

# 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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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](http://ipm.ncsu.edu/current_ipm/pest_news.html)

## **FIELD AND FORAGE CROPS**

From: Jack S. Bacheler, Extension Entomologist

### **Thrips on Cotton**

With much of North Carolina receiving significant rainfall this past weekend (June 26-27), our thrips situation and certainly our cotton crop is much better. Rainfall accumulation in most areas was in the 1 to 2-plus inch range. Over much of our state, migrating adult thrips levels have dropped off markedly. Additionally, cotton seedlings are now “growing off” rapidly, with far less thrips damage evident in the new terminal growth. All and all, however, this will likely go down as another rough thrips year for many North Carolina cotton producers, given the very dry weather and high thrips levels of the past few weeks.

Several additional thrips samples recently sent into the North Carolina State University Plant Disease and Insect Clinic have revealed that western flower thrips were part of the high thrips survival following foliar insecticides on scattered farms, thus helping to explain some of our control difficulties.

In the coming days, especially in younger cotton, be sure to check terminal buds for new growth. If the tiny new leaves look shiny and have less than 2 or 3 immature thrips on two to three leaf cotton, a foliar application is probably not needed if moisture levels are adequate. Also, five true leaf cotton with adequate moisture is probably safe from further economic damage from thrips. However, if this very hot present weather pattern continues without accompanying rainfall, thrips could still be a problem for cotton in the 1 to 3 true leaf stage.

### **Spider Mites on Cotton**

With some luck, the threat of spider mite buildup has probably also eased off some, but if the predicted upcoming 95-plus temperatures are accompanied by another bout of dry weather, spider mites still could become a problem and warrant watching. Our past multiple weeks of continuous dry weather may have set us up for subsequent mite problems. Spider mites can also sometimes build up under good moisture conditions. This would not be a pest to ignore.

### **Plant Bugs and Stink Bugs on Cotton**

It appears that stink bug levels, and perhaps plant bug populations, may be down this year. Based on the past few years’ data on the initiation of yield-reducing boll damage from stink bugs, we suggest initiating opening bolls for internal bug damage approximately two weeks into the bloom period.

## **Cotton Aphids**

So far, cotton aphids appear to be present at low levels. Remember though that cotton aphids can build quickly. Averaged over the past eight years, our producers have treated approximately 7 percent of our cotton acreage for cotton aphids.

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

### **Current Status of Soybean Rust in the United States in June 2007**

Currently Asiatic soybean rust is found on kudzu in Florida, Louisiana, Georgia, and Texas. Most sites are probably producing spores following tropical storm Barry. Although some models suggest that Barry may have deposited spores in Southeastern North Carolina, it is likely that because of the extremely dry weather in Florida and Georgia prior to Barry there were few if any spores to be transported. Also, extremely hot weather the first week of June would not be favorable for infection. 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 are likely until the next tropical system moves North.

### **Sentinel Plot System**

Sentinel plots have been planted in most locations, but soybean plants are still quite small. Reporting from sentinel plots will start soon.

### **Update on Fungicides for Asiatic Soybean Rust**

Stratego, Domark, Tilt, and Laredo have received full Section 3 registration for use on soybeans. Several more products have received Section 18 registrations for selected states and Section 18 registrations for these are pending for North Carolina.

### **Soybean Rust in South America: Focus on 2005-2007 Growing Seasons**

Soybean rust was first observed in South America in 2001 in Paraguay. Since 2001 it has been found in Brazil, Bolivia, Argentina, Columbia, and Uruguay. By 2004, most soybean acreage in Brazil received multiples applications of fungicides. This past year the number of fungicide applications for soybean in South America ranged from less than one in Argentina to as many as five in parts of Brazil and Bolivia. Rust was relatively light in many areas of Brazil in 2005-2006 because of drought, whereas other areas with abundant rainfall saw severe pressure from rust. In parts of Brazil and Argentina, fungicide applications started two to three weeks before flowering. Rust was widespread in Argentina in 2004-2005, but yield loss from rust was considered minimal, and Argentina had record soybean yields. Argentina was expecting severe rust in 2005-2006, because of a mild winter that resulted in large amounts of volunteer soybeans that were infected with rust. Soybean rust, however, did not develop as anticipated in Argentina, even in the northern states of Entre Rios and Misiones. There were periods of drought in southern

Argentina that may have impeded development of rust there, but more than adequate rainfall occurred in northern areas. Some crop professionals suggest that variation in day/night temperature south of Brazil impede rust development. The crop consultants in Argentina take a more conservative view on management of soybean rust. In general, their recommendation is to wait until rust is found before making fungicide applications.

Although some early reports indicated that rust was less severe in Brazil in 2006-2007 because of a “bean free time period”, many did not follow this rule and volunteer soybeans is a big problem in Brazil. In some areas the “early crop” escaped rust, but some growers in Paraguay and western Brazil had to spray fungicides four to five times to control rust.

## ORNAMENTALS AND TURF

From: Stephen B. Bambara, Extension Entomologist

### Water Garden Caterpillars: Waterlily Leafcutter and China Mark Moth

Water gardens have become more common and the aquatic plants used in them are susceptible to damage from caterpillars. The waterlily leafcutter, *Synclita obliteralis*, feeds on waterlilies, water lettuce, floating lotus leaves and plants with leaves that touch the water. In spring, the moth (Fig. 1) lays eggs near the edges of submersed foliage. As the larvae grow during the spring and summer, oval and semicircular pieces of leaf tissue are cut out. The small caterpillars remain between a folded, rounded leaf piece, which forms a case. As they mature, larvae (Fig. 2) abandon smaller cases, feed on foliage briefly and then migrate to the underside of the waterlily leaf and pupate in cases attached to leaves above or below the surface. After emerging from the cocoon, the adult crawls back to the leaf surface to continue life as a moth.



Fig. 1. Waterlily leafcutter moth. Image from USDA ARS (<http://www.bugwood.org>).



Fig. 2. Waterlily leafcutter caterpillar. Image from USDA-ARS (<http://www.bugwood.org>)

The China Mark Moth, *Nymphuliella daeckalis*, is closely related to the waterlily leaf cutter. Larvae eat margins and holes in leaves and produce cocoon shelters, resembling little tacos made of cut leaf pieces joined by silk, where they hide. They sometimes bore in stems. During late summer, egg clusters may be found on the undersides of leaves near the edges or in a circle around leaf holes. For more information on these water garden pests, see *Maryland Cooperative Extension Fact Sheet 818* at <http://www.agnr.umd.edu/MCE/Publications/PDFs/FS818.pdf>.

### Japanese Beetle Reminder

Some of you are already seeing Japanese beetles (Figs. 3 and 4) in the landscape. As a reminder, they feed on **MANY** different plants, but can completely skeletonize the leaves of their favorite hosts such as roses (and anything related), crape myrtle and hydrangea. Foliar treatment consists of Sevin insecticide, which gives five to seven good days of control (if it doesn't rain). One of the labeled landscape pesticides containing a pyrethroid will also be effective and give 10 to 14 days control. Neem seems to work a little. Soil grub control is neither effective nor recommended. Traps are not a means of control. For more information, see *Ornamental and Turf Insect Note No. 44* on the web at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/flowers/note44/note44.html>. For cultural control suggestions, see the June 18, 1999 issue of the *North Carolina Pest News* at [http://ipm.ncsu.edu/current\\_ipm/99PestNews/99News9/ornament.html](http://ipm.ncsu.edu/current_ipm/99PestNews/99News9/ornament.html).



Fig. 3. Japanese beetle adult. Image by James R. Baker.



Fig. 4. Japanese beetles on a rose. Image by James R. Baker.

### Leyland Cypress Information Note

Leyland cypress has been good for our field faculty's job security. This is just a reminder about two notes of interest on the subject. One is a list of common arthropod pests found on Leyland cypress and the other is *Six Diseases of Leyland Cypress* by Dr. Colleen Warfield. These can be helpful diagnostic tools and handouts at meetings. They may be found on the web at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/specificplants/index.html>.

## **RESIDENCES, STRUCTURES AND COMMUNITIES**

From: Mike Waldvogel and Charles Apperson, Extension Entomologists

### **Ticks and Tick-borne Diseases**

It's summer, it's hot, and it's North Carolina. That means ticks are abundant in many areas and there is an equally abundant concern about tick-borne illnesses. In North Carolina, we had more the 466 confirmed cases of Rocky Mountain Spotted Fever and at least 14 confirmed cases of Lyme Disease (these statistics include January to October of 2006).

What we also know is that there are no magic fixes to tick problems, but there are measures (both chemical and non-chemical) that people can use to reduce tick infestations around their property and to protect themselves and their family.

### **Pets**

Pets that spend all or part of their time outdoors need to be protected for their own safety and also so that they don't serve as a local reservoir for ticks. There are already enough **POTENTIAL** sources out there with deer, rodents, and other wild mammals including feral cats and dogs, plus ground-nesting birds. You can treat kennels/pens and other yard areas but please exercise extreme caution about allowing the animals (or your kids) into treated areas before the surfaces dry (or before any time interval specified on the pesticide label). As dry as conditions have been lately throughout much of the state, coverage becomes even more important. In these situations, outdoor treatments are probably best done using a garden hose sprayer. Consult the *North Carolina Agricultural Chemicals Manual* (<http://ipm.ncsu.edu/agchem/5-24.pdf>) **AND** your veterinarian for information about products suitable for area and specific pet treatments.

### **Habitat Modification**

Ticks will be more abundant in areas frequented by wild animals. These areas are typically overgrown and weedy or covered with leaf litter and particularly during those hot summer months - they're often well-shaded places where the animal rests. Try to keep the ground cover in these areas trimmed back as much as possible. Keep leaf litter and other debris out from under and around picnic tables.

### **Personal Protection**

Whenever possible, avoid likely tick-inhabited areas (i.e., those tall weedy areas we mentioned previously)

Apply repellents to your clothing, particularly shoes, socks and pants. If you're wearing shorts you can also spray your ankles and calves. Be careful about using (or overusing) repellents on small children. We have information about repellents at:

<http://insects.ncsu.edu/Urban/repellents.htm>

If you wear long pants while working or hiking outdoors (not many people hike indoors), tuck the pants' legs into your socks.

When your kids come inside from playing outdoors check them over carefully for ticks. Likewise, if you've spent time working in your garden or taking a hike, spend some additional valuable time checking yourself thoroughly for any hitchhiking ticks. You can also have someone else check you over carefully.

### **If You Find a Tick on Yourself, Child or Pet**

Remove the tick carefully by grasping it firmly with tweezers or with a tissue (not with your bare fingers). Pull until it dislodges. This is generally considered to be the best method to tick removal as opposed to using lit matches, oil (motor or mineral), detergent or some other chemical to try to dislodge the tick.

Wash the bite area with soap and water and then apply an antiseptic such as alcohol.

Record the date of the tick bite on a calendar. Then, watch for any symptoms within the next 10 to 14 days and contact your doctor if necessary.

Tick-borne disease symptoms are described in *Residential, Structural and Community Pests Insect Note AG-426* on the web at <http://insects.ncsu.edu/Urban/ticks.htm>.

### **Test Your Tick?**

One of the questions frequently asked is whether there are labs that can test ticks for the pathogens that cause Lyme Disease, Rocky Mountain Spotted Fever, Ehrlichiosis, etc.

The following web page at the Rhode Island Department of Health lists **PRIVATE** labs that will perform fee-based tests for the Lyme Disease pathogen only:

<http://www.health.ri.gov/disease/communicable/lyme/ticktesting.php>

There is at least one lab that will perform tests for several tick-borne disease pathogens. It can be found on the web at <http://www.igenex.com/ticktest.pdf>.

We're not saying these are the only labs performing these tests. These are simply labs that we've found information about. Also, we are not endorsing the services provided by any of these companies or others that may provide tick testing services.

Anyone interested in this information must read the specific instructions given by the labs about the testing procedures. Some of the labs may perform tests only on particular tick species which goes back to the basic point of why identifying the tick is important (and that's where you can help provide valuable assistance to your clients).

Now... all of that said, there are some important facts to pass along to your clients before they rush to spend \$60 to \$100 for these tick tests.

Note the disclaimer posted at the bottom of Rhode Island website. It's important to bear in mind that the results of these tests are **NOT** a diagnosis of tick-borne illness in the person who **MAY** have been bitten by the suspect tick. In other words, just because the tick tests positive for a pathogen or even multiple organisms, it does not mean that they transmitted the organisms while

feeding (assuming that the tick had indeed fed before it was discovered). Typically, pathogen transmission requires 6 to 36 hours of feeding by the tick (depending on tick species and the particular pathogen). The results of such tests may alert the person's doctor to specific tick-borne diseases, the symptoms to watch for and the potential health risks to that patient. In some cases, this may be helpful by reducing unnecessary prescription of preventive antibiotic treatments. **BUT**, we need to emphasize to people that common sense and the tick-prevention steps outlined above are far more important of as priorities than relying on some analytical test to determine if a tick might be carrying disease organisms.

You can find additional information about ticks and tick-borne diseases at the following sites (which also have additional links):

<http://insects.ncsu.edu/Urban/ticks.htm>

<http://www.deh.enr.state.nc.us/phpm/index.htm>

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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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