

# North Carolina Pest News

Departments of Entomology and Plant Pathology



Stephen J. Toth, Jr., editor  
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## CAUTION !

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

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[http://ipm.ncsu.edu/current\\_ipm/pest\\_news.html](http://ipm.ncsu.edu/current_ipm/pest_news.html)

## **FIELD AND FORAGE CROPS**

From: Jack S. Bachelier, Extension Entomologist

### **Spider Mites on Cotton**

This past week, we have received many additional reports of twospotted spider mites on cotton, with more cotton field at treatable levels. So far, these infestations seem to be more prevalent in the old northeastern traditional peanut-growing areas than elsewhere. In a few cases, the outbreaks appear to be “edge effect” infestations; that is, mites invading from the outside cotton fields from a surrounding crop like dry field corn, mowed adjacent ditch banks, or mowed highway right-of-ways. These infestations are more likely to be found initially around field edges. In most situations, however, low levels of mites are present (perhaps from early on) throughout the cotton field, more commonly in reduced tillage situations. Although not a firm rule, mite build-ups are more frequent following foliar insecticide applications for thrips and under hot dry conditions. We’ve had plenty of both.

Cotton fields in which light leaf speckling is noted and the presence of mites is confirmed with a hand lens should be monitored at least weekly. If the mite infestation intensifies, more leaves will be bronze to reddish in coloration, primarily in the mid-vein area, with the mite themselves being mostly confined to the undersides of the leaves. As the outbreak worsens, lower leaves will begin to turn yellow and drop off the plants. If this situation is present throughout most of the field, treatment is generally recommended unless significant rainfall is predicted within the next few days. If rainfall occurs, the mite infestation should be re-evaluated after 5 to 7 days for possible declining mite numbers due to the presence of a parasitic mite fungus and the now-watered cotton plants being far better able to withstand mite damage due to lowered drought stress. I should point out, however, that several hundred acres have moved into the treatment column this past week.

Treatment for spider mites is often less satisfactory than with most other pest species; control is typically expensive and results often disappointing. Kelthane (chemical name dicofol) has been our most dependable miticides “year in and year out” in North Carolina, but supplies of this phased-out Dow product are limited. However, dicofol (under the brand of the same name) is available. One dealer recently obtained two pallets of Dicofol. He mentioned that two pallets were probably the minimum order. It’s good to know that at least the product is around in 2007 if our mite situation worsens.

We typically have variable and often mediocre results with the other miticides listed in the *North Carolina Agricultural Chemicals Manual* (Comite, Danitol, and Supracide, with perhaps Comite being a bit more dependable than the others and somewhat less effective than Kelthane (dicofol)). Bifenthrin (Capture, Brigade and Discipline) sometimes works satisfactorily here, though the potentially big problem is that some mite populations are resistant to this pyrethroid.

The new miticide Oberon has shown good activity in some tests, but less so in others. According to a 2005 and 2006 tests by Ames Herbert at Virginia Tech University and two 2007 mite tests by Scott Stewart, Oberon appeared to work better when used at least the 12 ounces of product per acre rate of the 2 SC formulation.

In some areas of the mid south and the western cotton belt, growers often treat a mite problem when it's building, otherwise the mite levels may get out of control. In the Southeast where the fungus is more effective in reducing mite populations, we usually recommend waiting until the aforementioned criteria are met before treating. That can make for some real treatment challenges, but the upside is that this approach can result in avoiding treatment on perhaps 90 percent of the cotton acreage that never would have ended up with economic damage from spider mites.

### **Bollworm Moth Flight**

With any luck, the predicted early bollworm moth flight will not begin in our far southern counties until approximately July 10 (plus or minus approximately three days). If past history holds, within the first week or so of the start of the moth flight we'll also begin to get an idea of the flight intensity or pressure.

### **Stink Bugs on Cotton**

It's still difficult to say what to expect of stink bug damage. High numbers of brown stink bugs have been picked up in some far eastern wheat fields. However, these areas may have been spared most of the Easter freeze mortality. Sampling in other areas so far has found low levels. Another question will be the levels of our often more common green stink bug. We'll probably begin to get a clearer idea of the magnitude of this year's stink bug damage potential approximately two weeks into the bloom period.

### **Upcoming Cotton Scouting Schools**

Hoke, Scotland and Robeson counties: Monday, July 9 from 10:00 a.m. until 12:00 noon at the Hoke County Extension Offices, Raeford. Contact Keith Walters (telephone: 910-875-2162; e-mail: [keith\\_walters@ncsu.edu](mailto:keith_walters@ncsu.edu)) for details.

Northampton County: Monday, July 16 from 9:30 to 11:30 a.m. at the County Administration Building, Jackson. For details, contact Craig Ellison (telephone: 252-534-2711; e-mail: [craig\\_ellison@ncsu.edu](mailto:craig_ellison@ncsu.edu)).

Halifax County: Monday, July 16 from 1:00 to 3:00 p.m. at the Agricultural Building, Halifax. Contact Arthur Whitehead (telephone: 252-583-5161; e-mail: [arthur\\_whitehead@ncsu.edu](mailto:arthur_whitehead@ncsu.edu)) for details. A review of soybean scouting procedures will also be covered.

Nash and Wilson counties: Tuesday, July 24, 4 to 6 p.m. at the Agricultural Center, Nashville. For details, contact Charlie Tyson (telephone: 252-459-9810; e-mail: [charlie\\_tyson@ncsu.edu](mailto:charlie_tyson@ncsu.edu)).

From: John W. Van Duyn, Extension Entomologist, Vernon James Center, Plymouth

### **Lesser Cornstalk Borer in Soybeans**

Lesser cornstalk borers have been reported from several locations in the Coastal Plain on soybean seedlings. In spite of the name, the lesser cornstalk borer infests many hosts and several crops (e.g., corn, sorghum, snap beans, soybeans, and peanut). It mainly shows as a pest in seedling stage plants and on dry years, although it also attacks pegging peanuts and destroys the pegs. On soybeans the seedlings are tunneled and plants die, appearing as though damping-off was the cause. Diagnosis rests upon identifying the tunneling, finding a loosely constructed silken case at ground level (or below) that is attached to the plant stem, and finding the caterpillar within the tunnel. The caterpillar is small, highly active, appears to have ringed segments, and is colored brownish to brownish with blue background coloring. Lesser cornstalk borer usually does not reduce soybean yields since the healthy plants compensate for the loss. They usually occur on dry sandy fields but also in burned wheat fields. They are difficult to kill with insecticides due to their location within the plants and below the soil surface.

From: Jim Dunphy, Extension Crop Scientist, and Steve Koenning, Extension Plant Pathologist

### **Soybean Rust Update**

Asian soybean rust was confirmed on soybeans in sentinel plots in Avoyelles and Rapides parishes, Louisiana, on June 21, 2007. Both locations are more than 500 miles from any of North Carolina's soybeans. Both finds were on soybeans at stage R4 (full sized pods in the top of the plants).

Also on June 21, rust was confirmed on soybeans in a commercial field in Cameron County, Texas. This field is more than 1,000 miles away from any North Carolina soybeans.

## **FRUIT AND VEGETABLES**

From: Gerald J. Holmes, Extension Plant Pathologist

### **Cucumber Downy Mildew Reported from Duplin County**

On June 25, 2007, we received a report of downy mildew on cucumber from the Albertson area of Duplin County, North Carolina. The report was confirmed this morning by Allan Thornton (Department of Horticultural Science, North Carolina State University) after incubation of the

plant tissue to promote spore production. This is a 25-acre field of pickling cucumber (cv. Palomino) that is in the later stages of production and has not been sprayed with fungicides. Symptoms of the disease can be found on almost all of the plants in the field, but yield has not been significantly impacted. The field will be in production for approximately one more week after which it will be destroyed. We estimate that symptoms first appeared in this field around June 20. It is a safe bet that there are other infected fields in the area that have not been reported yet.

Cucumber growers in North Carolina are advised to begin fungicide sprays immediately. Other cucurbits (watermelon, squash, cantaloupe, zucchini, etc.) are also at risk and similar action should be taken. Fungicide recommendations remain the same as in past years. Apply one of these four products on a 5- to 7-day interval:

- Gavel 75WG (5-day PHI; group 22+M)
- Previcur Flex 6SC (2-day PHI; group 28)
- Ranman 3.6SC (0-day PHI; group 21)
- Tanos 50WG (3-day PHI; group 11+27)

Alternate products and tank mix with either chlorothalonil (Bravo, Equus, etc.) or mancozeb (Dithane, Manzate, etc.).

Other cases of downy mildew of cucumber have been reported from Essex, Ontario, Canada; Medina and Milan, Ohio; and Geneva, New York. There are currently no reports from Georgia or South Carolina. Go to <http://www.ces.ncsu.edu/depts/pp/cucurbit/> for a map of the current disease sources, disease forecasts, control recommendations, and more.

### **Update: Downy Mildew Now Widespread in Eastern North Carolina and South Carolina**

This week downy mildew was confirmed on cucumbers in Bertie, Sampson and Duplin Counties. There are unconfirmed reports from Wayne County. In South Carolina, we confirmed cucumber downy mildew from Williamsburg and Clarendon counties.

Cucumber growers in eastern North Carolina should begin fungicide sprays immediately. Preventative sprays of effective fungicides are the best means of controlling this disease. Up-to-date maps of current outbreaks as well as forecasts for the next few days can be viewed at <http://www.ces.ncsu.edu/depts/pp/cucurbit/>. Forecasts are produced Tuesdays and Thursdays of each week.

## **ORNAMENTALS AND TURF**

From: Stephen B. Bambara, Extension Entomologist

### **Twolined Spittlebug is Stirred Up**

Earlier this season we heard a few reports of foamy spittle masses in turf. Now, the twolined spittlebug adults (Fig. 1) are active and may fly about as you walk through or mow the lawn. As

turf begins to dry, adult spittlebugs sometime move to the succulent undersides of holly leaves. They may easily go unnoticed. As the summer progresses, damage will become more evident. If you have holly in your landscape, keep your eye on the undersides of the leaves during July.

Twolined spittlebugs are small (1/4 inch), dark insects that resemble leafhoppers. As the nymphs feed, they excrete the spittle which protects them from predators and dehydration. (By the way, the spittle isn't produced from the mouth end.) Because spittlebugs feed on turfgrass near the soil, their numbers may be high without being detected. Only after the adults emerge is the seriousness of an infestation realized. They have two orange lines across the wings. As these small insects fly, the dark red abdomen shows conspicuously. In late summer and early fall, the adult twolined spittlebugs fly to hollies (and other plants) to feed. They cause hollies to become splotchy and yellow (Fig. 2) and the leaves drop prematurely. Female twolined spittlebugs lay their eggs in turfgrass. The eggs are inserted into the plant stem or between the stem and leaf sheath. When the nymphs hatch from their eggs, they begin to feed. Spittlebugs suck sap from the plants with their needle-like mouthparts. *Ornamental and Turf Insect Information Note No. 97* (<http://www.ces.ncsu.edu/depts/ent/notes/O&T/lawn/note97/note97.html>) explains the biology of twolined spittlebugs and provides recommendations for chemical control.



**Fig. 1. Twolined spittlebug adult. Image by James R. Baker.**



**Fig. 2. Twolined spittlebug damage to holly leaves. Image by Stephen B. Bambara.**

### **Pinkstriped Oakworm Suits Up**

Pinkstriped oakworms (Figs. 3 and 4) are hatching on white oak (*Quercus alba*). This is one of several hardwood caterpillar species that you will see over the next few weeks. They are somewhat gregarious and stay together in groups to feed (like teenagers at the food court), especially during the early instars. Watch for pockets of stripped leaves, especially towards the ends of branches. If you can't reach to knock them out of the tree with a stick, a *B.t.* based product would be perfect at this time, sprayed on the leaves next to the infestation. Other caterpillar products will work as well. I don't hear of major defoliations from this insect as some other states report. The moths are quite striking (see image at the following web site: <http://www.insectimages.org/images/768x512/5132047.jpg>). Besides looking up at the trees, look down at the sidewalk, driveway or picnic table beneath the trees for telltale signs of fecal pellets. The pink stripes become more evident in the later instars.



**Fig. 3. Pinkstriped oakworms. Image by Stephen B. Bambara.**



**Fig. 4. Pinkstriped oakworm. Image by Stephen B. Bambara.**

### **Woolly Pine Scale Fluffs Up**

Woolly pine scale turns up occasionally on southern pines (such as loblolly) in the landscape. Small and occasional outbreaks are not a major threat to a tree. However, repeated severe infestations can cause branch dieback. Woolly pine scale infestations are easily identified by the masses of woolly wax on the needles, branches and shoots (Fig. 5). Honey dew may be produced, attracting ants and supporting black sooty mold fungus. Most infestations are local and limited. Try to maximize tree health and minimize tree stress to allow natural suppression of the scale.



**Fig. 5. Woolly pine scale infestation. Image by Stephen B. Bambara.**

### **Tuliptree Scale May Build Up**

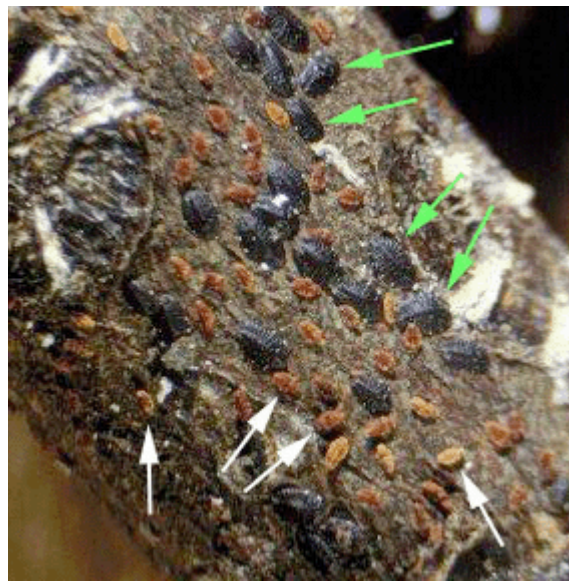
The tuliptree scale (Fig. 6) is among our largest scale insects and are sometimes quite damaging to tuliptree (yellow poplar) and magnolia. It has one generation per year. Its biology is unusual in that the scales reproduce in late summer and the tiny new scales (Fig. 7) overwinter on the twigs and stems (most of the soft scale insect pests of ornamentals reproduce in May or early June). Male tuliptree scales appear in early summer and mate with the females. The females swell

considerably with eggs during the summer, but the eggs hatch as they are laid so that it appears the crawlers are born rather than hatched.

Infested trees may become sticky with honeydew excreted by the scales and blacken with sooty mold fungus which grows in the honeydew. The overall tree may be weakened with sparse foliage and dead branches or the trunks may be distorted because the scales have killed the leader branches over the years. Homeowners sometimes object to the honeydew and the wasps, flies and bees that are attracted to the honeydew. We recommend that the tree be sprayed with horticultural oil now and may be repeated, with dormant oil applied in the winter. For serious infestations, Merit may be used if you have a special tree. Merit may be applied now, but will take several weeks for uptake before it has any effect. These measures are often not practical, so do all you can to reduce the stress to the tree. I had a tree in my yard with a lot of scales five years ago, did nothing about it, and I haven't seen any since. Nurserymen have additional options.



**Fig. 6. Tuliptree scales on a stem of yellow poplar. Image by James R. Baker.**



**Fig. 7. Young tuliptree scales on a stem of yellow poplar. First instars (white arrows) and overwintering nymphs (green arrows) are present. Image by James R. Baker.**

### **Cicada Killer Wasps May Show Up**

I've received two reports of cicada killer wasps (Fig. 8) this season that I've tried to ignore. It seems too early. Normally, the cicadas (Fig. 9) have to appear before the cicada killer wasps, and I haven't heard any cicadas singing yet. Perhaps they have forgotten the words? Anyway, keep your ears and eyes open for the green annual cicadas and fairly harmless cicada killer wasps making large holes in lawns or planting beds. Control measures are rarely necessary, but you usually can't convince the homeowner of that.



**Fig. 8. Cicada killer wasp with cicada. Image by James R. Baker.**



**Fig. 9. Cicada. Image by Stephen B. Bambara.**

For more information on cicada killer wasps, see *Ornamental and Turf Information Note No. 63* on the web at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/lawn/note63/note63.html>. For more information about cicadas, see *Ornamental and Turf Information Note No. 17* on the web at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/shrubs/note17/note17.html>.

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*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.*

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