

North Carolina Pest News

Departments of Entomology and Plant Pathology



Volume 26, Number 9,
June 10, 2011

In This Week's Issue . . .

CAUTION !

The information and recommendations in this newsletter are applicable to North Carolina and may not apply in other areas.

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FIELD AND FORAGE CROPS 1

- Thrips Winding Down
- Spider Mites on Cotton
- Cotton Fleahoppers and Plant Bugs
- False Chinch Bugs on Cotton
- Other Cotton Insects
- Invasive Pest Found on North Carolina Soybeans Spreading Rapidly

ORNAMENTALS AND TURF 6

- Lightning Bugs Are Looking Good
- Citrus Whiteflies on Gardenia
- Cicadas, Act II

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FIELD AND FORAGE CROPS

From: Jack Bachelier, Extension Entomologist

Thrips Winding Down

As a result of much of our cotton getting to the five true leaf stage (and beyond) and declining levels of migrating adult thrips, our “thrips season” is coming to an end. Even the untreated check plots in May 4-planted research tests near Rocky Mount that have been badly damaged by thrips were beginning to show signs of new shiny leaf growth on Thursday, June 9 (Fig. 1). This is an indication of no or limited, recent thrips damage. As one can see, that’s not to say that this cotton looked pretty, however.

Essentially all of the seed treatments with a follow-up foliar spray looked good to excellent, despite some earlier damage when the 3 +/- week seed treatment activity ran out at a time when migrating adult thrips levels were

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high (Fig. 2). Even though most cotton with a seed treatment required a foliar spray, this year some cotton fields which were carefully scouted were not treated with a foliar spray following a seed treatment.



Fig. 1. Untreated check plots growing out of thrips damage, June 8, 2011, Rocky Mount, NC. Image by Dan Mott.



Fig. 2. Avicta-treated plots, June 8, 2011, Rocky Mount, NC. Image by Dan Mott.

With the prospect of selling cotton for a good price this year (if the weather decides to cooperate), many growers will be tempted to spray cotton one last time “for the Gipper.” These revenge or recreational sprays will often do more harm than good. Most of the “beat-up” cotton that we have examined this past week had non-existent or low levels of immature thrips. Additionally, all of the main products used for thrips control (such as Orthene, Bidrin, dimethoate, Vydate and others) increase the odds of treating later for cotton aphids and/or spider mites.

Before using a foliar treatment for thrips, be sure to examine cotton seedlings (either with a hand lens or by beating a handful of seedlings over a flat surface) for the presence of immature thrips. If less than one immature thrips per true leaf per plant is present, do not treat. Additionally, treating cotton seedlings with five or more true leaves, even with moderate to high levels of thrips, is not justified economically.

In most years, cotton insect management now turns to plant bugs, cotton aphids and spider mites. As cotton begins to square, be sure to take square retention counts. We often find square retention in the 95 to 100% range early in the square reduction period. Square retention counts less than 80% indicate the possible presence of plants bugs and more detailed assessments for this pest are needed with a sweep net.

Spider Mites on Cotton

Two consultants from the eastern part of our cotton production area reported that spider mites were beginning to show up in a number of cotton fields (Fig. 3). Our continued hot, dry weather favors the build-up of mites on other crop hosts like field corn and number of weed hosts surrounding cotton fields. These mites then “balloon” into cotton fields in silken strands. So far, most of the reports we have received were of spider mites invading field edges of cotton fields. We can also have mites develop from within fields, especially in reduced till. Because spider mites found in cotton fields do not necessarily build to treatable levels in North Carolina, our advice is to treat for spider mites when this pest is present on most plants throughout a cotton field along with significant leaf reddening (or “bronzing”). If

possible, foliar treatments for mites should be made with hollow cone nozzles, high pressure (50 to 70 psi) and at least 10 to 15 gallons per acre. If significant rainfall is imminent, hold off on the mite spray and reevaluate in 3 to 5 days for possible mortality by a fungus (similar to the fungus that often reduces cotton aphid levels).



Fig. 3. Spider mite damage to cotton. Image by Jack Jack Bacheler.



Fig. 4. Cotton fleahopper adult. Image by Phillip McKibben.



Fig. 5. Heavy fleahopper levels on cotton. Image by James Smith.

Cotton Fleahoppers and Plant Bugs

One eastern consultant reported finding cotton fleahoppers common enough reduce cotton square retention to less than 90%. At this time of year, cotton square retention is commonly in the 95 to 100% range. In my 30-year career at North Carolina State University, I have only witnessed one economically significant infestation of cotton fleahoppers; this infestation was in Scotland County in 1978. These very small insects are approximately half the size of a plant bug, are pale green (Fig. 4) and, like plant bugs, are damaging to squares (Fig. 5). Cotton fleahoppers cause somewhat less damage per insect than plant bugs. As is the case with plant bugs, treatment is advised when square retention drops below 80% and

the presence of these pests can be confirmed. Treatment is advised for plant bugs when 8 to 9 nymphs or adult plant bugs are found per 100 sweeps. Sweep net levels of up to 12 cotton fleahoppers can probably be tolerated before treatment is indicated for this pest. Products listed for plant bug control should also provide good control of cotton fleahoppers. We would expect that economically significant populations of cotton fleahoppers will be rare again this year. Weekly monitoring of square retention is advised.

False Chinch Bugs on Cotton

False chinch bugs caused heavy damage to cotton in a seven acre cotton field in Halifax County this past week. In this case, the false chinch bugs probably moved into cotton from weeds within and surrounding the field that was burned down late. These tiny true bugs with piercing/sucking mouthparts most commonly move into cotton from weedy field borders. Cotton can usually tolerate high levels of these bugs without economic loss, but can damage cotton if present in very high numbers, particularly if the cotton is under drought stress.

Other Cotton Insects

No cotton aphid outbreaks have been brought to our attention as of June 10. Stink bugs do not become an economic concern on cotton until approximately the second week of bloom. With the continued hot weather, we presently expect the major bollworm moth flight to begin around July 10 in the southeastern part of North Carolina.

From: Dominic Reisig, Extension Entomologist

Invasive Pest Found on North Carolina Soybeans Spreading Rapidly

Kudzu bug (aka bean plataspid, *Megacopta cribraria* Fabricus, Fig. 6) has recently been confirmed on kudzu from several North Carolina counties where it was not previously found (Fig. 7). In addition, it has been reported on a legume from the North Carolina Arboretum, although this has not been confirmed. Soybean is the main agronomic host for this insect, but it will feed on many other legumes.



Fig. 6. Kudzu bug adults (two pictures on the left) and nymphs (picture on the right). Images from P. Roberts.

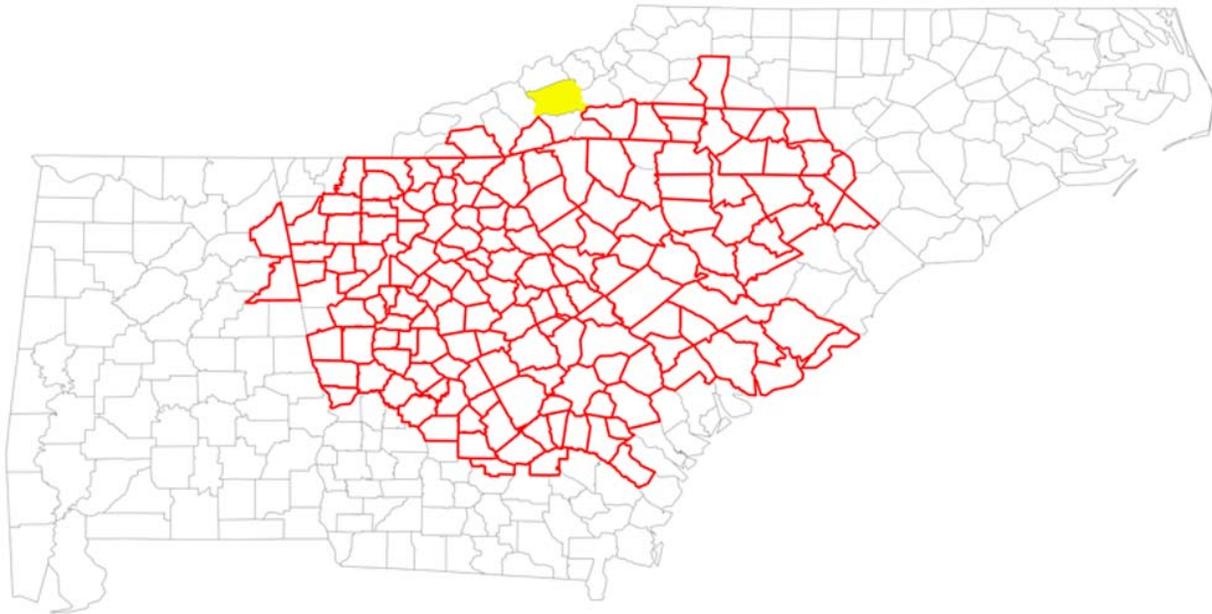


Fig. 7. Confirmed kudzu bug distribution outlined in red. Buncombe County, shaded yellow, has not been confirmed, although kudzu bug has been reported.

This insect was found on flowering volunteer soybean plants (Fig. 8) on 10 June in Union county by a Wingate University researcher, Erika Scocco, collecting kudzu bug for a molecular study. This is the first confirmed sighting of this insect on soybean in our state. In North Carolina, the pattern of spread is mirroring that of South Carolina in 2010. This insect feeds on the stems (Fig. 9) and leaves, and may come into our soybean fields earlier, rather than later, during the season.



Fig. 8. Kudzu bug adults mating on flowering volunteer soybean, Union County. Image from Erika Scocco.



Fig. 9. Soybean stem injury from kudzu bug. Image from Phillip Roberts.

So far, kudzu bug has been relatively easy to kill with insecticides (except with neonicotinoids), but will often reinvade. A preliminary economic threshold, based on Georgia data, is one bug per sweep with large nymphs present, or three bugs per plant with large nymphs present.

We are tracking this pest and would appreciate you contacting Dominic Reisig (electronic mail at dominic_reisig@ncsu.edu; telephone at 252-793-4428 x133) if you find this pest in a non-confirmed county. If you could also provide GPS coordinates, **as well as the plant on which it was found**, it would enhance our ability to respond to this new threat. Please use caution not to spread this pest from field to field if you find it.

ORNAMENTALS AND TURF

From: Steve Bambara, Extension Entomologist

Lightning Bugs Are Looking Good

For the first time in several years, most of North Carolina has had a reasonable amount of rainfall in the spring. This year the lampyrids (lightning bugs) seem to be off to a good start. Lightning bugs are beetles. Fireflies are, coincidentally, also beetles! Lightning bug adults (Fig. 10) produce a heat-free source of light through a biochemical reaction. The light flashes are used to attract mates. Different species have different flash patterns and are active at different times during the evening. What does this have to do with pest management? One of the many great aspects of lightning bugs is that the larvae of some species are predatory on snails and slugs!



Fig. 10. Adult lampyrid (aka lightning bug). Image by Steve Bambara.

Citrus Whiteflies on Gardenia

The citrus whitefly (Fig. 11) is a tiny, frosty white insect about 2 mm in length. It is not a true fly. Females insert their eggs into the lower surface of the leaves of gardenia and Swedish ivy. Soon the immature stages hatch into scale-like insects that suck sap from the lower leaf surface. They are often mistakenly reported as a scale. Look for ant activity, honeydew, or sooty mold on these plants. There is additional information in Publication AG-136, *Insect and Related Pests of Flowers and Foliage Plants* available on the web at <http://ipm.ncsu.edu/AG136/whitfly3.html>.

Citrus whiteflies suck sap from the plant and excrete honeydew, a sweet, sticky substance. Sooty molds go hand-in-hand with infestations of citrus whitefly. Sooty molds (Fig. 12) grow in the honeydew and cause infested bushes to become dull and dark. Horticultural oils should give some control of the citrus whitefly. Orthene is also effective. Imidacloprid would also be an effective systemic as a root drench.



Fig. 11. Citrus whitefly adult. Image by James R. Baker.



Fig. 12. Black sooty mold fungus on a leaf. Image by James R. Baker.



Fig. 13. Annual cicada adult. Image by Steve Bambara.

Cicadas, Act II

Periodical cicadas were a big hit this spring across most of North Carolina. It is now time for the annual cicada to make its appearance. Already spotted, are the larger green annual cicadas (Fig. 13) that appear every year in low numbers. By now, most of you are familiar with cicadas. Every summer the chunky brown nymphs crawl from under the ground and perform a transformation as dramatic as the change of a chrysalis to a butterfly. Though the individual life cycle may last several years for the annuals, the entire population does not emerge in synchrony as do their famous earlier periodical cousins. You should now be able to enjoy their daytime buzzing and still hear yourself think.

Recommendations for the use of chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by North Carolina State University, North Carolina A&T State University or North Carolina Cooperative Extension nor discrimination against similar products or services not mentioned. Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage regulations and examine a current product label before applying any chemical. For assistance, contact an agent of North Carolina Cooperative Extension.