

# 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.

### *In This Week's Issue . . .*

#### FIELD AND FORAGE CROPS

- Cotton Thrips
- Vegetable Weevils in Cotton
- Cotton Insect Scouting Schools
- Covered and Loose Smut Problems, Especially on Oats

#### ORNAMENTALS AND TURF

- Maple Eyespot Galls Are Spotted
- Spiny Witch-Hazel Gall Aphids on Birch
- Oak Apple Galls Are Amazing to the Core

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. Bachelier, Extension Entomologist

### **Cotton Thrips**

Cruiser, Avicta and Gaucho Grande treated cotton planted during the April 12 to 18 time period will have lost most or all of its residual activity for effective thrips control by May 3 to 9, or about three weeks after planting. Although thrips levels so far have not been as high as some previous years here, the recent cool weather has resulted in slow “grow-off” conditions. This results in cotton seedlings that may be vulnerable to thrips for a longer period, as was the case in 2005. In a series of replicated 2005 tests conducted by our project, a first true leaf foliar spray behind a seed treatment resulted in a yield increase of 45 pounds of lint compared to the seed treatment alone. A foliar spray is advised for cotton behind the above seed treatments as soon as it reaches the first true leaf stage.

With any luck, cotton planted during the next week will emerge and grow off faster than our April planted cotton, resulting in a narrower thrips susceptibility window. Predicted weekend rains should help if nighttime temperatures do not dip below mid 40 degrees F.

One potential drawback to the seed treatments with a foliar spray compared to Temik 15G is the greater probability of cotton aphid and/or spider mite problems behind the seed treatments. More detailed information will be provided about this situation in the coming weeks.

### **Vegetable Weevils in Cotton**

Fortunately, it appears that the potential for vegetable weevil damage to cotton seedling has decreased significantly this past week, with no further reports of high weevils level or significant seedling damage. Last week’s problem field (high weevil levels and damage in an Edgecombe County cotton field) was treated with a pyrethroid insecticide with good results. Hopefully this pest will remain a “curiosity.” Producers should still be inspecting stands for this insect and/or “cut off” young cotyledons.

### **Cotton Insect Scouting Schools**

I will begin posting upcoming cotton insect scouting schools on the Cotton Insect Corner (<http://ipm.ncsu.edu/cotton/InsectCorner/>) website next week. The initial school will be held in the Scotland/Robeson/Hoke county area in mid June. Everyone with an interest in cotton insects is invited.

From: Randy Weisz, Small Grain Extension Specialist

### **Covered and Loose Smut Problems, Especially on Oats**

I have received several telephone calls every day for the past week regarding smut problems in oats. Hopefully the following information will be of assistance in dealing with the problem.



Fig. 1. Loose smut. Image from R. Weisz.



Fig. 2. Loose smut. Image from R. Weisz.



Fig. 3. Covered smut. Image from R. Weisz.



Fig. 4. Covered smut. Image from R. Weisz.

## Biology

All cereals are attacked by smut (Figs. 1-4), but each crop is host to specific species of smut fungus. In oats, the fungi overwinter as spores on the seed surface. When infested seeds are sown, smut spores germinate, penetrate the seedling and grow within the cereal host until the heads develop. Smut fungi replace all or most of the grain head and form masses of black smut spores instead of seeds and chaff. These spores are released at grain harvest and contaminate the surface of other healthy kernels.

True loose smut of barley and wheat differs from the above cycle in that the fungi overwinter within the embryo of the seed. The fungus grows within the plant and produces loose black smutted heads. Wind-borne, dust-like spores infect healthy cereal flowers, where they penetrate the developing seed and infect the germ (embryo).

## Damage Description

Most smut fungi attack and replace the internal tissues of the grain with dark brown or black smut spores.

### Covered Smut (Barley, Oats)

The plant may be slightly stunted with hard, compact, upright, smutted heads. The smut balls are covered in a membrane that remains intact along with the awns and chaff.

### False Loose and True Loose Smut (Barley)

These fungi have a very thin covering membrane around the spore masses. The brown spores are blown or washed away and leave bare spikes in the ripening crop. Losses from loose smut in barley average less than 1 percent, but losses of up to 40 percent have been recorded. A laboratory examination is needed to tell them apart.

### What To Do With The Grain

Smutted grain should be stored separately from clean grain. Heavily smutted or bunted grain will not be accepted at the elevator and may even be difficult to sell as feed owing to respiratory or feed refusal problems that might result. **Smuts and bunts are not toxic to livestock.**

For additional information on covered and loose smut and wheat loose smut, see the following websites:

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/prm2431?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/prm2431?opendocument)  
<http://oak.ppws.vt.edu/stromberg/smallgrain/biology/wlsmut.html>

## ORNAMENTALS AND TURF

From: Stephen B. Bambara, Extension Entomologist

### Maple Eyespot Galls Are Spotted

The maple eyespot gall midge, *Acericecis ocellaris*, is also called the maple leafspot gall midge. The word *ocellaris* comes from the Latin word *ocellus*, meaning eye (hence the name eyespot gall). An official common name does not exist for this insect. Maple eyespot gall midges emerge in early spring and lay their eggs on the newly expanding leaves. As the maggots hatch and feed on the tender leaf growth, they secrete substances, which cause the leaves to form dimples around the maggots (resulting in striking yellow and red circles around the gall) (Fig. 5). The maggots soon mature and drop to the soil surface where they evidently dig into the soil to spend the rest of the summer, fall and winter. Another generation of midges will emerge the next year. Insect populations vary from year to year due to weather, predation, diseases and additional factors; thus, the maple eyespot galls may be much less noticeable next year. Because they do negligible damage, their management is not necessary.

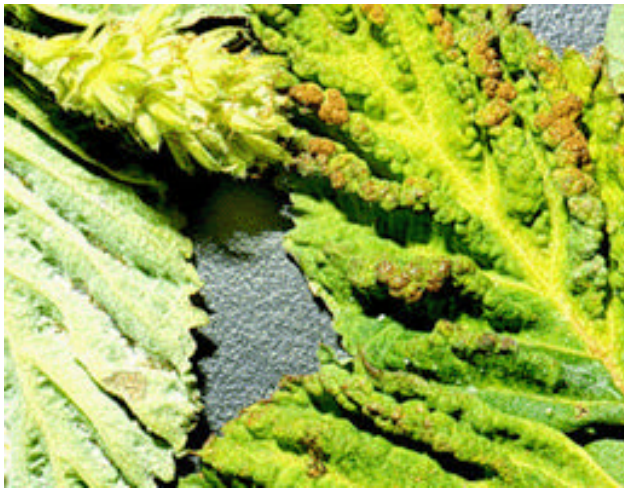


Fig. 5. Maple eyespot gall. Image from S. B. Bambara.

### Spiny Witch-Hazel Gall Aphids on Birch

Spiny witch-hazel gall aphids, *Hamamelistes spinosus*, cause bumpy ridges on the leaves (Fig. 6) of birch. The overwintering eggs are laid on witch-hazel in June and July. These eggs hatch the following spring and the new aphid nymphs crawl to the flower buds to feed. If the plant does not have flower buds, these aphids die. Feeding on the flower buds induces the plant to form a spiny gall (Fig. 7). A second generation of winged aphids develop inside the galls, then leave and fly to birch. These winged aphids give birth to a scale-like generation, which settles and hibernates on birch until the following spring. As the buds break, the scale-like aphids feed on the leaves and induce the birch to form corrugated galls. The winged aphids, which migrate back to witch-hazel give birth to a generation of wingless males and females. These wingless aphids mate, and the females lay eggs for overwintering. The special accessory females produce additional generations of winged aphids, which migrate to witch-hazel to give birth to males and females that lay eggs for overwintering. Thus, this aphid requires two full years to complete its cycle of life stages. Got it?

This doesn't seem to hurt the plant to any great degree, so you may choose to enjoy the complexity of nature. Lady beetles and other predators eventually feast on the pockets of aphids. Pesticides could be applied at bud break in early spring to prevent gall formation. It is probably too late this year for effective control. This must be done every year as long as there are witch-hazels in the vicinity. The alternation of hosts is well known for other aphids (woolly apple aphid on apple and elm, woolly alder aphid on maple and alder, and green peach aphid on peach and many other hosts), but the spiny witch-hazel gall aphid seems to have the most complicated life cycle. *Ornamentals and Turf Insect Information Note Number 38* (<http://www.ces.ncsu.edu/depts/ent/notes/O&T/flowers/note38/note38.html>) provides general information on aphid management. Spraying the gall formed leaves will not be effective. If leaves are accessible, they may be picked off or pruned out. A specimen tree might be treated with imidacloprid soil drench at the first sign of bud swelling in late winter.



**Fig. 6. Spiny witch-hazel aphid galls on birch leaves in the spring. Image from J. R. Baker.**



**Fig. 7. Spiny witch-hazel galls on witch-hazel. Image from J. R. Baker.**

### **Oak Apple Galls Are Amazing to the Core**

Oak apple galls (Figs. 8-9) are forming and dropping out of trees about this time in many areas of the state. These are rarely numerous and are not harmful to the tree. Tiny cynipid wasps lay eggs in oak leaves or stems which cause the tree tissue to form this ping-pong ball-sized gall in which the wasp develops. Pesticides are inappropriate, here.



**Fig. 8. Oak apple gall. Image from S. B. Bambara.**



**Fig. 9. Oak apple gall. Image from S. B. Bambara.**

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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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