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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.

Dept. of Entomology, North Carolina State University, Box 7613, Raleigh, NC 27695

In This Week's Issue . . .

See current and archived issues of the *North Carolina Pest News* on the Internet at: http://ipm.ces.ncsu.edu/2014-north-carolina-pest-news-archive/

ANNOUNCEMENTS AND GENERAL INFORMATION

Field Days Scheduled

Roberson County Small Grain Field Day will be held on Tuesday, May 6, 2014, at 4:00 p.m., 75 Gene Road, Pembroke, NC. For more information, please contact Mac Malloy, Extension Agent (910-671-3276).

Small Grain Field Day will start at 3:00 p.m. on Wednesday, May 7, 2014, at the Piedmont Research Station, 8250 Sherrills Ford Road, Salisbury, NC. For more information, please contact Randy Weisz, Small Grains Extension Specialist (919-515-5824).

Chowan County Small Grain Field Day will be held on Friday, May 9, 2014, at 8:30 a.m., 2824 Virginia Road, Tyner, NC. For more information, please contact Al Woods, Extension Agent (252-388-3954).

FIELD AND FORAGE CROPS

From: Dominic Reisig, Extension Entomologist

Tips for Cotton Thrips

Generally, cotton planting would be under way with thrips management decisions soon following. We know that mid-April to approximately May 10 planted cotton is historically the most at risk for thrips damage, primarily due to typically slower seedling grow-off conditions. Curtis Fountain, Extension Agent, Duplin County, put it well. Why would a tropically adapted perennial plant put a lot of energy into growing quick when you plant it in North Carolina? Keep in mind that these unfavorable growing conditions, when paired with high densities of cotton thrips can wreak havoc on a seedling.

So where are thrips now? Based on degree-day modeling, current thrips population development is way behind the 5 year historical average. Depending on the location, thrips may be behind 2 to 3 weeks from "normal" in 2014. This means that our early cotton will still be at risk for thrips, even though it will be planted later than normal. Also keep in mind that optimum cotton insecticidal seed treatment or at-plant insecticide uptake matches optimum cotton seedling growth – moist soils and warm temperatures. Moist soil does not equal saturated soil. A saturated stand will not grow well and will be more at risk for thrips.

If you have used a seed treatment or the Admire Pro at-plant plus seed treatment combination, keep in mind that residual begins to decline as soon as seed is planted. No more than 2 ½ to 3 weeks activity can be expected with an insecticidal seed treatment alone. With Admire Pro plus insecticidal seed treatment, you can expect 4 to 5 weeks of activity.

If you're using a seed treatment alone, you'll likely need an additional foliar application. If you're using Admire Pro plus seed treatment, you may or may not need the additional foliar spray. Be sure to scout thrips to see if treatment is needed. Concentrate your attention to live yellow immature thrips in terminals. Older damage can be misleading. The threshold is two immature thrips per plant, with 25% of the plants injured by thrips. Treatment is rarely needed once cotton has reached the five-leaf stage, even if the cotton has been badly injured by thrips. Avoid treating for revenge.

First true leaf cotton. Image from D. Mott.

Foliar application timing for thrips is most effective when cotton is between the expanded cotyledon to first true leaf stage. Also remember that tank mixes to control both weeds and thrips can reduce application costs. However, a tank mix prioritized for weed control applied after the first or early second true leaf stage may expose the seedlings to significant thrips damage. In this case, separate trips over the field should be made. Finally, seedlings with "herbicide burn" stress are more subject to thrips damage (another stress). That does not mean, however, that herbicide-burned seedlings have thrips.

From: Hannah Burrack, Extension Entomologist

Tobacco Insect Control and Transplant Water Treatments

Tobacco growers often apply insecticides in the greenhouse or at transplant to preventatively manage populations of green peach aphids and tobacco flea beetles. In recent years, some growers have also begun to use Coragen at transplant to manage early season populations of tobacco budworms. These preventive management strategies have some advantages and some disadvantages. Their main advantage is that they can provide long-term control of common tobacco pests. The main disadvantages of greenhouse or transplant water treatments are that they may not be necessary, may not provide protection for the full period of insect activity, and some insecticides may negatively impact plants under certain conditions.

Recently planted tobacco plant with potential post-transplant phytotoxicity symptoms associated with greenhouse insecticide use. Photo: Hannah Burrack.

Recently, an agent asked about another potential issue specifically associated with transplant water treatments. A grower had used imidacloprid (Admire Pro, in this case) in their transplant water and noticed that two weeks after transplant, their plants were damaged by flea beetles. This is uncommon, as imidacloprid is very effective against flea beetles in lab and field experiments. I suggested to the agent that this lack of activity may be due to several potential causes:

1. If the plants had not grown much since transplant, they may not have taken up enough of the material to kill flea beetles.

2. Alternatively, frequent rains may have moved material out of the (very small) root zone, and it may be inaccessible to the plant, also leading to poor uptake.

3. Application equipment may influence how transplant water treatments perform. Specifically, if material is being applied from a non-pressurized (gravity fed) system, flow rate will be highly variable depending on how full the tank it. It will be fast if the tank is full and slow if the tank is nearly empty. This means that plants could receive different rates of material depending on how full the tank was while they were being planted. For this reason, manufacturers often recommend the use of pressurized tanks for transplant water applications on pesticide labels.

4. Where materials are mixed can also influence rate. To ensure a uniform rate, materials should either be mixed in a nurse tank and added to the setter tank as a finished solution, or the setter tank should be completely emptied before new water and material are mixed.

What options does this grower have now? First, he needs to determine if the flea beetles are present in numbers that exceed the economic threshold of 4 per plant. If they do not, then treatment is not necessary. If beetles are present in numbers exceeding threshold, rescue treatments are listed in the North Carolina Agricultural Chemicals Manual. For next year, he could consider applying imidacloprid in the greenhouse two to five days before transplant, where it will have time to move into the plant.

More information

Questions about flea beetle activity in systemically treated tobacco – NC Crops

(Originally posted at: http://entomology.ces.ncsu.edu/2014/05/tobacco-transplant-water-treatments/)

From: Hannah Burrack, Extension Entomologist, and Cameron McLamb, Student Working

Tobacco Insect Scouting Update – May 2, 2014

This summer, we have begun a new project focused on implementing integrated pest management (IPM) practices for insects in commercial tobacco fields. This project was inspired by observations during our GAP training sessions and results from county extension agent surveys that suggested that overall use of scouting to make insect management decisions was relatively low. We believe that making insect management choices based on scouting has the potential to reduce pesticide use, to potentially reduce grower cost, and to potentially reduce pesticide residues in cured leaf. This project is designed to determine if these beliefs are justified.

Recently transplanted tobacco in grower standard plots. Photo: Hannah Burrack.

In order to identify the reasons why relatively few growers are scouting for insect pests, we have set up research fields at three locations throughout the state, two in eastern North Carolina and one in the Piedmont, where we will compare insect populations in grower standard fields (where the growers we cooperate make all of the insect management decisions) and insect populations in fields we manage through scouting, our IPM plots. We will be sharing this information at the Tobacco Portal each week.

Our first two fields were transplanted this week, and we made our first scouting visit May 2. Our other two fields have not yet transplanted, so we will add scouting information for them in later updates.

Scouting Report, Eastern 1 – Grower Standard Field

Insect observation	No. aphid infested plants	Flea beetles/plant	Percent tobacco budworm infestation	Hornworms/plant	Percent cutworm damaged plants	Other insects
Treatment needed?	0 – No treatment	0 – No treatment	0 – No treatment	0 – No treatment	0 – No treatment	0 – No treatment

Scouting Report, Eastern 2 – IPM Field

Insect observation	No. aphid infested plants	Flea beetles/plant	Percent tobacco budworm infestation	Hornworms/plant	Percent cutworm damaged plants	Other insects
Treatment needed?	0 – No treatment	0.02 – No treatment	0 – No treatment	0 – No treatment	0 – No treatment	0 – No treatment

Notes: The one flea beetle observed in the IPM field was sluggish and had not caused any damage. Plants in both fields were treated with imidacloprid for aphid and flea beetle control in the greenhouse prior to transplant. We choose to keep these treatments even in IPM plots because it is so common in North Carolina. In a typical year, 98% of the conventional tobacco acres grown in state are treated with this material in the greenhouse.

More information

How can we measure insect management changes in tobacco? – Entomology Portal

(Originally posted at: http://tobacco.ces.ncsu.edu/2014/05/tobacco-insect-scouting-update-may-2-2014/)

ORNAMENTALS AND TURF

From: Steve Frank, Extension Entomologist

Cool Season Mites

In North Carolina, the most important cool season mites are the spruce spider mite (*Oligonychus ununguis*) and southern red mite (*Oligonychus ilicis*). These are among the earliest and most damaging pests in nurseries and landscapes. As their name implies, cool season mites are active in spring and fall

when they suck fluid from cells on plant leaves and needles. In hot summer months these mites are dormant. However, it is summer when their damage becomes apparent as chlorophyll bearing cells die. Thus, by the time plants exhibit aesthetic damage the mites are gone and treatment is wasted.

Southern red mite feeds on broadleaf evergreens such as azalea, camellia, holly, and rhododendron. Spruce spider mite feeds on coniferous evergreens such as spruce, juniper, hemlock, and arborvitae.

Scout plants that had mites or mite damage the previous year as they are likely to have them again because the mites have overwintered as eggs. Cool season mites reproduce very quickly so it is important to identify populations early before they reach eruptive levels and cause severe damage. Throughout spring you will find egg, juvenile, and adult mites due to their rapid, overlapping generations. In addition, you may find silk webbing and shed skins. On broadleaf evergreens, look on the underside of leaves for the southern red mite. Look for spruce spider mite on conifers by inspecting last year's needles.

The most efficient method of scouting for cool season mites (and other mites) is to hold a piece of white paper or a paper plate below a branch and strike it with a pencil or stick to dislodge arthropods. Spider mites will appear as tiny moving specks about the size of the period at the end of this sentence.

For more information and control options consult the North Carolina State University insect note at http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/ort077e/ort077e.htm. More pictures and information on southern red mite at http://ecoipm.com/.

Southern red mite on cherry laurel. Photo: S. D. Frank.

Tulip Poplar Aphids in the Landscape

Tulip poplar aphids are becoming abundant in their annual cycle of boom and bust. They start to boom in spring since natural enemies are not very active or abundant. As aphids become abundant, predators and parasitoids home in on them and tend to keep their numbers under control. However, trees in highly urban areas or those tended by fire ants may become more abundant since nature predation and

parasitism will be limited. General information about managing aphid in the landscape is here. Other aphids to watch out for soon are crape myrtle aphids and rose aphids.

Lady beetle eggs positioned next to a family of tulip poplar aphids. Photo: S. D. Frank.

Fire Ant Mounds Abound

Fire ants are making lots of fresh new mounds this time of year. Often like this one pictured they develop in just a day or so. A frequent location for fire ant mound is in the mulch around landscape trees, particularly when too much mulch is applied as shown in this video.

General information on fire ant management is available at http://www.ces.ncsu.edu/depts/ent/notes/Urban/ifa.htm. Help choosing insecticides is here.

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.