

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

ANNOUNCEMENTS AND GENERAL INFORMATION

U. S. Department of Agriculture Celebrates National Pollinator Week

“The U. S. Department of Agriculture (USDA) and the U.S. Senate have named June 24-30, 2007, National Pollinator Week in recognition of the importance of pollinator species to agriculture, forest and grassland environments and other ecosystems.

“Pollinator species, such as bees, birds and insects, are essential to produce much of our food supply; they pollinate 75 percent of all crops grown in the United States. Without pollination, most plants could not produce fruit nor set seed, and many foods we eat would no longer be available. Pollinators are worth \$20 billion annually in U.S. agricultural products and contribute to the economic well-being of agricultural producers.

“Pollination also plays a vital role in the health of our national forests and grasslands, which provide forage, fish and wildlife, timber, water, mineral resources and recreational opportunities, as well as enhanced economic development opportunities for communities. Additional pollinator species provide significant environmental benefits that are necessary to maintain healthy, biodiverse ecosystems.

“The USDA has a number of events scheduled during National Pollinator Week. The U.S. Postal Service will hold a 1st Day of Issue Ceremony for the new “Pollination” stamp series (Fig. 1), at the USDA Whitten Patio (1400 Independence Ave., S.W., Washington, DC) at 10 a.m. June 29, and will feature Agriculture Secretary Mike Johanns and Postmaster General John Potter.



Fig. 1. “Pollination” stamp series. Image from the Pollinator Partnership web site (<http://www.pollinator.org>).

“Various events are scheduled nationwide. Visit the Pollinator Partnership Web site at <http://www.pollinator.org> for a listing of events in your area.

“USDA is part of the Pollinator Partnership, a public-private partnership to increase pollinator awareness and promote pollinator-friendly practices.”

Source: USDA Cooperative State Research, Education, and Extension Service, News Release, June 21, 2007

National Pollinator Week Activities in North Carolina

National Pollinator Week activities that are occurring in North Carolina include the following:

Chatham County:

“The Chatham County Center of North Carolina Cooperative Extension and North Carolina State University invite you to join in the celebration of National Pollinator Week June 24-30 with an afternoon of educational programs on Wednesday, June 27 at Chatham Marketplace in Pittsboro.

“We have a full afternoon of educational programs scheduled for inside the store. Come learn about the fascinating world of pollinators, their role in our food system and ecosystem, and what you can do to help protect them.

“1:00 to 1:45 p.m. – Protect our Pollinators and Plant a Bee Garden (that looks great and provides forages for both honey bees and native bees!) – Presentation by Debbie Roos, North Carolina Cooperative Extension, Chatham County Center

“1:45 to 2:30 p.m. – Watch “bee TV” (observation hive), view exhibits, meet and mingle with North Carolina State University faculty and Chatham Beekeepers, and ask your burning questions.

“2:30 to 3:15 p.m. – How to Become a Backyard Beekeeper – Presentation by Dr. David Tarp, North Carolina State University Apiculture Specialist

“3:15 to 4:00 p.m. – Watch “bee TV” (observation hive), view exhibits, meet and mingle with North Carolina State University faculty and Chatham Beekeepers, and ask your burning questions.

“4:00 to 4:45 p.m. – Overview of North Carolina Pollinators – Presentation by Mr. Steve Bambara, North Carolina State University Entomology Specialist

“You will also be able to visit the produce section of Chatham Marketplace to learn which crops are pollinated by honey bees and what this means to North Carolina’s economy. And check out the special display of the many products of the hive available at Chatham Marketplace, including honey harvested by Chatham County Beekeepers! Debbie Roos, Chatham County Agricultural Extension Agent, will also debut her new website on “Gardening for the Bees.

“For more information on these events, contact Debbie Roos by electronic mail at debbie_roos@ncsu.edu or call the Chatham Marketplace at 919-542-2643. Visit their website at <http://www.chathammarketplace.com/> for directions and store information.”

Source: Debbie Roos, Agricultural Extension Agent, Organic and Sustainable Agriculture, Chatham County Center, Pittsboro, North Carolina

Orange County:

The above schedule of events (in Chatham County) will be repeated at the Weaver Street Market in Chapel Hill on Thursday, June 28.

Source: Steve Bambara, Extension Entomologist, North Carolina State University, Raleigh, North Carolina

Macon County:

"*Pollinator Day -- The Impact of the Individual*, will be held Saturday, June 16, from noon to 5 p.m., rain or shine at the Tasse Picnic Shelter, Little Tennessee River Greenway, Franklin, North Carolina. Activities will include public education exhibits, outdoor activities, lectures, and hands-on projects. For more information, visit <http://www.ncbartramtrail.org> or contact Ina Warren (wildwood3@citcom.net) of the North Carolina Bartram Trail Society Education Team.

Source: Pollinator Partnership web site (<http://www.pollinator.org>)

FIELD AND FORAGE CROPS

From: Jack S. Bachelier, Extension Entomologist

Cotton in North Carolina

Not much has changed in the past week, except perhaps that cotton is now “growing off” better in most of the state, particularly in areas that received good rainfall. In other areas, the quarter inch or so that dropped on some dry fields provided only about a two day reprieve. Fortunately, for the most part cotton is presently developing well.

Spider Mites and Cotton Aphids

Reports of spider mite and cotton aphid outbreaks have been surprisingly low so far, given the record amounts of Orthene and other organophosphates used for thrips in the past few weeks. One far eastern North Carolina cotton field managed by a knowledgeable consultant was treated four times for thrips, with 0.25, 0.5, 0.5, and 0.75 pounds of active ingredient of acephate. I wonder if that’s a state record of some kind. Virtually every cotton field in the state was treated with one or more foliar applications for thrips. These materials can greatly increase the potential for the development of “treatable” levels of both mites and aphids, so you want to watch for these pests. On the positive side, with the exception of a few scattered replanted cotton fields,

thrips treatments should now be behind us, as most cotton has deep tap roots and seems to be squaring nicely in most areas of the state.

Major Bollworm Moth Flight

The earliest I recall our major bollworm moth flight beginning in our state was July 8, near Rowland (not very far from the South Carolina border). July 10 to 20 is a more typical initiation period for these flights, however. We'll try to keep you up to date on the status of the flights as they progress up through our state. Some of these counts will be available on line in approximately one week. Last year's counts can be viewed at the *Cotton Insect Corner* web site at <http://ipm.ncsu.edu/cotton/insectcorner/blacklight/index.htm>. As a general rule: the hotter and drier the weather, the earlier and more intense the bollworm moth flight. We appear to be piling up significant degree days; therefore, an early flight is likely. Additionally, we have more corn than we have had in several years, which may also result in higher bollworm moth levels.

Stink Bugs on Cotton

By next week, we should have more information about how the stink bug situation may be stacking up. North Carolina State University Department of Entomology graduate student Eric Blinka is conducting extension sweepings for stink bugs and plant bugs on several crops and should be able to provide some information on how this year's collections may compare with the past three years. After low stink bug counts following the Easter freeze, some very high levels of brown stink bugs have been found more recently on wheat. We'll see if this translates into later damage to cotton. With stink bugs, we normally do not expect economic damage to bolls until around the second week of blooming.

From: Steve Koenning, Extension Plant Pathologist, and E. James Dunphy, Extension Crop Scientist

Current Status of Soybean Rust in the United States in Late June 2007

Currently, Asiatic soybean rust is found on kudzu in Florida, Louisiana, and Texas. Most sites are probably producing spores following tropical storm Barry. The only new sites are two soybean fields in the extreme south of Texas. The Texas find is significant in that this is the first report on soybean in 2007, though it is over a thousand miles from North Carolina. The weather following tropical storm has been favorable for local development of rust at the Florida and Louisiana kudzu sites, but most previously identified "active" sites are still negative in Florida. If South Georgia and Florida return to a typical summer pattern of frequent afternoon rain showers we can expect to see some northward movement of rust. Still, with longer day lengths, spore viability is likely to remain low so only local transport in Florida and Georgia is likely until the next tropical system moves northward. The season for rust may actually be extended this year if there is more rain south of North Carolina because of extensive late soybean planting in the Delta region. Also, much of the Alabama cotton crop was not planted due to drought, thus they may plant soybean on some of this land.

ORNAMENTALS AND TURF

From: Stephen B. Bambara, Extension Entomologist

Flower Thrips

The eastern flower thrips, *Frankliniella tritici*, feeds mainly on flowers (Fig. 2) and fortunately is not known to vector any virus. Because of their tiny size, flower thrips are carried over large areas by wind systems. Flower thrips are found throughout North Carolina with peak migration early to mid June. They have been found on dozens of hosts. Control of flower thrips is difficult because of constant migration from weeds, grass, flowers and trees. They are also known to make a mild, but noticeable "nip" to the skin.



Fig. 2. Thrips damage on rose.
Image by James R. Baker.

The first step in management is to eliminate as many weeds in the area as possible, or keep them mowed so they do not flower. To protect flowers, homeowners might use products such as neem or Mavrik. Pyrethrin insecticides might be used before blossoms open to protect pollinators. The commercial industry should rotate chemicals to reduce concern of resistance. They might use products such as Conserve, Pedestal, Azatin (or Ornazin) and BotaniGard. Monitoring for thrips with yellow sticky cards can also help detect populations as they are increasing, allowing controls to be started before substantial plant damage.

For more information on flower thrips, see *Ornamental and Turf Insect Note No. 21* at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/flowers/note21/note21.html>.

Sapsuckers

This season I've had several questions about unusual bark damage to small trees. In most cases, the yellow-bellied sapsucker has been the culprit. Damage is easily recognized when it is a series of well spaced holes in a line (Fig. 3). But with time and repeated visits, these birds may expand the holes into ever increasing rectangles (Fig. 4). The last three reports that I have received have been on holly (*Ilex*). For more information on the sapsucker, see the Forest Service publication on the web at http://www.na.fs.fed.us/spfo/pubs/howtos/ht_sap/sap.htm.



Fig. 3. Yellow-bellied sapsucker damage.
Image from M. E. Ostry and T. H. Nicholls.



Fig. 4. Yellow-bellied sapsucker damage.
Image from Stephen B. Bambara.

Citrus Whitefly on Gardenia

Perhaps the major pest of gardenia is citrus whitefly (Fig. 5). It is often not recognized if there are no adults flying about and the nymphs more closely resemble scale insects (Fig. 6). The first symptom is usually black sooty mold fungus on the shrub. The citrus whitefly is a tiny 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. 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* (<http://ipm.ncsu.edu/AG136/ncstate.html>). Horticultural oils should give good control of the citrus whitefly. Orthene is also effective and imidicloprid is helpful in some situations.



Fig. 5. Citrus whitefly adult.
Image by James R. Baker.

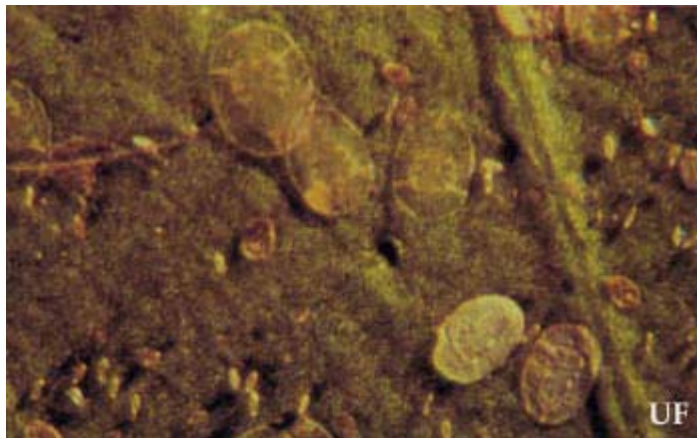


Fig. 6. Eggs and larvae of the citrus whitefly, *Dialeurodes citri* (Ashmead). Image from the University of Florida.

Iris Borers

Iris borer damage (Fig. 7) begins in the foliage and may be evident now. Most of the time, the damage is to rhizomes discovered when people dig them to transplant during the summer. The moths emerge in late summer to mate and lay eggs on the oldest, roughest, dead and bleached iris leaves or on plants nearby. The eggs hatch the following spring. The tiny caterpillars first feed on the new foliage and sometimes cause the margins of the leaves to be ragged. The holes caused by the young caterpillars bleed causing deposits of sap on the leaves. The caterpillars then mine in the leaves for a time before working downward toward the rhizomes. The caterpillars are about half grown by the time they reach the rhizome. There they feed on the edge or on the underside of the rhizome, sometimes boring inside. Often a single caterpillar may completely the insides of a rhizome before moving to another. The mature caterpillars are pale yellow/pink to pink in color with brown heads.



Fig. 7. Iris borer damage.
Image from Kansas State University Extension.

To control the iris borer, it is important to remove all old iris leaves and other plant rubbish from the beds in early spring before new growth emerges. If the borers are discovered later in the spring, it may be possible to crush the caterpillars with the thumb and finger inside the leaf. By holding the injured leaf so that the sun shines on the far side, the silhouette of the small caterpillar should be easily visible through the leaf. John Weidhaas at Virginia Tech University has determined that Sevin and malathion give good control of the iris borer when these pesticides are applied early while the caterpillars are feeding on the outside of the leaves. (It may be late for this, now.)

Dimethoate (Cygon) is no longer available except for what may still be on your shelf. Use it up. Orthene (acephate) is still available. Imidacloprid (Merit 75 WP) is a systemic and effective insecticide. Studies at the University of Maryland show that entomopathogenic nematodes, *Steinernema carpocapsae* and *Heterorhabditis bacteriophora*, were as effective as chemicals against iris borers when applied correctly. Applications were made after soil temperatures reached 50 degrees F. Enough water was applied (1 quart per square foot) to allow nematodes to move in the soil. It helps if the borers are still in the larval stage, which is the most susceptible to the nematodes.

Control measures include sanitation, early pesticide application, destruction of the insects in the mine, and systemic insecticide application.

Fireflies and Lightningbugs

Fireflies (Fig. 8) are not flies and lightningbugs are not bugs. For that matter, they aren't fire or lightning, either. They are, however, active now. Since we talked about slugs last week, it is a good time to mention these helpful beetles that produce light through the miracle of bioluminescence. Firefly larvae (Fig. 9) like to feed on slugs and snails and a few other soft-bodied night creatures. They are said to be able to track snails down by detecting their slime trail. Good habitat and conditions for slugs and snails may produce good habitat for lightningbugs. The best lightningbug areas tend to be near water sources and on the edges of wooded areas with good organic soils.



Fig. 8. Firefly adult. Image by Gerald J. Lenhard (<http://www.forestryimages.org/>).



Fig. 9. Firefly larvae. Image by Gerald J. Lenhard (<http://www.forestryimages.org/>).

These critters flash to find a mate, but not like college students at Mardi Gras. Some species will synchronize all their flashes, some flash at different rates and some flash at different periods during the night. There is even a beetle that flashes to trick and attract others in order to eat them. For more information about lightningbugs/fireflies and their habitat, visit the following website: <http://iris.biosci.ohio-state.edu/projects/FFiles/frfact.html>.

Summer Fall Webworm and Some Are Not

Fall webworm is most noticed in the fall, but there is a race of fall webworm that starts in the summer. Webs are now forming on trees such as sourwood and persimmon (Fig. 10). When detected early, the webs can easily be destroyed by a seven foot Pole or an NBA player from any country. Use a stick if you don't know any basketball players. There are *B.t.* and chemical alternatives, if necessary. The second race will be more evident to most people when they begin to hatch later in the summer.

For more information and treatment suggestions, see *Ornamental and Turf Insect Note No. 46* at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/note46/note46.html>.



Fig. 10. Persimmon tree with webs from fall webworms. Image by James R. Baker.

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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