Cotton Insect Newsletter

Letter #1 **Edisto Research & Education Center in Blackville, SC** **5 May 2006**

*****GET YOUR CALENDARS OUT*****
COTTON SCOUT SCHOOLS
5 JUNE AT EDISTO RESEARCH & EDUCATION CENTER IN BLACKVILLE
6 JUNE AT PEE DEE RESEARCH & EDUCATION CENTER IN FLORENCE
FREE PROGRAM, LUNCH, AND PRIZES

Crop Situation

The current situation remains dry, but in some areas, there should be sufficient moisture with the recent scattered showers. The cool days and nights will likely leave us soon, and the crop should "jump" out of the ground this month. The NASS had us at about 8% planted during the last week in April, near the 5-yr average of 6%.

News from Above the Lakes

Randy Cubbage in Lee County had the following observations and comments: "I don't ever remember a problem with vegetable weevils on emerging cotton, but the extreme dry weather always brings many surprises in our area. I do expect heavy thrips this season since we have been so dry. Hopefully, the recent rainfall will help the cotton compete. Also have been told that grasshoppers are in high numbers in some fields but the cotton was either not planted yet or just coming up in these burned down to-be minimum tilled fields." Thanks, Randy. See below for information about vegetable weevil.

News from Below the Lakes

Same as above the lakes - it is dry, dry, dry. Watch out for insects that damage seedlings. The plants will not be growing as they would with more moisture, so they will be susceptible to injury for a longer period than usual while in the seedling stage.

Non-Bt Cotton

Resistance management guidelines for Bt cotton (Bollgard, Bollgard II, WideStrike) have not changed for 2006. The EPA requires this of companies with registered Bt cotton technology. Monsanto is still obligated to promote, monitor and enforce compliance with the current guidelines for both Bollgard and Bollgard II products. The same goes for Dow AgroSciences and WideStrike cotton. We should all strive to legally plant this technology and help preserve it by following the guidelines. You can view the guidelines at:

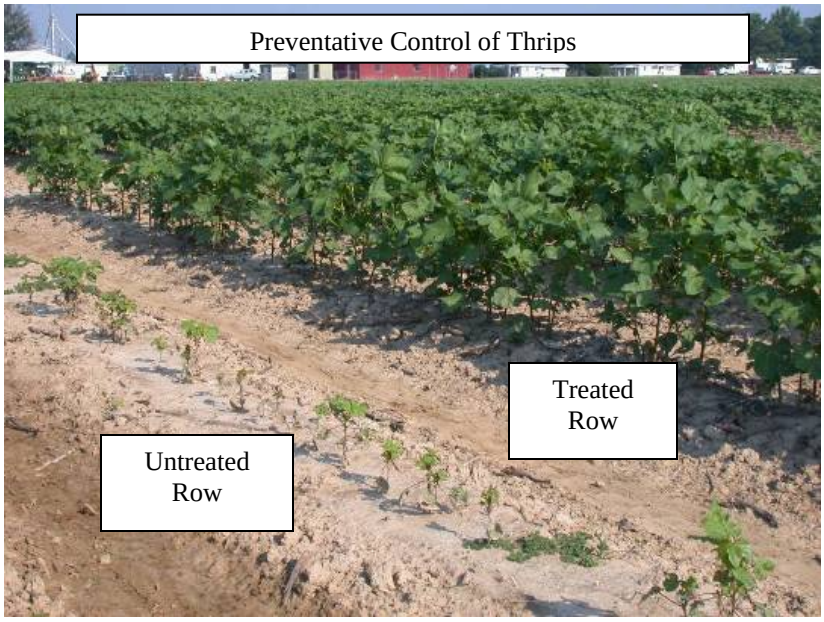
http://www.monsanto.com/monsanto/us_ag/content/stewardship/irm/2005/bollgard.pdf and
http://www.dowagro.com/widestrike/steward/refuge.htm

Overview of Available Transgenic Bt Cotton Technology - 2006

- Single protein - "First-generation *Bt* cotton"
  - ***Bollgard*** with Cry1Ac toxic protein (endotoxin)
  - Phased out in next few years?
- Dual protein – "Second-generation *Bt* cotton"
  - ***Bollgard II*** with Cry1Ac and Cry2Ab2 proteins
  - ***WideStrike*** with Cry1Ac and Cry1F proteins

Thrips

The current situation in cotton is producing "normal" numbers of thrips, but the numbers will likely be increasing in the next couple of weeks. Drying wheat and other hosts will be moving their numbers into cotton. Populations of tobacco thrips, *Frankliniella fusca*, are our predominant early-season species. There are numerous options for controlling thrips in cotton. In addition to Temik, the long-time standard in-furrow insecticide/nematicide, there are seed treatments for thrips control, such as Gaucho Grande, Cruiser, and more recently Avicta Complete Pak as another choice for an insecticide/nematicide (with fungicide also) combination. To complete the options available, there are in-furrow sprays and foliar sprays for controlling thrips. You have probably seen data supporting (or not supporting) the various options for control of these pests in cotton. Your selections for seed and at-planting preventative pesticides for thrips and nematodes have likely already been made. I am anxious to see how this year turns out.



Plant Bugs & Stink Bugs

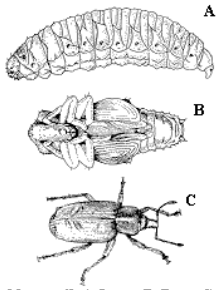
The complex of sucking bugs (plant bugs and stink bugs) continue to be a big topic of insect management efforts in cotton. They were a big topic last year in many areas of the Southeast, and I expect they will continue to be an important pest this season. Recommendations for their management in cotton are available and should read "treat when stink bugs exceed 1 bug per 6 row feet (using a drop cloth) or when 20% of medium-sized bolls display internal signs of feeding and stink bugs are observed. Many pyrethroids, at bollworm rates, will provide good control of 'green' species, but 'brown' species are less susceptible to insecticides, specifically pyrethroids." At least 25-50 bolls (½- to ¾-grown) should be examined weekly for internal feeding symptoms. If bolls of the appropriate size are selected weekly, population changes and treatment evaluation can be followed over time. We will have more on bugs when we get into mid-to-late season.

Tarnished Plant Bug (nymph & adult)

Southern Green Stink Bug

Miscellaneous Insects

We sometimes encounter insects that are usually sporadic, transient, or virtually non-existent in the cotton field, but they become troublesome when experienced in high numbers. The vegetable weevil is one of those insects that can be problematic on seedling cotton, especially in minimum tillage operations. If it is threatening the stand, it can be controlled with low-to-moderate rates of acephate or pyrethroids. The female adult weevil is about 6.4 mm long with a short, stout snout. It is dull grayish-brown with a light V-shaped mark on the wing covers. See below from our colleagues in NC for a detailed description of the insect.



Vegetable weevil. A, Larva. B, Pupa. C, Adult.

Vegetable Weevil

Listroderes costirostris obliquus (Klug), Curculionidae, COLEOPTERA

DESCRIPTION

Adult - The female adult weevil is about 6.4 mm long with a short, stout snout. It is dull grayish-brown with a light V-shaped mark on the wing covers.

Egg - The egg is elliptical, 0.5 mm in diameter, and creamy white when first laid. It becomes black before hatch.

Larva - The pale green, legless larva has a dark mottled head, and is about 1 cm long when fully developed.
Pupa - The pupa is pale yellow at first and later turns brown. It is similar in shape to the adult, with snout, legs and wing pads folded around the body. It is about 7.9 mm long.

BIOLOGY

Distribution - The vegetable weevil, originally from South America, was first reported in this country in 1922. It now occurs in the Gulf and southern states and in Oklahoma, Arizona, and California. In North Carolina the vegetable weevil occurs throughout the state but is generally more common in the southern Coastal Plain.
Host Plants - The vegetable weevil feeds on a wide range of cultivated crops: turnip, carrot, collard, mustard, tomato, potato, tobacco, and also a number of weeds.
Damage - Larval and adult vegetable weevils attack the foliage and roots of a number of crops. In tobacco plant beds both larvae and adults attack the seedlings and both may attack newly set plants in the field. Larvae feed both on the buds, stunting growth, and the leaves of seedlings. Their feeding causes irregularly shaped holes in the leaves.

Life History - The adult vegetable weevil is active during fall, winter, and spring and aestivates (enters dormancy) during the summer in trash, leaves or grass at the edges of fields. Reproduction is parthenogenetic (no males, females lay eggs which develop into females) and some individuals may live two years. After coming out of aestivation, adults feed for several days to a month before depositing eggs on turnips or collards. Oviposition begins in fall and may continue into spring of the next year. Hatch occurs after an incubation period of two or more weeks depending on the temperature. Larvae feed on tobacco seedlings (and other vegetable crops) and become fully grown in 23 to 45 days. Pupation occurs in earthen cells in the soil in spring or in fall and late winter and will last from a few days to two weeks depending on the temperature. Adults emerge from January to June. The length of time from egg hatch to adult emergence may vary from 1 to 4 months. There is one generation per year.

Free Aphid Fungus Sampling Service

It is my opinion that populations of aphids seldom need treatment with insecticides in cotton, but occasionally outbreaks do occur, and treatment is justified. Very often we get help from a naturally-occurring fungus that attacks high populations of aphids. Please contact the Cotton Aphid Fungus Sampling Service in Arkansas if you are interested in sending in field samples to determine how fungal epizootics are proceeding this year. Growers and other consultants in your area can participate in this free service. I encourage you to participate. Their email address is: aphid@uark.edu

Just let them know that you are interested in the free service, and provide your mailing address and fax number. If you are not familiar with it, it basically involves pulling leaves with aphids from fields you would like to know the level of aphid fungus, putting them in the provided vials of alcohol, and putting the provided postage-paid envelope in the mail. You get your results within a couple of days. That is basically it, but check out their website, if you would like more details: www.uark.edu/misc/aphid

Need More Information?

Log on to the following webpage to view important cotton management recommendations, data, and historical cotton insect newsletters: http://www.clemson.edu/scg/ipm/cotton.html

Sincerely,

Jeremy K. Greene, Ph.D.
Cotton Entomologist

Visit our website at:
http://www.clemson.edu