

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

FIELD AND FORAGE CROPS

From: Jack S. Bachelier, Extension Entomologist

***Bt* Cotton Refuge Requirements**

Producers should be reminded that their purchase of Bollgard, Bollgard II, or Widestrike cotton lines (mostly coupled with glyphosate tolerance) obligates them by contract to utilize one of the refuge options (2006 the same as 2005) outlined on the following web site:
http://www.monsanto.com/monsanto/us_ag/content/stewardship/irm/2005/bollgard.pdf.

Compliance with the above refuge requirements in the Southeast has been less than encouraging in the past few years, especially in North Carolina. Monsanto has petitioned the EPA for an exemption to the refuge requirements for Bollgard II in favor of a “natural refuge” (utilizing non-cotton wild and cultivated hosts to serve as the refuge), in large measure because of the very limited number of potentially Bt-resistant moths arising from bollworms and budworms surviving in Bollgard II cotton. It would be unfortunate if this petition were to be denied because of low compliance with the current Bollgard refuge requirement.

Cotton Planting Underway

Cotton planting is now finally underway, if on a limited basis. Rainy weather this weekend would certainly help things along. So far, we have the dry weather often associated with high thrips levels, but not an abundance of lush crop and non crop green thrips host vegetation which is often leads to high thrips levels when it dries down. Remember that the clock on the residual activity of at-planting granular and seed insecticides begins at planting. Unfortunately, in the thrips department, we don't get a break on slowly emerging cotton seedlings.

Radio Tapes

We will begin our Teletip (1-800-662-7301) and Cotton Insect Corner radio tapes (see <http://ipm.ncsu.edu/cotton/insectcorner/radio/index.html>) on Wednesday, April 26.

From: Stephen B. Bambara, Extension Entomologist

Fire Ants and Esteem® in Pastures

Some agents are already aware of this, but this January a supplemental label was added to Esteem® (pyriproxyfen) insect growth regulator insecticide that allows use in pasture grasses against fire ants. This bait can be used for mound treatment or broadcast. It can be best used in the spring when soil temperatures are 60 degrees F or above. Follow the directions on the product label.

ORNAMENTALS AND TURF

From: Stephen B. Bambara, Extension Entomologist

"Meet the Beetles": May and June Beetles

It's mid April and time for May and June beetles (we don't make this stuff up, we just report it). May beetles are dark, reddish-brown colored scarab beetles (Fig. 1) whose larvae are some of the white grubs sometimes found in the landscape. These beetles are related to chafers and Japanese beetles. They are attracted to lights and can be annoying if they are banging against your windows or flying around the porch light. Normally, there are not enough of any one species to warrant control as either adults or grubs, though you may want "Help". Occasionally, a situation arises in turf, nursery or Christmas tree settings where control measures are considered. Most homeowners should not be overly concerned about their presence, so my advice is to "Let It Be". If you can be patient, "It Won't Be Long" before they disappear. If you try to treat with a lot of chemicals, you'll say to yourself, "I Should've Known Better" and you'll end up on the "Long and Winding Road" of chemical use. For more information regarding May beetles, see the following web site: http://www2.ncsu.edu/unity/lockers/project/pestmngt3/AG268/html/may_beetles.htm.



Fig. 1. May beetle. Image by S. B. Bambara.

”Odds and Ends”: Aphids and Mayflies

Over Easter weekend, I observed what appeared to be (probable) cinara aphids. These large aphids appear mostly in the early spring and fall on coniferous evergreens. They are the ones that come into the house along with Santa on the Christmas trees. They should not be a particular problem. There are several other aphid species active at this time creating sticky dots of honeydew on cars and sidewalks. They may also be found on the tender shoots of other landscape plants. High populations on tender growing tips can cause later deformation of leaves. Keep a watch for lady beetles, which are becoming active, too.

The weather this year has also given us mayflies in April. They generally emerge in hordes. These are aquatic insects that usually live in good quality water running water. The adults (Fig. 2) emerge in the spring and mostly live only for one or two days for the main purposes of mating and making fly fishermen happy (Fig. 3). For more information on mayflies, see the following web site: <http://www.uky.edu/Ag/CritterFiles/casefile/insects/mayflies/mayflies.htm>.



Fig. 2. Mayfly. Image from Extension Entomology, Texas A&M University.



Fig. 3. Mayfly fishing fly. Image by S. B. Bambara.

Fall Cankerworms

These small "inchworms" (<http://www.forestryimages.org/browse/detail.cfm?imgnum=0907046>) hatch in the spring and are fond of oak and maple foliage. The City of Charlotte has been the major center of this population since 1987, for unknown reasons. Natural controls, which regulate outbreaks in uninhabited forests, have not been effective in reducing fall cankerworm populations in this urban environment. Charlotte has a large number of mature willow oaks that provide an almost unbroken canopy over much of the city. Anecdotal reports are claiming 2006 to be a heavy year.

Control strategies for fall cankerworms involve mostly trunk banding (see illustration on the web at: <http://www.forestryimages.org/images/768x512/4723057.jpg>) for female moth trapping in the fall, and possible pesticide sprays in the spring with *B.t.* or other foliage protectors. For more information on the web, see <http://www.forestpests.org/southern/fallspringcankerworm.html>.

Mecklenburg County Extension now consists of three 4-H agents, one commercial horticulture agent and one consumer horticulture agent located at the County Park and Recreation Administrative Office Building. Aaron Lancaster and the Master Gardeners handle all the homeowner horticulture issues.

Boxwood Leafminers Emerging

Now would be the time to treat for boxwood leafminer. As the new tender boxwood foliage fills out, leafminer flies (Fig. 4) will emerge from the older leaves. Females will lay eggs in the leaf tissue from the underside of the new leaves. Orthene or imidicloprid can be used as a foliar spray, or imidicloprid may be used as a soil drench in the root zone almost anytime. A correctly applied soil drench should give two years protection. See *Ornamental and Turf Insect Note Number 16* (<http://www.ces.ncsu.edu/depts/ent/notes/O&T/shrubs/ort016e/ort016e.htm>) for more information.



Fig. 4. Boxwood leafminer flies. Image by J. R. Baker.

From: Christine A. Casey, Extension Entomologist

“What’s Q with You?”: Whiteflies

Whitefly biotype Q has hit the ornamentals industry in a big way since its detection in Arizona poinsettias in late 2004. *Bemisia tabaci* biotype Q is a sub-group of sweetpotato whitefly that is distinguished by high levels of resistance to some pesticides. Whitefly resistance to imidacloprid has been reported from Spain for about 10 years, and this is thought to be the origin of biotype Q. It was first detected in the U.S. in late 2004. These whiteflies were found to have high resistance to pyriproxyfen (Distance), and reduced susceptibility to buprofezin (Talus), imidacloprid (Marathon), acetamiprid (TriStar), and thiomethoxam (Flagship). It is not known how they arrived in the U.S.

Biotype Q has been detected in about half of the states, but has not yet been found in North Carolina. This does not mean it is not here or will not be here soon. The good news is that there are still many pesticides with excellent efficacy against biotype Q whiteflies. Trials in New York, Florida, and Texas indicate that Safari, Judo, Avid, and BotaniGard are all effective.

If whitefly control problems are experienced, check with your county Extension agent to make sure you have sweetpotato whiteflies and that you have used the appropriate pesticide correctly. If there has not been an application problem, have your agent submit a sample to the Plant Disease and Insect Clinic at North Carolina State University. Whitefly biotype Q is identical in appearance to other sweetpotato whiteflies, so the Clinic will need to send the whitefly for molecular analysis.

It is essential to follow good resistance management practices to prevent situations like this from happening again. Correct pesticide rotation, use of pesticide alternatives, and making applications only when necessary can help prevent this situation with other pesticides and pests.

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

Asian Ambrosia Beetles Still Active

The Asian ambrosia beetle (Fig. 5) was first found in South Carolina, in 1974 in peach trees. It also attacks cherry, zelkova, Japanese maples, grapes, and many others. Female beetles bore into stems and young trees. Visible symptoms include wilted foliage and strings of borings (Fig. 6) that may protrude from the bark as tiny sticks or "toothpicks". These strands may reach 2 to 3 inches if wind and rain do not break them. The beetles are present most of the year, but our trapping indicates Asian ambrosia beetles begin to emerge in March. Eggs, larvae (Fig. 7) and pupae are found together. There are no individual egg niches, larval tunnels or pupal chambers. High humidity is required for successful reproduction. Adults and larvae feed on a fungus (known as *ambrosia*) (Fig. 8) the beetles introduce as they tunnel into the sapwood and sometimes heartwood of trees and logs. The fungus grows on the walls of the tunnel. With this species, the beetles bore galleries straight into the wood from 3/8 to 1 inch or more. The tunnels then branch one to six times in the same plane following an annual ring. In small trunks and branches, the galleries go straight in or spiral upward from the point of attack around the stem or limb, branching upward or downward from the spiral gallery. The Asian ambrosia beetle seems to attack trees and shrubs more aggressively than native ambrosia beetles that attack mostly

dead, dying or heavily stressed plants. Because most of the boring is done in the sapwood or heartwood rather than the cambium, sometimes it is possible to "save" plants infested with Asian ambrosia beetles. If the damage is heavy to the main stem, it may be better to start anew if the plant is small. Dead wood should be pruned and destroyed. Our best recommendation is to apply Astro or some other formulation of permethrin labeled for borers in early March to try to prevent damage by the first flight of beetles. Beetles are already out this spring, but we are still hearing reports of "toothpick" borings. See the *Ornamentals and Turf Insect Information Note Number 111* (<http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/note111/note111.html>) for additional information on the biology and control of the Asian ambrosia beetle.



Fig. 5. Asian ambrosia beetles. Image by Ellen Reeves.



Fig. 6. Asian ambrosia beetle "toothpicks" on trunk of yellow rain tree sapling. Image from J. R. Baker.



Fig. 7. Eggs and first instar grubs of Asian ambrosia beetles. Image from J. R. Baker.



Fig. 8. Ambrosia fungus associated with Asian ambrosia beetles. Image from J. R. Baker.

RESIDENCES, STRUCTURES AND COMMUNITIES

From: Michael G. Waldvogel, Extension Entomologist

Red Mites

I've gotten a few telephone calls/complaints about what people are assuming are chiggers showing up crawling around outdoors, up the foundation walls and often coming indoors. While you would first expect that the problem is clover mites, we are pretty much passed the time when clover mites are a problem. What we have found are "Erythraeid" mites. They do not have the extremely long front legs that you see on clover mites (you can read about clover mites on the web at: <http://insects.ncsu.edu/O&T/lawn/note124/note124.html>).

Also, they are not "vegetarians" as are the clover mites. Most (all?) Erythraeids start out as parasites of many insects (one species specifically attacks honey bees). The older instar nymphs and adults are predaceous on a variety of insects. That's really about the major difference between them and clover mites because they can be a significant nuisance. Any of the common pesticides can be applied to the foundation and surrounding soil (about 2 to 3 feet out) preferably with a garden hose sprayer, but without knowing that you've pinpointed all of the sources, you could find out that they are actually coming "down" (for example from moist areas under roof shingles) and so spraying the foundation obviously has no effect.

Unlike with clover mites where the problem usually abates in about a week or so, these mites may continue to be a problem for well over a month (sometimes two).

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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