

North Carolina Pest News

Departments of Entomology and Plant Pathology



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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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See current and archived issues of the *North Carolina Pest News* on the Internet at: http://ipm.ncsu.edu/current_ipm/pest_news.html

FIELD AND FORAGE CROPS

From: Jack Bacheler, Extension Entomologist

Goodbye to Thrips on Cotton

Our recent extended period of adequate to excessive moisture levels, continued plant cotton development and lower migrating thrips levels have probably pushed thrips out of the picture for all but a very few cotton producers. With most possible cotton insect pest problems other than thrips still on the horizon, maybe we can take a stab at what to expect in the coming weeks or months.

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Rise in 2012 Plant Bug Levels on Cotton?

As mentioned last week, we sure have an abundance of moisture-enhanced plant bug host material out there as many weed and even cultivated plants qualify as hosts for this pest. It will be interesting to see if a possible rapid host dry-down in the coming weeks leaves cotton plants as a nice go-to host this growing season. Most producers, consultants and scouts in both the Southeast and the Midsouth have confidence in the 80% or greater upper young square retention guideline as an indication that cotton plants are safe from plant bug damage for the next 5 to 7 days, and that for cases of less than 80% retention, sweep net sampling is needed to detect the presence of damaging levels of plant bugs. Recognizing downward trends in square retention from one week to the next can also help in anticipating upcoming plant bug issues. An 8 or more plant bug level per 100 sweeps is often used as treatment threshold in the Southeast in cases of low square retention. We'll talk more about sampling for plant bugs after bloom initiation with ground cloths in the coming weeks. The key with much of our insect management advice is to get out and look at cotton fields regularly and to use suggested thresholds for treatment decisions.

Brown Stink Bug Levels High

We appear to have huge populations of brown stink bugs in the state so far this year, with many recently coming off of mature and even harvested wheat, weed hosts and other plants. In the case of field corn, some infestations in the zone of newly-developing corn ears already appear to be significant. In the case of cotton, about all we can say is that we have the potential for very high levels at this point. On the plus side, we typically do not find significant stink bug damage to bolls until after about the second week of bloom. If the weather turns dry between now and the first or second week of bloom and negatively impacts cotton growth, potential damage to cotton bolls could drop significantly. However, at this point, 2012 reminds me of our "Year of the Stink Bug in North Carolina" (2004) when we averaged just under 15% boll damage from stink bugs averaged across the state, as opposed to our longer term average of 3 to 4% boll damage under grower conditions. Remember, however, that percent damaged boll figures for stink bugs do not equate to as high a per-boll penalty as with bollworms. Unlike bollworms which more often than not damage the whole boll, stink bugs damage a variable number of boll locks, ranging from complete boll damage to no boll damage. We'll have more advice about managing stink bugs in the coming weeks as the season unfolds.

Cotton Aphids on Cotton

In North Carolina, we also often seem to have more reports of cotton aphid infestations during wetter weather. However, in tests conducted here and elsewhere in the Southeast, we have very few cases of yield losses resulting from cotton aphid infestations if adequate or excessive moisture levels exist. Yield losses from cotton aphids primarily result from large populations throughout fields that then become economic infestations when cotton dries down quickly and the subsequent moisture stress adds to the similar stress caused by aphid feeding. More often than not here, aphid mummy parasitoids and a parasitic fungus come to the rescue.

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

Soybean Rust Update: June 13, 2012

It was announced earlier today that Asiatic soybean rust was detected on soybean in a sentinel plot in Leon County, Florida (near Tallahassee). This is the second confirmation of rust on soybeans in the continental U.S. this year, and the nearest one to North Carolina. This location is approximately 390 miles from Charlotte, 615 miles from Elizabeth City, 445 miles from Fayetteville, 325 miles from Murphy, 495 miles from Raleigh, 545 miles from Washington, 455 miles from Wilmington, and 455 miles from Winston-Salem, North Carolina.

If soybeans are more than 100 miles from a confirmed site of rust on soybeans, we would not recommend spraying a fungicide to control rust. If soybeans are within 100 miles of a confirmed site of rust on soybeans, we would not recommend spraying if the soybean plants have full sized beans in some of the pods at the top of the plants (stage R6), but would recommend spraying if none of the soybeans in the top of the plant are yet filling the pod cavity (stage R5).

Spraying a fungicide to prevent Asiatic soybean rust from developing on soybeans before the soybeans are blooming will probably require repeated applications for season-long prevention. Be sure to check the label of the fungicide you are using to see how many times it can be used on soybeans in a season.

The current status of soybean rust in the U.S. can be found at <http://sbr.ipmPIPE.org/cgi-bin/sbr/public.cgi>.

From: Steve Koenning, Extension Plant Pathologist, and Ron Heiniger, Extension Corn Specialist, Crop Science

Corn Rust Alert: June 13, 2012

It was announced earlier today that Southern corn rust is wide spread in the Coastal Plain of Georgia at this time. This is very early in the year for an outbreak.

Spraying a fungicide to prevent Southern rust may be a little premature at this time, but consider the amount of acreage you may have to cover. You may need to start early to be timely. Please consult the *North Carolina Agricultural Chemicals Manual* for rates and fungicides. We have a good crop at this point that needs to be protected from Southern rust. So at the very least check your equipment and be prepared to make a fungicide application.

The current status of Southern rust in the U.S. can be found at <http://sbr.ipmPIPE.org/cgi-bin/sbr/public.cgi>.

FRUIT AND VEGETABLES

From: Lee Davis, Pesticide Registration Manager, North Carolina Department of Agriculture & Consumer Services

Manzate Pro-Stick Fungicide

Please find attached to this newsletter labeling and the U.S. Environment Protection Agency notification letter regarding a new Special Local Need registration that allows for a 3-day PHI when Manzate Pro-Stick Fungicide is used on potatoes. Treated potatoes can now be harvested according to a 3-day PHI. Like all Special Local Need labeling, applicators must have it on hand during applications.

ORNAMENTALS AND TURF

From: Steve Frank, Extension Entomologist

Time to Target Bagworms

Bagworms have hatched and are still quite small. They can be difficult to find although they have constructed tiny bags that can be seen on leaves and needles of infested plants. It is easier to look for the large bags left from last year's bagworm adults. These will be empty but are a good indication that small bagworms are likely roaming a plant. This is because female bagworms are flightless and overwinter and lay eggs in their bags on trees and shrubs. Thus baby bagworms hatch and grow up on the same plant as their mother was on the previous year.



Small bagworm on cherry laurel. Photo: Steve Frank.

Early in the year the before eggs hatch bags can be hand-picked from bushes with light infestations. Now caterpillars are still small and have not yet eaten much of your plant. Damage increases dramatically as caterpillars grow and they will easily defoliate branches. Small caterpillars are also much easier to kill than large ones. This is because they have less body mass to dilute toxins and their

protective bags are not as thick. Therefore less toxic chemicals such as *Bt* formulations can be very effective when targeting small caterpillars. Other chemical options that are considered compatible with natural enemies are Acelepryn, TriStar, and spinosad. More information can be found at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/ort081e/ort081e.htm>.

From: Adam Dale, Department of Entomology, and Steve Frank, Extension Entomologist

Maple Spider Mites Active on Nursery and Street Trees

Maple spider mites (*Oligonychus aceris*) are common and damaging pests of maple trees throughout the Eastern United States. These spider mites overwinter on the trunk and branches of maple trees and migrate to the underside of leaves in the spring. Once there, they use their mouthparts to tear into leaf tissue and feed on cell sap, causing fine flecking or browning of the leaf. Maple spider mites have multiple generations per year which enables them to become quite abundant during a single season. These pests are a more serious problem in nurseries due to the close proximity of potted trees and applications of broad spectrum insecticides like permethrin. Studies have shown that over-application of permethrin can wipe out natural enemies and result in secondary maple spider mite outbreaks. However, they are still an issue on landscape trees around Raleigh. The first red maple that I sampled from in Cameron Village had a severe abundance of maple spider mites and the effects were obvious. The use of a hand lens or stereo microscope is necessary for correct identification of these mites but damage is a good indicator of infestation. They are dark brown or red with hairs along their backs and have eight legs while some immature forms exhibit green coloration and have six legs. Red eggs of these mites can be found on tree limbs and yellow or clear eggs can be found on leaf surfaces. Treatment for these pests includes foliar applications of acaricides. It has been observed that maple spider mites are more successful on trees in warmer temperatures. We are currently researching the effects that elevated temperatures have on maple spider mite biology and their natural enemies to uncover the mechanisms that are behind this. For more information on general spider mite management, please visit <http://www.ces.ncsu.edu/depts/ent/notes/O&T/flowers/note25/note25.html>.



Adult maple spider mite. Photo: Adam Dale.



Maple spider mite damage on 'Autumn Blaze' maple. Photo: Steve Frank.

Debris-carrying Green Lacewing Larvae are Active and Everywhere!

Green lacewing larvae are common predators of several soft-bodied pest arthropods across the United States. Their prey includes but is not limited to: scale insects, spider mites, aphids, thrips, and eggs of pest insects. They are useful in biological control because of their generalist and voracious feeding habits. Lacewing larvae are often compared to alligators due to their elongate, slender body shape and are typically yellow and brown in color with six legs. These larvae have large pincer mouthparts that they use to penetrate bodies of prey, paralyze them, and literally suck out their insides. They use these mouthparts to devour several hundred prey per week. Lacewings are known to be cannibalistic if they cannot find any other food source. This is one reason that they deposit their eggs individually on long hairs that suspend them above the leaf surface out of reach. These eggs are common and can be easily found on leaf surfaces.

Some but not all green lacewing larvae develop a camouflage cover which hides them from predation by other insects. These are called debris-carrying lacewing larvae because they pick up plant tissue debris and other insect debris and attach it to their back. This camouflage makes them difficult to recognize by natural enemies and the inexperienced human eye. Often times they will appear to be a cluster of tree lichen until you notice small legs underneath or it start to move. They can currently be found on most plants just by scanning leaf surfaces. I have seen several recently without looking for them. These insects remain larvae for two to four weeks at which point they develop into winged green lacewing adults. Adult lacewings are not predators and primarily feed on plant nectar. The adults are commonly attracted to lights at night and can often be found around your home.



Debris carrying lacewing larvae covered in tree lichen. Photo: Steve Frank.

From: Kelly Ivors, Extension Plant Pathologist

Impatiens Downy Mildew Detected in Multiple Landscape Locations in North Carolina

Downy mildew of impatiens is caused by the 'fungus-like' organism *Plasmopara obducens*. The group of organisms that cause downy mildew diseases are not true fungi - they are more closely related to the

well-known plant pathogens *Phytophthora* and *Pythium* than they are to true fungi. This is an important distinction to understand because many of the traditional fungicides used to control fungal diseases of plants do not have efficacy against the downy mildews. All types of propagated *Impatiens walleriana*, including double impatiens and mini-impatiens, and any *I. walleriana* interspecific hybrids, such as Fusion® impatiens, are susceptible to downy mildew; however, all New Guinea impatiens (*I. hawkeri*) and interspecific hybrids such as SunPatiens® are tolerant to downy mildew. No other bedding plants are known hosts of this particular downy mildew, although there are a few other downy mildew species that attack other floriculture plants like coleus and basil.

What does downy mildew look like?

A really good resource about identifying the disease, as well as disease control information, can be found at http://e-gro.org/pdf/Bulletin_1-8_Impatiens_Downy_Mildew.pdf.

In addition, a webinar presented by Dr. Colleen Warfield of Ball Horticultural Inc. can be found at http://go.ncsu.edu/impatiens_downy_mildew_webinar.

See below pictures of plants with downy mildew from the landscape in North Carolina.



Downy mildew. Photo: Kelly Ivors.



Downy mildew. Photo: Kelly Ivors.

Downy mildew likes cool, wet/humid environmental conditions. The current conditions we've experienced recently across the state of North Carolina are conducive for this disease. The important thing to remember is that downy mildew is spread by wind currents, water splash or by the movement of infected plants. We know that the disease is now in our area and that the spores of the pathogen have the ability to spread long distances in air currents. Be on the look-out for it! So far it has been confirmed in both the western and Piedmont areas of North Carolina.

Fungicide treatments are not recommended for plants in the landscape; instead, all infected impatiens should be pulled from the landscape and destroyed. Fungicides are not always 100% effective at eliminating the disease. Allowing infected plants to remain in the landscape may allow the pathogen to overwinter as resting structures (called oospores), which can start a new epidemic later in the year or in

following years if impatiens are replanted in the area. New Guinea impatiens, coleus, begonia, or other available bedding plants are safe to reset in the affected area.

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.



Special Local Need

MANZATE® PRO-STICK™ FUNGICIDE

EPA Reg. No. 70506-234

EPA SLN No. NC-120009

EPA Sec. 24(c) SPECIAL LOCAL NEED LABEL FOR DISTRIBUTION AND USE ONLY IN THE STATE OF NORTH CAROLINA

FOR CONTROL OF LATE BLIGHT ON POTATOES

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. This label and the federally approved label must be in the possession of the user at the time of pesticide application.

Read and follow all applicable directions, restrictions and precautions on the EPA-registered label.

DISEASE	RATE MANZATE PRO-STICK	INSTRUCTIONS	PRECAUTIONS
Late Blight	1-2 lbs/A	Begin applications when plants are 4 to 6 inches high by applying 1 lb per acre. As the vines increase in size, apply 1.5 to 2 lbs per acre at intervals of 5 to 10 days or 1 lb per acre at 3 to 5 day intervals.	Do not apply more than 15 lbs (11.2 lbs active) per acre per crop. Do not use within 3 days of harvest. Vine-kill should occur 14 days before harvest. It is recommended that this product be used in an Integrated Pest Management Program.

This label expires and must not be distributed or used in accordance with this SLN registration after June 15, 2017.

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Steve Troxler
Commissioner

North Carolina Department of Agriculture
and Consumer Services
Structural Pest Control and Pesticides Division

James W. Burnette, Jr.
Director

June 15, 2012

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To Whom It May Concern:

Please find enclosed one Special Local Need application and labeling supporting a shorter Pre-harvest Interval when Manzate Pro-Stick Fungicide (EPA Reg.# 70506-234) is used on potatoes. The SLN number for this registration is NC-120009. The registrant, United Phosphorus, fully supports this SLN registration.

The current Section 3 label for Manzate Pro-Stick provides for a 3-day PHI when used on potatoes in CT, DE, FL, MA, ME, MI, NH, NY, OH, PA, RI, VT, and WI. A 14-day PHI is required everywhere else. This SLN registration allows a 3-day PHI in North Carolina. According to Tom Campbell (NC Agricultural Extension Agent) and Dr. Frank Louws (Professor of Plant Pathology, NCSU) the cool, rainy weather we experienced in May has accelerated the spread of late blight. In fact, late blight has developed a full month earlier than ever recorded in North Carolina. To preserve both yield and quality, growers have to apply fungicides every 4 to 7 days. Having to stop treatments 14 days prior to harvest allows more than enough time for the pathogen to colonize the stems and enter the tubers causing rot in the field, during transit, or while in storage. Infected tubers that arrive at the processor can be rejected, resulting in significant loss.

Study data supplied by United Phosphorus seem to indicate that mancozeb residues remain well below the 1.0 ppm tolerance level when a 3-day PHI is observed. This is not surprising since a 3-day PHI is already allowed in several states. In fact, study data show that residues remain below the tolerance level even when the product is applied at 5 times the labeled rate and harvested according to a 3-day PHI.

We believe that by granting this SLN registration, North Carolina potato growers are provided a much needed tool that will help them manage late blight in their potato fields. Should you require any additional information or if you have questions, feel free to contact me at 919-733-3556 or by email at, lee.davis@ncagr.gov.

Sincerely,

Lee Davis
Pesticide Registration Manager

cc: Jim Burnette, Division Director, Structural Pest Control and Pesticides Division, NCDA&CS
Pat Jones, Deputy Director of Pesticide Programs, NCDA&CS
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NC-120009 SLN file

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