

North Carolina Pest News

Departments of Entomology and Plant Pathology



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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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See current and archived issues of the *North Carolina Pest News* on the World Wide Web at:

http://ipm.ncsu.edu/current_ipm/pest_news.html

FIELD AND FORAGE CROPS

From: Jack Bachelier, Extension Entomologist

Thrips in Cotton

With cotton planting now seriously underway, we are hoping for both warm weather and good moisture conditions. Rapid seedling “grow-off” is our best hope for a kind “thrips spring.”

Once cotton plants are up and underway, remember that scouting-based decisions for thrips control should never be based solely on crinkled leaves. However, an average of as few as 1 to 2 immature thrips per plant at the first or second true leaf stage should probably trigger a spray.

With seed treatments, a foliar application for thrips is still strongly advised at either three weeks after planting or at the first true leaf stage. Behind Temik, or following a foliar application, any subsequent treatment should be based on finding wingless immature thrips anywhere on the leaves, but most importantly on newly unfolding leaves and in the bud area. For most of us, the use of a 10x hand lens make thrips evaluations much easier. For some, the use of a hand lens should be mandatory.

Don't overlook the possibility of good healthy appearing seedlings with 2 or 3 true leaves going down hill quickly in a matter of 2 or 3 days, as the activity of at-planting insecticides sometimes crashes quickly. So be sure to stagger the scouting of fields planted within a given window to avoid being taken by surprise. On the other hand, seedlings that are no longer under threat of further thrips damage can look pretty ugly, so be sure that live thrips in the buds trigger treatments, not “sorry-looking” plants.

A quick response to treatable levels of thrips is essential as most damage occurs between the cotyledon and three true leaf stage. On a positive note, we seldom see a benefit in treating beyond about the fifth true leaf stage, especially if the newest leaves are coming out flat and shiny.

It will be interesting to see how the next few weeks unfold.

From: Steve Koenning, Extension Soybean Pathology Specialist, and Jim Dunphy, Soybean Specialist, Crop Science

Current Status of Soybean Rust in North America, May 2008

Soybean rust is viable in parts of Florida and Texas at this time. Rust was found fairly far north in Mississippi on kudzu, but was under water for some time and though the kudzu may recover from flooding, the rust will have to reach this site again to initiate new infections. Rust may be active in Mexico on volunteer soybean growing in corn on a limited acreage, but there is a good chance that these volunteer soybeans have since been killed with herbicides. Though we have yet to receive reports of soybean rust on **jicama** (yam bean, a crop grown in Mexico on as much as 100,000 acres), there is a good possibility that it may be developing there since yam bean has been planted and the rainy season has or should start soon. Planting of sentinel plots in Florida, Louisiana and Mississippi has been completed, though some sites may have to be replanted

because of excessive rainfall. Some early maturing soybean in Mississippi and Louisiana are now flowering and conditions are good for rust development, but planting delays may inhibit development of rust in these locations.

Another Host for Soybean Rust

A new host for soybean rust in the U.S. is **coral bean**, grown in many areas especially along the East Coast. Pictures of this plant can be found at <http://www.floridata.com/ref/E/erythrin.cfm>. Coral bean is most likely to serve as an additional overwintering host for soybean rust in the Gulf Coast states, and its contributions to the epidemiology of have not been assessed at this time.

Soybean Rust Summary for North Carolina: Reflections on 2005-2006

Soybean rust has been detected in North Carolina every year since 2005. Rust was found in 17, 44, and 6 counties in 2005, 2006, and 2007 respectively. For the most part, it has not required fungicide sprays. Only in 2006 was it recommended that fungicides be sprayed in the southeastern counties on late planted late maturity soybeans. Yield increases in these areas were on the order of 4 to 5 bushels per acre.

Resources for Soybean Rust in 2008

Soybean rust sentinel plots will be planted in the next 30 days in most locations. In addition, we have the *Teletip* phone number **1-800-662-7301** (the same number as for the cotton insect update) with a message updated as necessary.

This year, there are more resources for information on Asiatic soybean rust available than in many years in the past. North Carolina will receive 2,000 copies of the booklet *Soybean Rust Management in the Mid-Atlantic Region*. These will be distributed to county offices on the basis of soybean acreage. The older version of the *Soybean Rust Management in the Mid-Atlantic Region*, as well as the *Soybean Disease Atlas*, can be found at the Southern Soybean Disease Workers web site at <http://cipm.ncsu.edu/ent/SSDW/>. A PDF version of the newer *Soybean Rust Management in the Mid-Atlantic Region* guide will be posted there soon. We will receive 600 copies of the *Fungicide Manual*, and these will be distributed to Extension agents, Certified Crop Advisors and dealers as long as supplies last, though a PDF version can be obtained at <http://oardc.osu.edu/soyrust/>. The *Fungicide Manual* actually contains more information than most growers are likely to need.

Some sources for more detailed information on soybean rust are listed below:

The USDA soybean rust web site: <http://www.sbrusa.net/cgi-bin/sbr/public.cgi>

North Carolina Agricultural Chemicals Manual: <http://ipm.ncsu.edu/agchem/6-9.pdf>

Fungicide Manual: <http://oardc.osu.edu/soyrust/>

FRUIT AND VEGETABLES

From: Mark Abney, Extension Entomologist

Be Aware of Crop Rotations When Planting Sweetpotatoes

Sweetpotato transplanting season will get into full swing in the next few weeks. Among the many factors that go into field selection decisions, sweetpotato growers should remember to consider the potential effect of crop rotation on insect damage. Research conducted in commercial sweetpotato fields in North Carolina has shown that the risk of corn wireworm damage is significantly higher in fields that were planted to corn in either of the previous two growing seasons. The corn wireworm is not the most abundant wireworm species found in sweetpotatoes; nevertheless, it can cause severe damage and it cannot be controlled with any of the insecticides currently labeled for use in the crop. Not all fields that were planted to corn will have high populations of corn wireworm in subsequent growing seasons, but no economically practical method for determining their abundance is currently available. The best tactic to reduce the risk of corn wireworm damage is to avoid planting sweetpotatoes in fields where corn was planted in either of the preceding two years.

Growers should continue to use recommended practices for managing tobacco wireworms in sweetpotatoes. The tobacco wireworm is the most abundant species in North Carolina and is present in almost every sweetpotato field regardless of crop rotation. This pest is responsible for most of the damage to sweetpotatoes in the state, but damage can be significantly reduced with proper management strategies. The use of chlorpyrifos as a pre-plant incorporated application followed by a soil barrier treatment of bifenthrin at cultivation has been shown to significantly reduce root damage caused by tobacco wireworms. For specific application recommendations including rates, see Table 5-10 in the *North Carolina Agricultural Chemicals Manual* (<http://ipm.ncsu.edu/agchem/5-10.pdf>) or contact your local county Extension agent.

ORNAMENTALS AND TURF

From: Steve Bambara, Extension Entomologist

Ants, Ants, Ants (Not Beetles)

"It Won't Be Long." April showers bring May ant mounds. Softer soil, warmer soil, and more food have brought ant populations to the soil surface.

Fire ant mounds spring up and enlarge at this time. If a fire ant mound is in an inconvenient location that poses a stinging threat, you should treat the mound directly for quick control or you may conclude "I Should Have Known Better." Broader and more long-term overall management may be accomplished using baits around the mound or broadcast, depending upon the label. There are more than 60 products registered for fire ants in nursery and landscape, so choose the one appropriate for each situation and develop a management plan.

Formica (FORM ic a) ants are also mound builders (Fig. 1), but have obvious and numerous entrance holes in the mound (unlike fire ants). These large ants do not sting as do fire ants, but I

wouldn't set my picnic blanket next to the mound, or either you could be "The Fool On The Hill." For the most part, these ants are beneficial and if you find a mound, you can "Let It Be." They may even compete a little with the fire ants and discourage fire ants from invading your yard. If you need "Help" with *Formica* ants in the landscape, see *Ornamentals and Turf Insect Note No. 142* at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/lawn/note142/note142.html>.



Fig. 1. Newly forming *Formica subsericea* mound. Image by Steve Bambara.

Giant needle ants, *Pachycondyla chinensis* (Fig. 2), are also an introduced species that is turning up more in North Carolina. The sting is purported to be more unpleasant than a fire ant sting, and if stung may make you "Twist and Shout," but these ants tend to be found more in wooded areas and less in the open. "Do You Want to Know a Secret?" They are more common under rocks and logs. Benoit Guenard, a Ph.D. student at North Carolina State University, is currently studying their ecology (see <http://www4.ncsu.edu/~bsguenar/My%20research.htm>). Clemson University has a nice insect note at <http://entweb.clemson.edu/eiis/pdfs/mv18.pdf>.



Fig. 2. *Pachycondyla chinensis*. Image by Lloyd R. Davis (<http://antweb.org/>).

Eriophyid Mite Galls

Eriophyid mites are microscope and a little "worm like" with only two pairs of legs. It is easier to identify them based on their damage and host. Galls may form on leaves (Fig. 3) or other parts of the plant and vary greatly in appearance. The galls on leaves are green (Fig. 4), yellow, red or purple in color. The leaf galls are bladder, blister spindle-like fleshy projections. The galls are found mainly on the topside of leaves. There is a yellowing directly underneath the galls with a pore in the center of the discoloration.

Many eriophyid mites overwinter as females protected cracks and crevices of the plant. Females emerge in the spring and move to the flowers or leaves. Adults only live for a few weeks during the active season. Some may have several generations per year. Galls develop from chemical injected in plant tissue during the feeding that causes irregular growth of the affected cells.



Fig. 3. Rippled, curly leaf margin of *Nyssa*. Image by Steve Bambara.



Fig. 4. Mite containing galls. Image by Steve Bambara.

Maples also have an array of leaf galls caused by eriophyid mites, such as bladder galls (Fig. 5). For information on maple bladder galls, see the Ohio State University fact sheet on the web at <http://ohioline.osu.edu/hyg-fact/2000/2004.html>.



Fig. 5. Maple bladder galls. Image by Dave Shetlar.

Spiny Witch-Hazel Gall Aphids on Birch

Spiny witch-hazel gall aphids, *Hamamelistes spinosus*, cause bumpy ridges on the leaves of birch (Figs. 6 and 7). The overwintering eggs are laid on witch-hazel in June and July. These eggs hatch the following spring and the new aphid nymphs crawl to the flower buds to feed; if the plant does not have flower buds, these aphids die! Feeding on the flower buds induces the plant to form a spiny gall. A second generation of winged aphids develop inside the galls, then leave and fly to birch. These winged aphids give birth to a scale-like generation which settles and hibernates on birch until the following spring. As the buds break, the scale-like aphids feed on the leaves and induce the birch to form corrugated galls. Winged aphids that migrate back to witch-hazel or wingless aphids called accessory females develop inside these galls. The winged aphids, which migrate back to witch-hazel, give birth to a generation of wingless males and females. These wingless aphids mate, and the females lay eggs for overwintering. The special accessory females produce additional generations of winged aphids, which migrate to witch-hazel to give birth to males and females that lay eggs for overwintering. Thus, this aphid requires two full years to complete its cycle of life stages.

Pesticides could be applied at bud break in early spring to prevent gall formation. It is probably too late this year for major control. This must be done every year. This doesn't kill the tree and can add some interesting character to the leaves. Parts of the leaves usually turn brown and die by summer. A systemic soil drench might be effective for a desperate homeowner. It needs to be applied at, or before bud break. Appropriate sprays may be applied, the earlier the better, and to the undersides of leaves. If the tree is still small, pick off the affected leaves.



Fig. 6. Spiny witch-hazel aphid galls on birch leaves in the spring. Image by James R. Baker.



Fig. 7. Birch leaves in late summer that spiny witch hazel gall aphids had infested earlier. Image by James R. Baker.

Garden Millipedes

Garden millipedes (Fig. 8) feed on decaying organic matter and consequently do not harm living plants unless the soil is allowed to dry out to the point that the millipedes then feed on the roots to obtain moisture. Most people are interested in keeping them out of their house. We have heard from folks who sweep up peck basket quantities of millipedes from their drives and patios day after day. Apparently the millipedes build up in the yard and surrounding woods until the population is very large. Then the next time it rains, they emerge onto walks, patios, drives and

crawl into dwellings. *Residential, Structural and Community Pests Insect Note No. 18* (<http://www.ces.ncsu.edu/depts/ent/notes/Urban/millipedes.htm>) explains a little about the biology and control of millipedes. This note makes it sound like there is some hope of controlling millipedes short of moving to Arizona, but millipedes are difficult to control. Millipedes require a damp environment, and dry weather will drive them back into the mulch of surrounding woods. Arthropod populations vary greatly from year to year. We have finally had a wet spring in 2008, so they may have a prolific year. Think back about the drought of 2007 and appreciate the fact that you had very few. Make sure your vacuum cleaner is in good working order.



Fig. 8. Millipede. Image by Steve Bambara.

Let's Hear It For The Periodical Cicada!

We warned you. The Asheville area (Buncombe County) is reporting the beginning of the emergence of adult periodical cicadas, much to the distress of the unsuspecting homeowner. *Ornamentals and Turf Insect Note No. 17* contains additional information on cicadas (see <http://www.ces.ncsu.edu/depts/ent/notes/O&T/shrubs/note17/note17.html>). I suggest that County Extension agents read up on this topic for when the media contacts you.

Periodical cicadas don't bite and really don't do permanent damage to trees. However, you may want to net over any special small trees in your yard. If you have one of those dogs who will eat anything, be prepared for some retching. They don't hurt the dog, but those wings and exoskeletons don't go down without a fight!

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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