



FIELD CROP NEWS



August 2006

Cotton

In This Issue

- 1 Cotton Insect Update
- 2 Soybean: Soybean Rust Update
- 2 Soybean: Hot Weather
- 2 Peanut: Leaf Hoppers
- 3 Peanuts: Growth Regulators

Disclaimer

The use of brand names and any mention or listing of commercial products does not imply endorsement by North Carolina State University nor discrimination against similar products or services not mentioned

NC Cooperative Extension
Bladen County Center
450 Smith Circle Drive
Post Office Box 249
Elizabethtown, NC 28337

Phone: 910-862-4591
Fax: 910-862-6939
Email:
ryan_harrelson@ncsu.edu

Cotton Insect Update

Plant Bugs on Cotton:

In most cases, regular assessments of square retention should define cotton fields which are either not presently at risk from plant bugs or to point out fields which are in need of further evaluation for the presence of live plant bugs. In our area, this should work reasonably well until about a week or sometimes two into the bloom period. In a number of widely scattered areas of the state, we appear to have square retention being lowered by either excessive moisture or by late glyphosate applications to RR cotton. Sweep net sampling is probably a must in situations like this to find out if plant bugs are the culprit. Once blooming has been underway for about a week or 10 days, monitoring dirty blooms and examination of quarter-sized bolls is advised. Additionally, live plant bugs can be monitored with either a sweep net, a drop cloth, or by visual inspections of plant terminals, including upper blooms. All in all, plant bugs appear to be at higher levels than in recent years, though their levels often drop as the bloom period advances.

Cotton Aphids:

Be sure fields are checked for the presence of the aphid mummies and/or the parasitic fungus before treatment. Additionally, high aphid populations are more likely to cause yield losses in droughty conditions due to the combination of additive stresses from weather and aphid feeding.

Some spot shortages of Centric, a plant bug and cotton aphid insecticide, have been reported this past week due both to dealer reluctance in having to purchase more product than they may be able to sell, and because of high numbers of mid-South sprays for plant bugs and cotton aphids. Product has been reallocated from California, and I was told that supplies should be adequate by around Tuesday, July 18th.

From: Jack S. Bacheler, Extension Entomologist

Soybean

Soybean Rust Update

It was announced that Asiatic soybean rust has been confirmed on soybeans in a sentinel plot in Decatur County, Georgia, in the southwest corner of the state, just across the state line from Quincy and Tallahassee, FL. The group IV soybeans were between growth stages R4 (full sized pods) and R5 (small beans). Telltale pustules were identified under a microscope on one leaflet out of 100 checked from the lower part of the canopy.

This puts rust confirmed on soybeans within about 375 miles from Charlotte, 610 miles from Elizabeth City, 440 miles from Fayetteville, 305 miles from Murphy, 485 miles from Raleigh, 540 miles from Washington, 450 miles from Wilmington, and 445 miles from Winston-Salem.

Peanut

Leafhoppers in Peanuts

The past few weeks has brought high numbers of potato leafhoppers into a number of peanut fields. As a result, we have seen an above normal number of fields with the distinct yellowing caused by their feeding. Leafhoppers are easily controlled and the use of Lorsban for rootworm control also does a great job of controlling leafhoppers. If you have been "on the fence" about treating for rootworms, then the presence of leafhoppers may help you decide. If you are going to treat for rootworms, don't delay. The timing for optimal control is rapidly coming to an end. Leafhoppers can also be controlled with a number of foliar insecticide sprays (see the North Carolina Agricultural Chemicals Manual), but we often hesitate to treat for fear of creating a spider mite problem. Rainfall has been good in most areas and spider mites do not appear to be a threat at this time. In addition, the cooler spring weather has had a negative effect on the buildup of spider mite populations.

Soybeans and Hot Weather

With temperatures forecasted for the upper nineties, I would remind you that soybeans have trouble dealing with temperatures above about 95 degrees. They simply cannot move enough water through the plant to keep up with the evapotranspirative demand. As a consequence, they close their stomata to conserve water, which also seriously restricts the intake of carbon dioxide. With little or no carbon coming in, photosynthesis is seriously restricted, and growth and development is temporarily stopped.

If plants are still vegetative, growth will essentially stop. If plants are in the reproductive stage, they will tend to abort much of what they are trying to develop at the time – flowers, pods, or seeds. Since most flowers never become mature pods, flower and/or small pod abortion can be pretty significant without necessarily hurting yields much. Losing half the flowers probably won't affect yields. Losing out on the potential photosynthate production, that didn't take place for three of the 65 (double crop) to 75 (full season) days that soybeans usually spend from first flower (R1) to physiological maturity (R7 or so), should only cut yields 4-5%. Seed abortion is a little more serious, because there isn't much opportunity to replace lost seeds, and there may not have been many extra seeds in the pods to start with. Some compensation will typically take place with larger seeds.

Using Growth Regulators on Peanuts

Apogee (prohexadione calcium) is registered for use in peanuts. Research has demonstrated that Apogee improves row definition, which can lead to increased efficiency in the digging and inversion process. Apogee should be applied when 50 percent of vines from adjacent rows are touching. Sequential applications (7.2 ounces per acre followed by 7.2 ounces per acre) spaced two to three weeks apart are generally needed. Include crop oil concentrate and 1 pint of nitrogen solution (UAN) with Apogee. Depending upon growing conditions, soil fertility, frequency of rainfall and irrigation, and variety selection, row visibility obtained in mid-August may not be sufficient through digging. Research suggests that in addition to increased row visibility, Apogee minimizes pod shed and pod loss during digging and harvesting operations. Significant yield increases have been observed. Research at NC State University suggests that the plant growth regulators Chaperone, Early Harvest, Messenger, and cyclanilid (a component of the defoliant Finish) do not increase peanut yield and quality factors.

Peanut yield (lb/acre) following application of plant growth regulators and fertilizers

	Apogee	Assest RTU	Chaperone	Early harvest	Messenger	Cyclanilid
# of trials	78	5	6	21	8	10
# of varieties	12	2	3	3	2	2
Years	1997-2005	2004-2005	2004-2005	1997-2001	2002-2004	2000-2002
Non-treated Yield	3742	4656	4625	3910	4270	3902
Treated Yield	3919	4574	4481	3850	4300	3759
Difference	+177	-82	-144	-60	+30	-143

North Carolina State University and North Carolina A&T State University commit themselves to positive action to secure equal opportunity regardless of race, color, creed, national origin, religion, sex, age, or disability. In addition, the two Universities welcome all persons without regard to sexual orientation. NC State University, NC A&T State University, US Department of Agriculture and local governments cooperating.

Sincerely,



Ryan Harrelson
Agriculture Extension Agent
Field Crops

