistance to Cry34/35Ab1, the other stand-alone toxin in some corn and one of the two components in SmartStax corn (the other being Cry3Bb1).
4. There does not seem to be any cross resistance between the two toxins.
5. Lack of appropriate refuge is mentioned as one contributor. All but one of the failure fields were commercial, but the growers were not asked about refuge. Rather, the authors cited a recent publication that showed only 50 percent refuge compliance in the Midwest.

I want to be totally clear: This is in Iowa. We have no evidence of resistance to Cry3Bb1 in the southern US. All of the "problem fields" of which I am aware are in the Midwest.

Corn that relies on Cry3Bb1 as the only toxin for corn rootworm is sold as Genuity VT Triple Pro (VT3P), YieldGard VT Rootworm, YieldGard VT Triple, YieldGard RW and YieldGard Plus. SmartStax or Genuity SmartStax (GENSS) has Cry3Bb1 toxin in it, but it also has Cry34/35Ab1 for rootworm control and the Iowa study found there was no resistance to Cry34/35Ab1.

Other types of transgenic corn for rootworm control that have no indication of resistance include all of the Herculex (Mycogen/DowAgro) and Optimum (DuPont/Pioneer) hybrids; they rely on Cry34/35Ab1 for controlling rootworms. Additionally, all of the Agrisure (Syngenta + Mycogen/DowAgro) hybrids rely on mCry3A for rootworm control.

It is too early to know how the finding of western corn rootworm resistance to Cry3Bb1 corn will affect us. It is reasonable to expect increased field monitoring by the seed industry as they try to get a handle on the geographic area over which these resistance genes might have spread. Please report any control problems in fields planted to corn rootworm transgenics from any company.

Article taken from *Focus on South Plains Agriculture*, volume 50, number 12, 9 August, 2011, http://lubbock.tamu.edu/focus/focus_2011/August_9/August_9.pdf

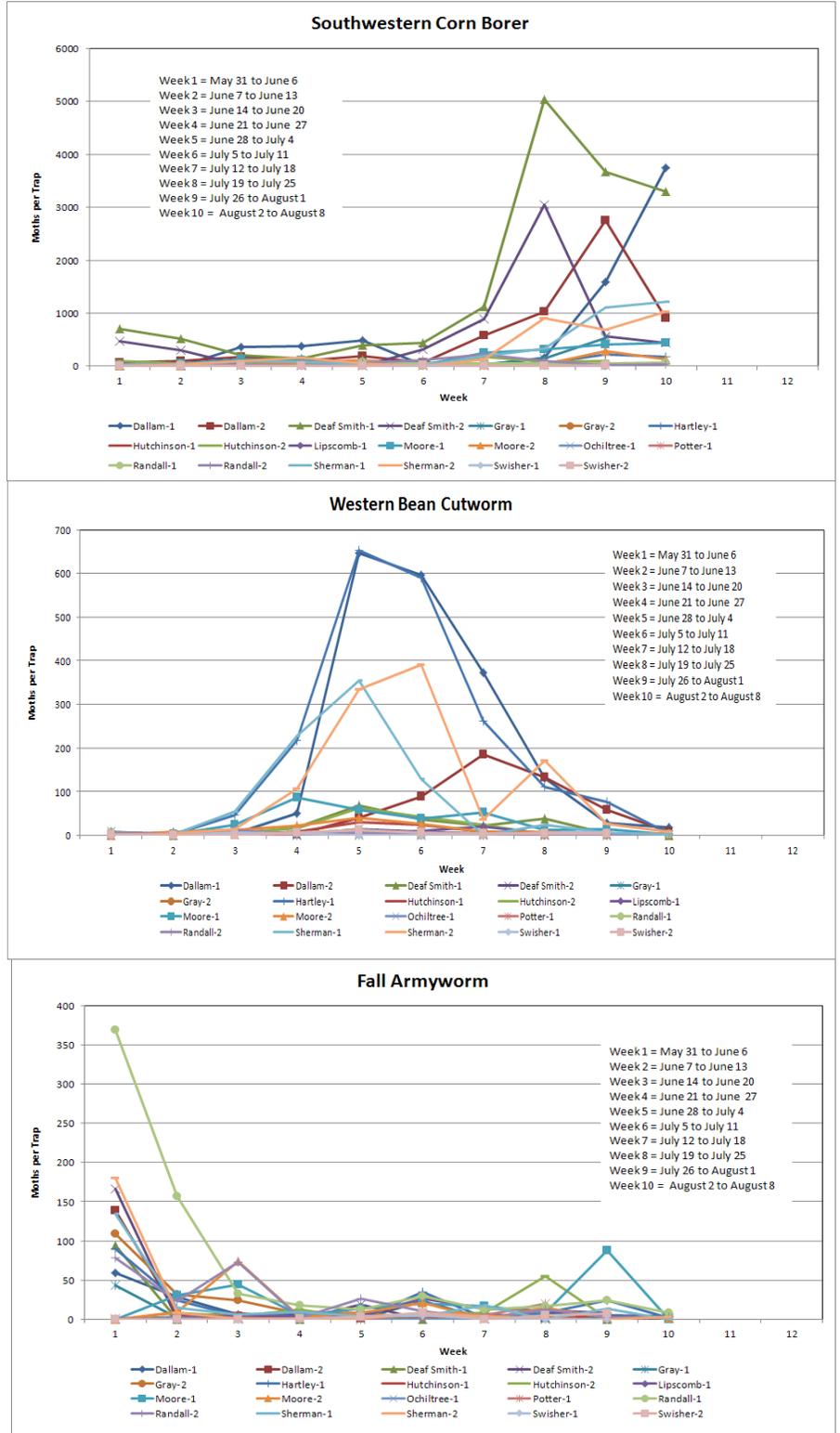


Moth Trap Catches

Southwestern corn borer moths (SWCB) continue to be active in high numbers, specifically in Dallam, Deaf Smith, and Sherman counties, and number remain relatively consistent in Moore County. Gray County has seen an increase in SWCB moth numbers the last couple of weeks. Non-Bt fields still need to be scouted.

Western Bean Cutworm moth (WBC) activity appears to have ended for the season.

Fall Armyworm moths have yet to be captured in large numbers since the first week of trapping, but moths have always been present. Dr. Pat Porter, Extension Entomologist at Lubbock, has seen a slow increase in FAW numbers from around 60 to 120 the past two weeks at the Lubbock Research Center. And, Monti Vandiver, IPM Extension Agent for Bailey/Parmer, is reporting an alarming number of FAW egg masses in some late planted corn. Although we have not seen much moth activity I suspect that all Bt corn fields, regardless of Bt traits for lepidopterous pests, and non-Bt fields should be scouted.



Spider Mite Predators

Spider mites have been controlled in fields where six-spotted thrips, stethrous beetles (mite destroyers), and minute pirate bugs have become established. I would attribute the six-spotted thrips for the mite population crashes. In our spider mite trial at Etter and near Friona these six-spotted thrips had increased to levels that controlled mite populations beginning to become established and populations that were beginning to cause heavy damage up to the ear leaf. We have found from 5 to 20 immature and adult six-spotted thrips on mite infested leaves. This demonstrates the importance of predators in controlling mite populations. However, fields still need to be monitored for spider mites, but be aware of the predators and whether or not mite populations are present and continuing to cause damage. Mite feeding damage can still reduce yields until corn is fully dented. And, if mite populations continue the damage will weaken corn stalks which may result in plant lodging.

Cattle Supplements Recalled

On July 29, the Ridley Block Operations, Inc. announced a volunteer recall of one lot of Purina-Lix 38 Hi-E and RangeLand® 38 Hi-E free-choice supplement tubs because of potential excessive levels of urea. These supplemental feed products were sold through retail stores in the Ft. Worth and Lubbock, TX and Oklahoma, OK areas. Look for lot number DB 00302716 on the guaranteed analysis label, which is found on the side of the container.

The use of these products from this lot should be discontinued and return the unused portion to the place of purchase for a full refund.

Questions can be directed to Land O'Lakes Purina Customer Service at (817) 878-0269 between 8-5 central time from Monday through Friday.

Original article can be found at Dovers Cattle Network Updated August 1, 2011,
<http://www.cattlenetwork.com/bovine-vet/industry-news/Ridley-Block-Operations-Announces-Voluntary-Recall-in-Oklahoma-and-Texas-126534678.html>