



INSECTS AND WEEDS IN FOCUS

VOL 36 ISSUE 2

ENTO/SCS

FEBRUARY 21, 2011

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2010 RESULTS OF INSECT CONTROL EVALUATIONS AVAILABLE

Results of insect control evaluations on corn, sorghum, cotton, pecan and pastures in Texas Coastal Bend Counties for 2010 are available from this office as a hard copy or at the following website address <http://agfacts.tamu.edu/~rparker>. Included are comparison of seed treatments on corn, evaluation of advanced Bt corn hybrids, overspray test on corn, white grub control with seed treatments on sorghum, headworm control test on sorghum, insecticide seed and in-furrow treatments on cotton, cotton fleahopper control tests, bollworm pheromone trapping results and prythroid resistance testing, history of boll weevil trapping in the area, evaluation of pecan nut casebearer and hickory shuckworm insecticides, and grasshopper control on pasture grass.

GULF COAST COTTON WORKSHOP

A series of cotton workshops will begin on Friday, February 25 at the Texas AgriLife Research and Extension Center on Highway 44 just west of the Corpus Christi Airport. The focus of the first workshop will be "Pre-season Planning to Emergence". This series, offers producers the opportunity to ask questions and interact with industry representatives, consultants, county agents and AgriLife Extension and Research personnel. With cotton prices currently at record levels, it is important to fine tune cotton production needs to be as efficient as possible to take advantage of the excellent prices. This workshop is designed to provide local cotton growers with tools to help them be successful in the coming growing season, according to Dr. Juan Landivar,

Director of the Corpus Christi AgriLife Research and Extension Center.

The workshop will begin at 1:30 p.m. and conclude by 5 p.m. Topics will include a discussion of weed management to avoid the growing herbicide resistance problem emerging in the cotton belt by an invited guest speaker, Dr. Peter Dotray, Associate Professor of Plant and Soil Science at Texas Tech University. Representatives from cottonseed companies will discuss cotton cultivars for the 2011 season.

Locally developed online management tools available at the Crop Weather Program website will be discussed and demonstrated. Agronomic considerations for producing a good cotton crop will also be discussed, including temperature and soil moisture effects on germination along with seeding rates and final lint yields. Early insect management will also be reviewed, including seed treatments and their role for early-season insect protection.

The session will wrap-up with a discussion on cotton prices and marketing strategies for the upcoming crop. 3 CEU's will be offered for pesticide applicators and certified crop advisors.

PAY ATTENTION TO REFUGE PLANTING REQUIREMENTS FOR CORN

There are a couple of reasons to pay extra attention when planting your Bt corn refuge acres this year. The first is that resistance by insects is a constant threat and refuges are the best way to keep the technology. The second is that while "compliance" with the refuge rules is down nationally, compliance is much lower in the southern United States and so refuge inspection activities will increase dramatically.

Compliance is the term that EPA and the seed companies use to describe whether a grower has or has not planted the required number of refuge acres, and in the proper location, for the type of Bt corn that was planted. If the planting is done correctly then the grower is said to be in

compliance. If the corn refuge is planted incorrectly then the grower is considered to be out of compliance. The Southern U.S. has only 31 percent compliance with the refuge rules for corn that contains toxins to both caterpillar pests and corn rootworms according to a recent survey.

The Agricultural Biotechnology Stewardship Technical Committee (ABSTC) is an organization composed of the companies that develop and market the toxins in Bt transgenic crops. The ABSTC exists to monitor resistance, survey compliance and promote grower education about resistance management. EPA must approve the registration for every toxin in transgenic corn and cotton, and part of the condition of registration requires the things that ABSTC does. ABSTC must send compliance statistics to EPA each year, and a low rate of compliance results in ABSTC taking extra measures to address EPA concerns. In addition, low compliance greatly increases the chance that resistance to the toxins will develop in pest insects. Low rates of compliance are a very serious issue to the seed companies and EPA. The companies that comprise ABSTC have decided to fund very extensive on-farm monitoring in two areas of the U.S. this year. They have not named the locations, but given the low compliance rates in the south it is not a leap to think they might come to Texas.

While it is not clear what the increased monitoring will involve, it is most likely that seed dealers will be audited for sales of Bt and non-Bt seed and then third party compliance teams will visit farms. (Such visits are allowed under the terms of the Technology/Stewardship Agreement that growers signed when they purchased Bt corn.) These teams will check that the proper number of acres have been planted to refuge corn and that the refuge is in the right configuration. Also, a draft rule is working its way through EPA that, if not altered by the time it becomes final, puts in a mechanism to fine growers for refuge violations.

Refuge requirements are in place to slow the development of resistance to the toxins in the corn. All of the corn toxins are similar or identical to those in Bt cotton, so our caterpillar pests are exposed season long, generation after generation, to toxins. Reduced susceptibility (greater tolerance) to many of these toxins has now been found in corn earworm (the bollworm) across the south, and the scientific literature states that there is "strong evidence" that corn earworm is resistant to at least two of the toxins.

Double checking your refuge acres and planting configuration this year will pay multiple dividends in 2011. ABSTC worked with the National Corn Growers Association to produce a very easy to use refuge

configuration calculator. It covers Bt traits for all of the types of Bt corn sold in the U.S. and can be found at www.irmcalculator.com. Seed dealers will be happy to help with this as well.

WHAT ABOUT INSECTICIDE SEED TREATMENTS ON CORN, COTTON, AND SORGHUM?

Corn – Most corn is treated with either Poncho or Cruiser at a rate of 0.25 mg ai/seed which is enough in many regions along the Gulf Coast based on our field studies. However, where chinch bug or southern corn rootworm numbers are high I believe a rate of 0.5 mg ai/acre should be considered. Four tests have been conducted over the past two years to measure the impact of the two rates mentioned above and even the high rate of 1.25 mg ai/seed. So far we have not had high enough infestation to determine exactly what would be the most cost effective rate. I base the suggested rates of 0.25 or 0.5 mg ai/seed on earlier work and some trends in the last four evaluations.

Cotton – Generally along the Texas Gulf Coast cost return for use of insecticide seed treatments on cotton for control of thrips and early season aphids has been favorable with the greatest benefit observed from Refugio to Fort Bend Counties. The return on investment has not been as consistent south of Refugio County, but over time, even in this region, the expense of the seed treatments (Gaucho Grande or Cruiser) has been justified. Most likely advantage of these treatments will be on early planted fields under cooler conditions; whereas, under warmer conditions in the southern area it is less likely to see advantage to the insecticide seed treatments.

We have not observed any greater benefit from the more expensive Aeria or Avicta treatments possibly due to the unlikely possibility of significant nematodes along the Gulf Coast. In a 2010 field experiment even three Orthene overspray treatments in addition to Temik, Gaucho Grande or Cruiser, or simply three Orthene treatments did not provide as much economic return as did the seed treatments or the in-furrow Temik. Gaucho Grande and Cruiser provided the greatest benefit. For details refer to pages 46-52 in *Results of Insect Control Evaluations on Corn, Sorghum, Cotton, Pecan & Pastures in Texas Coastal Bend Counties: 2010*.

Sorghum – Over the long term our tests show about 400 lb/acre increase in yield by use of an insecticide at -planting either as an in-furrow or seed treatment with systemic insecticide. Last season with few yellow

sugarcane aphids no yield advantage was obtained, but some benefit was observed as far as reduction in damage from white grubs. In years where yellow sugarcane aphids are present early, yield increases of 500-1,500 lb/acre have been shown especially in the lower rainfall areas along the Gulf Coast. The bottom line is that I suggest that either Poncho or Cruiser be used on sorghum seed any place along the Gulf Coast.

TRIBUTE TO THE NATIONAL COTTON COUNCIL

For the past few years on the inside cover of research results from insect control evaluations (see the first entry in this newsletter) we have provided a tribute to various organizations. Past tribute has been given to the Behmann Brothers Foundation, South Texas Cotton and Grain Association, and Cotton Incorporated. This year the tribute was for the National Cotton Council of America and is given below:



Oscar G. Johnston known as “Mr. U. S. Cotton” was called on by leaders in the cotton industry in 1937 to bring to life what would become the National Cotton Council of

America. He believed that people must be brought together to promote cotton and that it would require support from all industry segments. He drafted a proposal for creation of the “Council” to be representative of all segments (originally five: producers, ginners, warehousemen, merchants, and cottonseed crushers). On November 21, 1938 at the Peabody Hotel in Memphis, Tennessee Johnston stood before a cotton audience: “Is there any reason why representatives of each of the five interests should not come together, perfect and organization, and fight for the advancement of the industry?” The NCC began operations in February 1939. It was the first industry-wide, commodity-specific organization in the history of American agriculture.

The NCC sponsored the first Beltwide Cotton Mechanization Conference in 1947 at the Delta Branch Experiment Station in Stoneville, Mississippi. That same year the first Cotton Insect Control Conference convened in Columbia, South Carolina. These meetings led to all seven industry segments meeting each year for the Beltwide Cotton Conferences. The Conferences evolved into the global champion for accelerating technology transfer to cotton producers and processors. The Council was also responsible for establishing Cotton Incorporated out of the Cotton Producers Institute. It also spun off Cotton Council International.

The council championed funding for integrated pest management research and programs to eradicate boll weevil and pink bollworm. In 1958 at the annual meeting of the NCC a resolution passed that had been drafted by South Carolina grower Robert Coker to find the funds to eliminate the boll weevil as a threat to U. S. cotton “at the earliest possible time.” To that end the USDA-ARS Boll Weevil Research Laboratory was established at Mississippi State University in Starkville in 1962. The NCC has been very active in the program for many years as can be seen from their website www.cotton.org.

Today, the NCC has taken the lead in keeping U. S. cotton strong in domestic and international markets. This has been accomplished through programs developed and approved by delegates representing the cotton industry’s seven segments. Areas of work include farm policy, trade, environmental issues, international market development, research, cotton flow, and public relations. Texas Gulf Coast leadership to NCC currently includes Sid Brough, Jimmy Dodson, Craig Shook, Cliett Lowman, Jeff Nunley, David Fields, Toby Robinson, Jon Whatley, David Wyatt, Mike Polk, and Lee Tiller.

A highlight of my career in cotton entomology has been participation in the Beltwide Cotton Conferences and other activities of the NCC. It has been a rewarding experience to see the cotton industry working to solve problems and promote cotton.

INTERESTING INSECTS

The lo moth is featured on the left side of the newsletter title of this issue and this article (below). The lo moths have large circular eyespots on the hind wings. When the moth is at rest these eyespots are covered by the front pair of wings, but when disturbed the moth uncovers the hind wings to expose the eyespots apparently to ward off enemies. The moth has a wingspan of 2.5-3.0 inches, the female has lightly patterned purplish red wings, the males are smaller with yellowish wings, and there are about two generations per year in this region.



The lo moth is one of the smaller moths in the group known as giant silkworms. Larvae of the lo moth are unique in that they possess numerous stinging hairs that produce a painful reaction on touch. The species is the most widespread and commonly encountered of the caterpillars in North America that can produce painful stings. In South Texas, however, we have the puss caterpillar, hag moth caterpillar, and saddle backed caterpillar which also have the stinging hairs.



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