



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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FIELD AND FORAGE CROPS 1

- Thrips Waiting to 'Pounce'?
- Thrips Scouting
- Other Seedling Pests
- Cotton: Thrips
- Corn: Billbug, Thrips, Sugarcane Beetle and Stink Bugs
- Soybeans: Thrips and Bean Leaf Beetle

FRUIT AND VEGETABLES 6

- Cucurbit Downy Mildew Found in North Carolina, Rapid Response and Implications for Local Growers

ORNAMENTALS AND TURF 7

- Cottony Maple Scale Egg Hatch
- Be on the Lookout for Emerald Ash Borer
- Japanese Maple Scale Crawlers

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FIELD AND FORAGE CROPS

From: Jack Bacheler, Extension Entomologist

Thrips Waiting to 'Pounce'?

With cotton planting seriously getting underway during the first couple of days in May, thrips have not yet played their hand. This will probably change next week during the third week in May for many North Carolina cotton producers when the residual effectiveness of the seed treatments begins to play out. So far, our temperature and moisture conditions over much of the state, though a little cold recently, have been favorable for both

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seedling emergence and insecticide uptake. This was certainly the case at Upper Coastal Plain Research Station near Rocky Mount where good stands emerged within 6 to 7 days at all six our early May 1 and 2 planted thrips tests. Thrips levels following one of the seed treatments there averaged only 1/10 of one adult and no immatures while the untreated check in the same test averaged 1.2 adults and 1/10 of an immature thrips in one of our tests on Wednesday, May 9. With these low thrips levels, we could see no difference between any of the treatments at 8 days after planting. Hopefully, that's the case over most of the state for cotton planted last week. Remember, however, that next week's report could be much different as thrips levels build and the residual of seed treatments begins to run out.

Thrips Scouting

Easy to talk about on paper, thrips counting and seedling damage assessments can be less than straightforward in the field. Following emergence, seedlings can appear "beat up" for a number of reasons, in addition to thrips damage. For cotton that is scouted following a seed treatment, granular insecticide or and in-furrow spray, always be sure to focus attention to the developing bud area and confirm the presence of live thrips with either a hand lens or by beating several seedlings onto a flat surface to look primarily for the small yellowish immatures. The presence of immatures often indicates that the seed treatment or other insecticide has begun to run out. The very tiny 1st and 2nd instar immature thrips can be difficult to see with the naked eye due to their small size and their presence in the hidden folds of bud tissue. Figure on a treatment threshold of approximately an average of 1 immature thrips per true leaf per plant (for example, 3 true leaf seedlings could tolerate up to 3 thrips per seedling). Alternatively, one can use an average of 2 immature thrips per plant as justification for a foliar spray. If one is scouting for a possible second application, for example, in 2 to 4 leaf cotton, be sure to disregard leaves that may have been previously damaged. They're not going to get better. Concentrate again for the presence of live thrips in the bud area and the newest unfolding leaf. If a foliar spray is needed, avoid pyrethroids.

One clue that seedlings are growing out of thrips damage is the presence of a smooth, shiny newest leaf in the bud area. With very few exceptions, cotton seedlings with 5 true leaves cannot be damaged by thrips, even if thrips are present.

As one can see from the nicely expanded cotyledons, the pictured seedlings got off to a good start following a seed treatment. However, with the residual for the seed treatment only lasting approximately 2.5 weeks, the next four true leaves are heavily damaged by thrips. With the fifth true leaf just coming out, the seedling may be just getting to the point where a foliar spray is not needed because cotton at this stage can tolerate moderate thrips levels without further economic damage. A "revenge spray" at this point will not salvage the previously damaged leaves or plants.



Good early seed treatment activity (note expanded cotyledons), followed by subsequent loss of residual at 2.5 weeks (note 'possum-eared' next 4 true leaves). Seedlings approaching 5 true leaves are out of danger from additional damage. Image by Dan Mott.

Other Seedling Pests

So far we have had no reports of false chinch bugs, burrower bugs, vegetable weevils, sugarcane beetles, slugs or grasshoppers damaging cotton in North Carolina. Because we are still on the front end of most possible insect problems, however, be sure to report signs of damage from the above or other pests to jack_bachelor@ncsu.edu so that we can pass this on to others in next week's insect update.

Weekly cotton insect update tapes are also available each Wednesday at our *Cotton Insect Corner* web site (<http://ipm.ncsu.edu/cotton/insectcorner/radio/index.html>) or at Syngenta's Pest Patrol (<http://www.farmassist.com/PestPatrol/m/>) where one can listen to weekly updates from around the Southeast. Additionally, one can also get the latest information about insect, disease, and weed management information, agronomic advice, and economic and other multi-crop updates from throughout the U.S. at AgFax (<http://agfax.com/>).

From: Dominic Reising, Extension Entomologist

Cotton

Thrips

Some of our earlier cotton is now passing the first leaf stage. I heard of one grower who had already sustained thrips injury at the first leaf stage and was wondering if he should have sprayed. North Carolina trials indicate that protecting cotton at these earliest stages is extremely important to preserving

yield potential. Cotton planted before the middle of May with thrips pressure will generally take a yield penalty if it is not over sprayed with acephate, even if a seed treatment is used.

Looking at thrips on cotton in some early planted trials at Plymouth, thrips pressure is normal - that is to say high. Thrips counts on seedlings pulled on Monday were 30 to 60 per seedling. The vast majority were tobacco thrips. This location received over an inch of hard rain on Wednesday night and by Thursday, thrips densities were knocked back by about 60%. As we are going into a cooler period, keep a close eye on your cotton as it may have trouble outgrowing thrips injury sustained during this period.

Corn

Billbug

All of our corn has been planted in North Carolina and things are really a mixed bag. Adult billbug activity will begin to die down soon and most of our corn has passed the susceptible stage for injury. We've had good growing conditions in the state to allow our seedlings to outgrow any injury they may have sustained. I've had a few calls regarding billbugs in the Coastal Plain from who used lower rates of seed treatments (250 rate of either Poncho or Cruiser). Growers in eastern areas using the high seed treatment rates have seen unusually high pressure, even in areas where rotations are optimized to minimize billbug production. However, this has not caused any major stand or yield reductions on a widespread basis.



Billbug-injured corn seedlings. Image by Dominic Reisig.

Thrips

Thrips can stunt corn seedlings, in severe cases, but they are rarely an issue. Near the end of last week, thrips pressure in some areas was building and causing us to question if it might rob some yield in combination with moisture stress. Fortunately most areas in the state received some much-needed rain, taking the moisture stress burden out of the picture. As a result, the corn readily recovered from any injury it incurred during the moisture-deficit period.

Sugarcane Beetle

Sugarcane beetle adults dig below the soil surface and will remove large chunks of the stem through their feeding.

Sugarcane beetles have been hitting corn again in the Piedmont. This week, I observed this on untreated corn in Plymouth. Injury above the surface can present like that of wireworm, as a buggy-whipped seedling. Because the feeding disrupts the action of the xylem and phloem, it can also look like a nutrient or water-stressed plant. So far our best seed treatment for this insect is Poncho 1250 (see <http://www.nccrops.com/2012/03/23/sugarcane-beetle-adults-are-active/>). The beetle must feed a little to be exposed to the seed treatment and die. However, the lower the rate of the seed treatment, the more

tissue the beetle will consume. The lower rates of seed treatments used in the Piedmont are simply ineffective against this insect.



Sugarcane beetle adults dig below the soil surface and will remove large chunks of the stem through their feeding. Image by Dominic Reisig.



Stink bug. Image by Dominic Reisig.

Stink Bugs

From what I can gather between calls and sampling on my own, stink bug densities in wheat are “normal”. Stink bugs are present in typical hot spots and should be expected to move into corn after harvest. Fortunately, most of our wheat is two weeks ahead of schedule and most of our corn is still fairly small. In parts of eastern North Carolina, stink bugs can affect corn yield by feeding on the ear as it develops before tasseling. Maybe we will catch a break this year by harvesting wheat before stink bugs have a chance to fully develop on wheat and move into corn. Last year I documented significant nymph movement from wheat stubble after harvest into corn. If these nymphs then develop on corn, there is a chance that they could hang around to injure corn during its susceptible stages before tasseling.

Remember that Orthene is not registered in wheat or corn and that pyrethroids have a 30-day pre-harvest interval restriction in wheat. Pyrethroid insecticides are effective against stink bugs in corn, provided they are applied by ground. However, they can only be counted on as effective for one week after application. Because stink bugs immigrate into corn over an extended period of time, they are not recommended for management.

Soybeans

Thrips and Bean Leaf Beetle

Thrips will be present in any soybeans that have emerged. I documented 15 to 30 soybean/tobacco thrips per seedling on untreated plots that I am maintaining in Hyde County. Although these numbers sound high, especially in compared to the situation in cotton, I have seen as many as 58 thrips per seedling on

soybeans without any indication of a yield penalty. In North Carolina, thrips are simply a non-issue in terms of yield.

I have had no reports of early season bean leaf beetle on soybeans. Remember that soybean seedlings can tolerate incredible tissue loss without a corresponding decrease in yield.

FRUIT AND VEGETABLES

From: Frank J. Louws, Wendy Britton and Peter Ojiambo, Department of Plant Pathology, and Billy Little, Cooperative Extension, Wilson

Cucurbit Downy Mildew Found in North Carolina, Rapid Response and Implications for Local Growers

There was a confirmed report of cucurbit downy mildew (CDM) in a hoop house in Wilson County, North Carolina on May 3, 2012. The house contained 2 rows of trellised cucumbers and about 20 vines had early symptoms. The infection was about 5% and with actively sporulating lesions.

Wilson Cooperative Extension, the North Carolina Department of Agriculture & Consumer Services, North Carolina State University specialists, and the CDM ipmPIPE team actively worked to contain this outbreak as soon as possible. Discussions with the grower, industry representatives, and state/University employees reached a quick consensus that the best course of action was to destroy all cucumber vines. The vines were cut, roots extracted, all debris swept up and placed in plastic bags. The contained plant material was carried from the greenhouse and buried at the edge of a field that will not be cultivated this season. This was completed and verified as of 2:00 p.m., May 4, 2012.

CES and industry knowledge about the area suggested field cucumbers were not present in the vicinity and the inoculum from the hoop house presented a zero to low risk to the industry as a whole. The CDM ipmPIPE subsequently changed the status of this outbreak from "confirmed" to "no longer found". The county in North Carolina will remain on the map but will not be forecasted as an active source. This data is available at <http://cdm.ipmpipe.org>.

The only other recorded incidence of CDM is in south Florida. Based on recent weather patterns, there is no evidence the inoculum originated from south Florida and there are no field reports of CDM north of south Florida. A thorough examination suggested the grower used optimum best management practices regarding sanitation, removal of all volunteers and other standard practices. Thus, the source of inoculum remains unknown. However, early detection, rapid destruction and historical weather patterns provide high confidence the problem was contained and does not represent a threat to the industry. At this time, we would not recommend implementation of spray programs to manage CDM in cucumber fields in North Carolina. Monitoring of local fields and forecasting spore dispersal from known sources in south Florida will continue and observations will be posted at the CDM ipmPIPE website.

For further information or questions do not hesitate to call Dr. Frank Louws, 919-515-6689, or e-mail frank_louws@ncsu.edu (use subject line Downy Mildew).

ORNAMENTALS AND TURF

From: Steve Frank, Extension Entomologist

Cottony Maple Scale Egg Hatch

Cottony maple scale eggs are hatching. For some reason cottony maple scale is the least common cottony scale I find on campus. I seem to find cottony maple leaf scale and cottony camellia scale far more frequently. It also seems to be a little later as I reported on the other cottony scales and sent Twitter alerts (@OrnaPests) a couple weeks ago. However, I did find some cottony maple scale the other day and was able to get a picture. The main diagnostic difference between cottony maple and cottony maple leaf scale is where the ovisacs are produced. Cottony maple scale produces ovisacs on branches, whereas cottony maple leaf scale ovisacs are on leaves. Insecticide recommendations are similar as other soft scale listed at:

<http://www.ces.ncsu.edu/depts/ent/notes/O&T/shrubs/note156/note156.html>.



Cottony maple scale. Photo: S. D. Frank.

Be on the Lookout for Emerald Ash Borer

Emerald ash borer has not yet been found in North Carolina. However, it is found in Tennessee and Virginia so it is just a matter of time before it arrives here (or is detected). The reason I bring it up now is that it is peak adult activity (based on degree day estimates) so they may be more noticeable now than other times of year. Adults will be emerging from D-shaped holes in ash trees. If you notice ash trees that seem to be in decline look for these exit holes and frass around the base of the tree. Early detection of emerald ash borer in North Carolina will be critical in trying to reduce the economic impact and protect trees. The most comprehensive and up-to-date information on emerald ash borer can be found at <http://www.emeraldashborer.info/>.

Japanese Maple Scale Crawlers

We are approaching peak activity of Japanese maple scale crawlers. Japanese maple scale is an armored scale that has many hosts including maple and many other woody ornamentals. Scales are extremely tiny and are often concealed in bark crevices and branch crotches. However, at high densities entire trunks may be covered. Information provided by University of Maryland indicates there are two generations per year (<http://ipmnet.umd.edu/nursery/docs/JapaneseMapleScale-UMD2011.pdf>). Japanese maple scale has not been studied in depth in North Carolina but we assume there are two generations here also. Japanese maple scale has been an increasingly important pest in the past decade or so and made its way

throughout eastern North America. The most effective pesticides tested have been insect growth regulators such as Distance and Talus. The neonicotinoid including Safari has also been effective. More information is available <https://utextension.tennessee.edu/publications/Documents/W277.pdf> or complete biology and management information was presented in a recent webinar (<http://ecoipm.com/ipm-webinar/ipm-webinar-archive/>).

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.
