NC STATE UNIVERSITY COLLEGE OF AGRICULTURE & LIFE SCIENCES

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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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

Mountain Research Field Day will be held on Thursday, July 10, 2014, at the Mountain Research Station, 265 Test Farm Road, Waynesville, NC. Registration begins at 2:30 p.m. and the program will be from 3:00 to 6:00 p.m. Please contact Kaleb Rathbone at 828-456-3943 for more information.

North Carolina Tobacco Tour will be on Monday and Tuesday, July 14 and 15, 2014. The tour will include visits to private farms and the Upper Coastal Plain Research Station at 2811 Nobles Mill Pond Road in Rocky Mount, NC. For more information, please contact Mina Mila (919-513-1291).

FIELD AND FORAGE CROPS

From: Dominic Reisig, Extension Entomologist

Stink Bugs in Corn

Stink bugs are present in corn this year and many are questioning whether a spray is worthwhile. In most situations, spraying stink bugs in corn is not worthwhile. The following logic will support this.

Corn is most susceptible to stink bug injury, pre-tassel, when the ear is forming. Stink bugs are very good at finding developing tissue. When the ear is forming, stink bugs will pierce the wall of the stalk and feed on ears developing inside the stalk. This can cause cells that have not yet developed to form the ear to be destroyed. This sort of injury is very damaging since the entire ear can be deformed (Figure 1). However, most of my stink bug calls occur **post-tasseling**. At this point, the ear is already developed and has emerged so that the silks can receive pollen from the tassels. Stink bugs at this point are still targeting developing tissue, but the developing tissue is now kernels, rather than the ear. We can tolerate a lot more kernel feeding than we can feeding on developing ears. Sometimes stink bugs can transmit fungi that lead to aflatoxin, but I feel that environmental conditions (such as drought and hybrid) are much bigger drivers of aflatoxin problems than stink bugs.

Figure 1. Injury caused by stink bugs feeding on stalks before the ear emerged (prior to tasseling).

Stink bugs are difficult to kill with aerial applications because they are made using low volumes and because the insects can hide in leaf folds near the stalk. We have published information from North Carolina that demonstrates the ineffectiveness of typical aerial applications over corn. Stink bugs can be killed for up to a week using a high-clearance tractor (Figure 2). If you absolutely have to do something about stink bugs and cannot use a high-clearance tractor, do everything you can to get your aerial applicator to increase coverage and penetrate the canopy. Don’t expect much, if any, residual from your chemical. Stink bugs can reinvade the field after sprays.

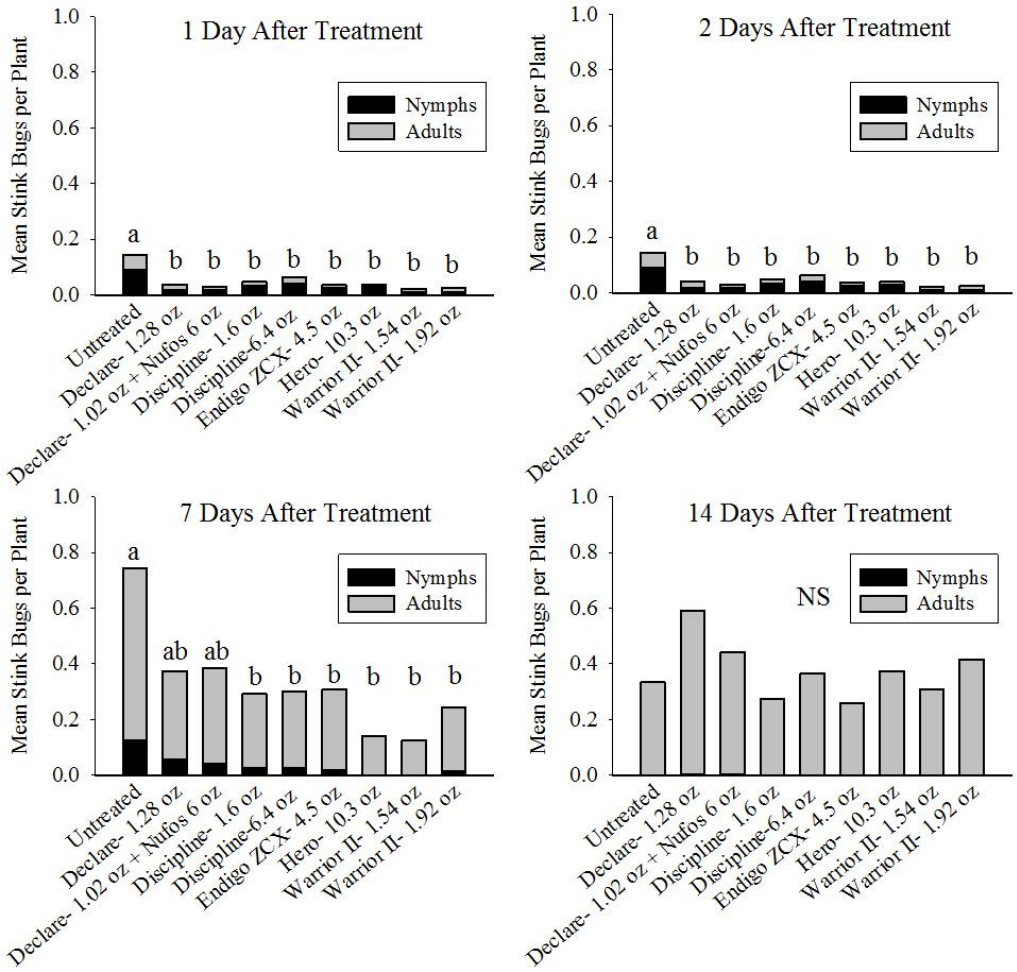

Figure 2. Number of brown stink bugs per plant at one, two, seven and 14 days after treatment.

Plant Bug and Stink Bug Update (Cotton)

Over the past couple weeks, I've been inundated with questions concerning both plant bugs and stink bugs. I think it's critical to clarify a few issues.

First, when deciding to spray for plant bugs, square retention or presence of plant bugs should not be used alone to trigger a spray. These **must** be used in tandem. Square loss can be caused by lots of environmental factors (e.g., extreme heat, drought soil, cloudy weather) as well as plant bugs. So you need to scout and determine that you have a threshold level of plant bugs **and** square retention below 80% on the upper two or three top positions before you spray. Scouting recommendations and thresholds for cotton pre-bloom can be found here. If we spray unnecessarily in cotton we can expect to battle pests all season.

Secondly, we do not need to worry about stink bugs in cotton until bolls are present on the plant. Stink bugs are present in cotton and they will need to be treated this year. However, stink bugs cannot cause any impacts on plant height, height to node ratio, square retention, or flower initiation. Put simply, stink bugs should not be treated in cotton before bolls are there.

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

Tobacco Insect Scouting Report – July 3, 2014

We are in our tenth week of scouting, and tobacco budworms are still active at most sites. However, fewer sites exceed thresholds. Some fields are starting to flower, and these flowers are particularly attractive to budworm moths. Moths will preferentially lay eggs on flower buds or flowers, and larvae hatching from these eggs rarely move down the plant to feed on leaves. Therefore, we generally do not recommend treating fields for tobacco budworm which are within 1 to 2 weeks of topping.

Within the next couple of weeks, some sites are going to begin topping which will reduce the impact of the budworms. Tomato spotted wilt virus incidence remains well below 10%, the level at which economic loss may occur.

Scouting Report, Eastern 1 – Grower Standard Field

Insect observation	No. aphid infested plants	Flea beetles/plant	Percent tobacco budworm infested plants	Hornworms/plant	Percent cutworm damaged plants	Other insects
Treatment needed?	0 – No treatment	0 beetles/plant – No treatment	12% tobacco budworm infested plants – **Treatment Not Recommended****	0 – No treatment	0 – No treatment	None observed

Scouting Report, Eastern 2 – IPM Field

Insect observation	No. aphid infested plants	Flea beetles/plant	Percent tobacco budworm infested plants	Hornworms/plant	Percent cutworm damaged plants	Other insects
Treatment needed?	0 – No Treatment	0 beetles/plant – No treatment	10% tobacco budworm infested plants – **Treatment Not Recommended**	0 hornworms/plant – No treatment	0 – No Treatment	None Observed

**** Although the tobacco budworm infestation is over threshold, treatment is not recommended due to the likelihood of topping within the next week. Budworms larvae are relatively small and closest to flowers, which will be removed during topping.**

Scouting Report, Eastern 3 – Grower Standard Field

Insect observation	No. aphid infested plants	Flea beetles/plant	Percent tobacco budworm infested plants	Hornworms/plant	Percent cutworm damaged plants	Other insects
Treatment needed?	0 – No treatment	0 beetles/plant – No treatment	11% tobacco budworm infested plants – **Treatment Recommended**	0 – No treatment	0 – No treatment	0.025 stink bugs per plant

						0.025 Japanese beetles per plant

Scouting Report, Eastern 4 – IPM Field

Insect observation	No. aphid infested plants	Flea beetles/plant	Percent tobacco budworm infested plants	Hornworms/plant	Percent cutworm damaged plants	Other insects
Treatment needed?	0 – No Treatment	0 beetles/plant – No treatment	8% tobacco budworm infested plants – **No treatment**	0 hornworms/plant – No treatment	0 – No Treatment	0.025 Japanese beetles per plant

Scouting Report, Piedmont 1 – Grower Standard Field

Insect observation	No. aphid infested plants	Flea beetles/plant	Percent tobacco budworm infested plants	Hornworms/plant	Percent cutworm damaged plants	Other insects
Treatment needed?	0 – No treatment	0 – No treatment	30% tobacco budworm infested plants – **Treatment Recommended**	0 – No treatment	0 – No treatment	0.025 stink bugs per plant

Scouting Report, Piedmont 2 – IPM Field

Insect observation	No. aphid infested plants	Flea beetles/plant	Percent tobacco budworm infested plants	Hornworms/plant	Percent cutworm damaged plants	Other insects
Treatment needed?	0 – No Treatment	0 – No treatment	50% tobacco budworm infested plants – **Treatment Recommended**	0 – No treatment	0 – No Treatment	None observed

Here are the scouting reports from the control plots for our experiments at the Upper Coastal Plain Research Station near Rocky Mount, NC and the Lower Coastal Plain Research Station near Kinston, NC. For some of these experiments, the control plots receive no insecticide treatments for the entire season. For some of the experiments, we are interested in only caterpillar pests so all plants in the experiment, including the control plots, are treated in the greenhouse with imidacloprid to prevent other early season pests.

On Station, Kinston – Control plants with no insecticide treatment

Insect observation	No. aphid infested plants	Flea beetles/plant	Percent tobacco budworm infestation	Hornworms/plant	Percent cutworm damaged plants	Other insects
Treatment needed?	7% aphid infested plants – No Treatment	0 beetles/plant – No treatment	51% budworm infested plants – No treatment**	0 – No treatment	0 – No Treatment	5% of plants infected with tomato spotted wilt virus

On Station, Kinston – Control plants treated with imidacloprid

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 beetles/plant – No treatment	56% budworm infested plants – No treatment**	0 – No treatment	0 – No Treatment	5% of plants infected with TSWV

On Station, Rocky Mount – Control plants with no insecticide treatment

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 beetles/plant – No treatment	9% budworm infested plants – No treatment	0% Hornworm infested plants – No treatment	0 – No Treatment	1% of plants infected with TSWV

On Station, Rocky Mount – Control plants treated with imidacloprid

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	9% budworm infested plants – No treatment	0 – No treatment	0 – No Treatment	1% of plants infected with TSWV

**** Plots were not treated due to ongoing experiments, but experimental plots with similar amounts of budworm infestation, were treated.**

More Information

You can find last week's scouting report here. To learn more about the Integrated Pest Management project, refer to our first scouting report here.

(Originally posted at: http://tobacco.ces.ncsu.edu/2014/07/tobacco-insect-scouting-report-july-3-2014/)

From: Barbara Shew, Extension Plant Pathologist

Peanut Disease Control Programs and Advisories Beginning

Peanut growers should begin leaf spot control programs soon (Figure 1). In well rotated fields, the first fungicide spray for leaf spot control should be applied when peanuts reach R3. This is when about half the plants in a particular planting have at least one pod starting to develop (Figure 2). In most years, peanuts will reach R3 around July 7. Spray programs can be delayed by two weeks (R3+2) on the cultivar Bailey, which has moderate partial resistance to leaf spots. Reapply foliar fungicides every two weeks, or follow the Peanut Leaf Spot Advisory after the first spray.

Figure 1. Early leaf spot of peanut.

Figure 2. R3, very early pod stage in peanut.

The North Carolina Peanut Leaf Spot Advisory is a cooperative effort by the State Climate Office of North Carolina and the Department of Plant Pathology at North Carolina State University. The advisory is a safe way to minimize fungicide applications by spraying only when weather conditions favor disease.

We also provide spray advisories to warn growers that weather conditions favor development of Sclerotinia blight (Figure 3). Sprays for Sclerotinia blight control are necessary only in fields with a history of disease. Growers should start scouting for Sclerotinia blight in early July. Once rows are within 6 inches of closing, follow advisories to determine whether conditions are right for disease development.

Figure 3. Sclerotinia blight of peanut. The typical fluffy fungus growth is most visible in early morning.

Leaf spot and Sclerotinia advisories are delivered by daily e-mails throughout the summer. Contact Barbara Shew or your County Extension Office if you would like to receive peanut disease advisories. Advisories are also available on-line at http://ncsupeanut.blogspot.com/. For more information about peanut diseases, see 2014 Peanut Information.

From: Steve Koenning, Extension Plant Pathologist, and Ron Heiniger, Extension Agronomist

Southern Rust on Corn – July 3, 2014

Southern rust reportedly was found in corn near Kinston. We have a reliable report that southern rust of corn has been found at a few locations in North Carolina. Southern rust has been found this week in South Carolina and is found throughout much of Georgia at this time. Growers need to be prepared to make a fungicide application. High temperatures next week should restrict development of southern rust in the short term. The storm, however, may spread rust over larger areas. Consult the North Carolina Agricultural Chemicals Manual for fungicide recommendations on corn.

ORNAMENTALS AND TURF

From: Steve Frank, Extension Entomologist

Imported Willow Leaf Beetle

Imported willow leaf beetle (*Plagiodera versicolor*) adults are metallic blue. This time of year adults and larvae are feeding on willows. The adult beetles overwinter outdoors under bark or in leaf litter. They then emerge from hibernation sites in spring around the time willows start getting leaves since adults prefer new leaves. Females lay pale yellow eggs that hatch into voracious larvae. Adults and larvae skeletonize leaves which can give trees a brown cast as damaged leaves crisp in the sun. In some cases though, they can eventually defoliate trees like the tree I saw walking to work. Insecticides labeled for leaf feeding beetles such as spinosad, imidacloprid, and chlorantraniliprole can be used if needed. Unfortunately, these beetles are here to stay so efforts to prevent any damage to willows is in vain. High populations that cause complete defoliation pose a risk to tree health and may warrant management. Otherwise some damage is inevitable so go out and look at the beautiful beetles.

Imported willow leaf beetle.

New Pest on Pittosporum

Another new pest has turned up around Wilmington, NC. This one on an exotic ornamental plant, Japanese pittosporum (*Pittosporum tobira*). The pest, *Cacopsylla tobira*, is a sucking insect called a psyllid. Psyllid feeding generally causes deformed leaves. The most common or well-known psyllid in ornamental plants is probably the boxwood psyllid that causes cupped leaves at the end of boxwood twigs. *Cacopsylla tobira* has only been reported from California in the U.S. Thus not much is known about the biology, management, or damage of this pest. California has a note on psyllids that infest various crops if you would like to know more about this group. Please take note of strange damage to pittosporum and send suspicious samples to the Plant Disease and Insect Clinic.

Adult *Cacopsylla tobira* and characteristic damage to pittosporum. Photo: Matt Bertone, North Carolina State University Plant Disease and Insect Clinic.

INSECT TRAP DATA

From: Alan A. Harper, Lenoir County

Light Trap Data from Lenoir County

June

Date	Number of Adult Insects							
	HW	CEW	ECB	AW	AWC	GSB	BSB	TBW
June 3	---------- Put up light trap ----------							
June 4	0	0	0	0	0	2	1	0
June 5	0	0	0	0	0	0	0	0
June 6	0	0	0	0	0	2	0	0
June 7	0	0	0	0	0	0	0	0
June 8	0	0	0	0	0	0	0	0
June 9	0	0	0	0	0	0	0	0
June 10	0	0	0	0	0	3	0	0
June 11	0	0	0	0	0	1	0	0
June 12	0	0	0	0	0	1	1	0
June 13	0	1	0	0	1	0	0	0

June 14	0	0	0	0	0	0	0	0
June 15	0	1	0	0	1	0	0	0
June 16	0	0	0	0	0	0	0	0
June 17	0	1	0	0	1	0	0	1
June 18	0	0	0	0	0	0	0	0
June 19	0	0	0	0	0	0	0	1
June 20	0	2	0	0	0	0	0	0
June 21	0	2	0	0	1	0	0	0
June 22	0	1	0	0	0	1	0	0
June 23	0	0	0	1	1	0	0	0
June 24	0	1	0	0	0	0	0	1
June 25	0	3	0	2	1	1	0	0
June 26	0	1	0	1	0	1	0	0
June 27	0	1	0	0	0	0	0	0
June 28	0	2	0	1	1	0	0	0
June 29	0	0	0	0	2	0	0	0
June 30	0	0	0	0	1	0	0	1
July 1	0	2	0	0	1	0	0	0
July 2	0	1	0	0	0	0	0	0
July 3	0	1	0	0	1	0	0	1

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Abbreviations: HW = hornworms; CEW = corn earworms; ECB = European corn borers; AW = true armyworms; AWC = armyworm complex; GSB = green stink bugs; BSB = brown stink bugs; TBW = tobacco budworms

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.