

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

ANNOUNCEMENTS AND GENERAL INFORMATION

From: Tom Creswell, Extension Plant Pathologist

Televised Plant Clinics and Horticulture Training

As in previous years, the North Carolina State University Plant Disease and Insect Clinic and the departments of Plant Pathology, Entomology and Horticultural Science will sponsor televised training for horticulture agents and Master Gardeners. The two-hour shows will be broadcast live from 10 a.m. to 12 noon over the NCREN system (<http://www.mcnc.org/ncren/videocontact/>) to more than 15 remote sites, including Brunswick Community College (Leland), CMAST, Coastal Carolina Community College, College of the Abermarle (Dare County campus), Duke University, Elizabeth City State University, East Carolina University Medical, Fayetteville Tech Community College, Haywood Community College, Hickory Higher Education Center, Johnston Community College, NC A&T State University, Rowan-Cabarrus Community College (Cabarrus Business and Technology Center located in Concord), UNC-Ashville, UNC-Charlotte, UNC-Pembroke, UNC-Wilmington, and Winston Salem State University.

We will have segments on diseases, insects and horticulture and will showcase the extension and research programs of four specialists each month. The dates and focus areas are: May 8 (Flowers); June 12 (Trees); July 10 (Turf); and August 14 (Vegetables). The broadcasts will originate from 331 Daniels Hall, 111 Lampe Drive, on the campus of North Carolina State University in Raleigh (http://www.ncsu.edu/campus_map/building-index.htm). The target audience will be Extension horticulture agents and Master Gardeners across the state.

For more information, contact Tom Creswell (Tom_Creswell@ncsu.edu), Department of Plant Pathology, and Lucy Bradley (Lucy_Bradley@ncsu.edu), Department of Horticultural Science.

FIELD AND FORAGE CROPS

From: Jack S. Bacheler, Extension Entomologist

Thrips on Cotton

It's probably no secret that thrips will be our primary pest of concern for the next 6 weeks or so. Let's keep our fingers crossed that 2007 will present better "grow-off" conditions than the past two rough years of 2005 and 2006.

For producers using a seed treatment, and now includes Cruiser, Gaucho Grande, Avicta and Aeriis, remember that these products are only active for 3 weeks after planting, period. With these products, therefore, plan on a foliar insecticide application within three weeks of planting or at the first true leaf stage, whichever come first. If this spray can not be made by the second or third true leaf stage of cotton (which may be tempting with Roundup Ready Flex cotton), you would have been better off using Temik. With our traditional heavy thrips pressure, do not expect the nematode-active seed treatments Avicta or Aeriis to last longer than Cruiser or Aeriis.

One potential drawback to the seed treatments with a foliar spray compared to Temik 15G alone is the greater probability of cotton aphid and/or spider mite problems following the seed treatments. Although we spray approximately 12 percent of our cotton acreage for cotton aphids and only around 1 to 3 percent for spider mites in an average year, these pests can be expensive for the producers who contend with economic levels.

Temik 15G at the recommended application rate of 5.0 pound of product per acre is not immune from thrips damage either, especially under hot dry conditions of poor uptake or during prolonged cool conditions of extended seedling vulnerability to thrips damage. However, with good moisture and warm temperatures, the 4 to 5 weeks of thrips control with this product can get the seedlings either into the thrips-safe 5 leaf stage, or sometime into a period of greatly reduced migrating adult thrips levels. Unlike with the seed treatments, foliar sprays following Temik should be based on crinkled new leaves and the finding of 1 to 2 immature wingless thrips per seedling. Temik also somewhat reduced levels of difficult to control western flower thrips compared with a seed treatment in our project's 2006 replicated tests at Rocky Mount.

In the coming weeks, I'll try to size up the thrips situation as it unfolds.

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

Wheat Insect Situation

Wheat is beginning to look good again following the freeze last month. We have been surveying wheat fields since before the freeze for brown stink bugs. Current indications are that brown stink bug numbers are down in areas where they were very high last year. This is the good news. The bad news (maybe) is that we are catching armyworms in our sweeps whereas we did not catch this insect the last two seasons. And this is in day-time catches, when armyworm is nocturnal. To me, this indicates that armyworm may be a problem in 2007 and growers need to be aware of this potential in their wheat field. It has been a while since we have had a bad armyworm year and growers may not remember the scouting technique or thresholds. Accordingly, I have included the recommended scouting procedure and threshold information below. Regarding insecticide use, it is discouraged unless above threshold. For armyworms, most recommended insecticides will do a good job. The pyrethroid insecticides (Warrior, Mustang Max, and Fury) are particularly effective and cost effective. For other options, see the North Carolina Agricultural Chemicals Manual.

Cereal leaf beetles can be found in most wheat fields but numbers are typically below threshold. It is now late to be making decisions on cereal leaf beetles, but if nothing has been done growers should determine if they have a problem. If cereal leaf beetles are high at this time the larger larvae will be easily seen and the dark colored covering on the larvae will stain ones pants when walking through the wheat (if one exits a field and your pants and boots are dirty, an economic infestation is likely). If numbers are high (e.g., one larva per 2 plants or so), they can cause a large measure of defoliation and yield loss of up to about 30 percent when defoliation is complete. The same insecticides mentioned for armyworm management will do well on cereal leaf beetles.

Armyworms

Armyworms infest small grains, usually wheat, from late April to mid-May, and can cause serious defoliation of the flag leaf and head-drop. This insect fluctuates greatly in abundance from year to year and among different areas of North Carolina. Typically, the northeastern counties of the state experience the most consistent armyworm problems.

Young armyworms are pale green or brown in color and loop as they crawl. When they become larger (1 to 1-1/2 inch), they are a greenish-brown color with pale white and orange longitudinal stripes. The head is honeycombed with faint dark lines. The armyworm is the only caterpillar found in small grains in large numbers. Armyworm caterpillars are active at night and hide under old corn stalks or other plant litter and at the base of wheat plants during daylight hours. After dark they feed on foliage, beginning from the bottom of the plant and eventually reaching the flag leaf. Large populations of big caterpillars may cause serious defoliation of the plants in a short time. In addition, large caterpillars may also feed on the stem just below the head. This stem feeding can sometimes lead to substantial head drop, usually after defoliation or death of the foliage.

Infestations of armyworms are not easily detected by casual observation since the caterpillars hide during the day. Fortunately, several signs of armyworm infestation can be monitored. Black birds (grackles and red-winged black birds) commonly search for armyworms in small grain. Any field that has significant bird activity should be scouted. Armyworm feeding damage and caterpillar droppings can also be good indicators. Feeding is sometimes inconspicuous since small caterpillars do not eat much and feeding signs are low on the plant. When caterpillar populations are large, droppings are more easily seen but should not be confused with the seeds of certain weeds (e.g., chickweed seed).

Scouting Procedure for Armyworms

Scout fields weekly beginning in May. Counts need not be made until caterpillars are about 3/8 inch long. Thus, when scouting early, note the general size and level of this insect. Once caterpillars are 3/8 inch or larger, take at least five samples in fields smaller than 20 acres and 10 samples in fields larger than 20 acres. For each sample, examine three square feet of area (one strip three feet long containing two drill rows). Look for caterpillars in litter around the base of plants and under old crop residue.

Economic Threshold for Armyworms

If the average number of armyworms exceeds three larvae (3/8 inch or larger) per stop (three square feet), then treatment should be considered.

From: Rick L. Brandenburg, Extension Entomologist

Thrips and Tomato Spotted Wilt Virus in Peanuts

Planting date and plant emergence have a big impact on the likelihood of tomato spotted wilt virus in peanuts. The earliest planted crop is typically at greatest risk and needs a little extra attention for keeping the risk minimized. Refer to the tomato spotted wilt virus risk index in

Extension Publication AG-638, *Managing Tomato Spotted Wilt Virus in Peanuts in North Carolina and Virginia* (http://www.cropsci.ncsu.edu/PDF_Files/ag-638factsheet.pdf) for more information. Later planted peanuts are usually at lower risk and this gives you a little more flexibility in your production schemes. Early indications are that thrips populations are higher than we have seen in the past few years so this **MIGHT** indicate that tomato spotted wilt virus will be a little bit more abundant this year.

ORNAMENTALS AND TURF

From: Stephen B. Bambara, Extension Entomologist

May Beetles Tapping at the Window Pane

May beetles are expected soon. They are often first noticed at outdoor lights. These scarab beetles are among the group called white grubs (in larval form) or Phyllophaga species. Scarabs were considered sacred in ancient Egypt. This is not in Egypt. There are many species, and these are not to be confused with the green June beetle. Grubs spend two or three years in the soil and emerge as black or brown beetles (Fig. 1) in the spring. They are attracted to lights and will end up on porches or banging against lighted windows at night. This is such a broad group that there are no specific control measures to offer. They are not usually a problem for homeowners. Sometimes the grubs are found in high densities in commercial turf or nursery, needing treatment with insecticide.



Fig. 1. Scarab beetle adult (Phyllophaga).
Image from Texas A&M University.

Leafcutter Bees Making the Rounds

Bees in the family Megachilidae (leafcutter bees) are nesting now. These friendly solitary bees make nests in hollow tubes and stems, lining each cell with pieces of leaves. If you come across holes in leaves that look almost like they have been subject to a large hole punch (Fig. 2), they are probably from leafcutter bees (Fig. 3). Redbud (Cercis) and other soft leaves are their favorites.



Fig. 2. Leafcutter bee damage. Image by S. Bambara.



Fig. 3. Leafcutter bee. Image from S. Bambara.

Lady Beetles Building

Following the aphid population comes the lady beetle population. Lady beetle adults and larvae are predaceous on aphids and other small insects. Some lady beetle species are now cycling into a second generation. Non-mobile pupae (Fig. 4) may be found affixed to leaves or stems and cause concern to those who don't recognize them as beneficial insects. Insecticidal aphid control might be deferred once lady beetle populations build large enough.



Fig. 4. Lady beetle pupa. Image from Steve Bambara.

From: Christine A. Casey, Extension Entomologist

Flea Beetles

Flea beetles, *Altica litigata*, are now active on plants in the family Onagraceae. This includes the genus *Oenothera* (evening primrose and sundrops) and whirling butterflies (*Gaura lindheimeri*). The 1/4 inch long black beetle (Fig. 5) causes marginal notching and holes on foliage as well as holes and tears in flowers (Fig. 6).



Fig. 5. Flea beetles. Image by Christine Casey.



Fig. 6. Flea beetle and damage. Image by C. Casey.

There is not a great deal known about their biology, although a study in Poland noted that they are active primarily in conjunction with plant flowering. In North Carolina I have seen them mostly for a few weeks in late April to early May in conjunction with flowering of evening primrose. In landscapes, neem oil will repel but not kill the beetles. Depending on your level of damage acceptance, this may be sufficient. Sevin or a pyrethroid insecticide will kill them. Don't spray the open blooms.

From: Stephen B. Bambara and Christine A. Casey, Extension Entomologists

Euonymus Scales

Euonymus scale (Fig. 7) is a common and sometimes very damaging armored scale pest of euonymus and a few other ornamental plants. It is found throughout North Carolina wherever euonymus, pachysandra and Celastrus grow. Yellow spots first appear on the leaves. Leaves and stems may become encrusted with the scales to such an extent that whole branches or the entire plant may die.

This scale usually has two or three generations per year. The females lay eggs under their protective shell, and the tiny crawlers hatch and emerge from the mother's armor in April, May and June, which means they are active any time now. They crawl along the leaves and stems before inserting their microscopic, threadlike mouthparts and settling down to grow and secrete the armor. Another brood hatches in late summer, and a partial third brood may appear even later so that all stages of development are present during most of the year. Although this scale is small, infestations are often plainly visible particularly with dense populations in which males usually greatly outnumber female scales. We usually recommend the use of oil for euonymus

scale suppression as these pesticides should also control spider mites and other pests of euonymus as well. Commercial operations have additional choices such as Safari. In severe and recurring cases, consider removing the plant from the landscape. Choose another plant or one less susceptible. *Ornamental and Turf Insect Information Note No. 15* on the euonymus scale gives some information about its control and links to plant alternatives. It is available on the web at: <http://www.ces.ncsu.edu/depts/ent/notes/O&T/shrubs/note15/note15.html>.



Fig. 7. Euonymus scales. Image by John A. Weidhass (forestryimages.org)

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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