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.ncsu.edu/current_ipm/pest_news.html

ANNOUNCEMENTS AND GENERAL INFORMATION

Turfgrass Field Day

2013 Turfgrass Field Day is on Wednesday, August 14, 2013, and starts at 8:30 a.m. at the Lake Wheeler Road Field Laboratory in Raleigh, North Carolina. Registration information is at http://www.cals.ncsu.edu/agcomm/writing/Field_Days/turfgrass-2013.pdf.

FIELD AND FORAGE CROPS

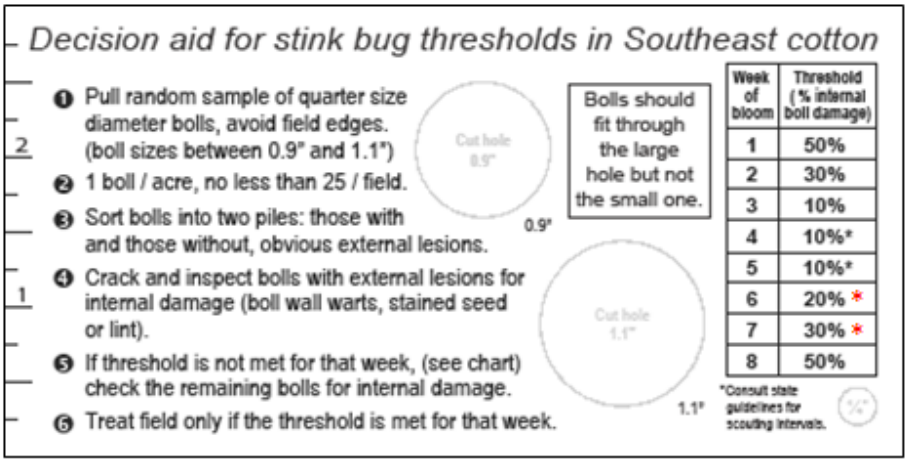
From: Jack Bacheler, Extension Entomologist

Cotton Insect Update

If calls from consultants, agents and producers were any indication, stink bugs and their damage to cotton bolls continued to be front and center this past week. With our cotton crop looking anywhere from good to mostly fair to poor depending on planting date and seasonal and recent weather patterns, it's probably easy to overlook stink bug damage. Both plant bugs and especially stink bugs and their damage vary widely across North Carolina, **but are generally at much higher levels that we've seen during the past few years**. On the plus side, though underway in southern North Carolina since late July, the status of our "major" bollworm moth flight in central and northern North Carolina is difficult to pinpoint so far this year due to presently low moth levels in many areas. I expect this flight to pick up during the next few weeks. This flight will likely be prolonged, due in part to the delayed drying down of field corn.

Our main scouting emphasis at this point should be placed on examining the inside walls of 1-inch diameter bolls for warts and/or stained lint (any amount of even subtle damage is scored as a damaged boll). Damaged boll levels are very high in some fields, with a report of more than 60% internal damage in one central North Carolina field this past week. Although we have heard from producers and some consultants reporting boll damage in the single digits to the high teens, boll damage in the 20-plus percent range are being found in other fields.

Be sure to observe the 10% damaged boll threshold level during weeks 3 to 5 of the bloom period and consider extending this protective threshold into week 6 this year for our late crop, perhaps being followed by a 20% threshold during week 7 of bloom. Please refer to our web-based stink bug decision aid app for additional information about stink bug scouting, identification, dam-



*Note: *in 2013, consider 10% and 20% thresholds for weeks 6 and 7, respectively, due to late cotton crop.*

age and other information (http://ipm.ncsu.edu/cotton/insectcorner/sbapp2/index.html).

Insecticides targeted for stink bugs generally also do a good job with plant bugs. Although Bidrin and Bidrin XP II offer excellent control of stink bugs and plant bugs, be aware of these products' 6-day reentry interval.

If present in moderate to high levels, stink bug damage can result in significant yield losses. In making spray/no-spray decisions, remember that the cost of the treatment and insecticide typically translates into having to save proximately 10 to 12 pounds of lint.

In driving back from eastern North Carolina Wednesday, August 7, it was easy to spot a number of fields of stunted cotton plants blooming "out the top", and well into cutout. It seemed odd to realize that these fields were in need of several more timely rainfalls to make even a decent crop. As is so often the case, a few other cotton fields looked like they could be headed toward 2 bales.

From: Steve Koenning, Extension Plant Pathologist, and Jim Dunphy, Extension Soybean Specialist

Soybean Rust Update: August 8, 2013

Asiatic soybean rust was confirmed in South Carolina commercial soybean fields in Orangeburg County, and at the Edisto Research Station near Blackville, South Carolina. Soybean rust has also been identified in Desha County, Arkansas, two new counties in Georgia, four new counties in Alabama and two new counties in Mississippi. This finding puts rust closer yet to all our soybeans in North Carolina except those in the far western part of the state, but still not close enough to warrant a recommendation from us to spray for the disease. The closest confirmed rust on soybeans to our North Carolina soybeans is now approximately 120 miles from Charlotte, 325 miles from Elizabeth City, 155 miles from Fayetteville, 115 miles from Murphy, 205 miles from Raleigh, 260 miles from Washington, 175 miles from Wilmington and 185 miles from Winston-Salem, North Carolina.

Rust has now been confirmed this year on soybeans in 28 counties/parishes in seven states (Arkansas, Alabama, Florida, Georgia, Louisiana, Mississippi and South Carolina).

We have received sentinel plot samples this week in the *Plant Disease and Insect Clinic* from Bertie, Johnston, Lenoir and Scotland counties, North Carolina. Soybean rust was not detected in any sample.

Rust has progressed at a much faster rate this year than in years past. With a late soybean crop, the odds of needing to apply fungicides are increased. Now is the time to check spray equipment and be sure to have the proper nozzles for applying fungicides. You may also want to locate sources of fungicides.

We do not recommend spraying soybeans that have not started blooming with a fungicide to control Asiatic soybean rust. Once soybeans start blooming, we would recommend spraying **if** rust has been confirmed within 100 miles of the field, and if the soybeans do not yet have full sized beans in the top four nodes of the plants.

The current status of soybean rust in the U.S. can always be found at http://sbr.ipmpipe.org/cgi-bin/sbr/public.cgi.

TABLE 10-8E. RELATIVE FUNGICIDE EFFICACY FOR SOYBEAN FOLIAR DISEASES.

The North Central Regional Committee on Soybean Diseases and the Regional Committee for Soybean Rust Pathology (NCERA-212 and NCERA-208) have developed the following information on foliar fungicide efficacy for control of major foliar soybean diseases in the United States. Efficacy ratings for each fungicide listed in the table were determined by field-testing the materials over multiple years and locations by the members of the committee. Efficacy ratings are based upon level of disease control achieved by product, and are not necessarily reflective of yield increases obtained from product application. Efficacy depends upon proper application timing, rate, and application method to achieve optimum effectiveness of the fungicide as determined by labeled instructions and overall level of disease in the field at the time of application. Differences in efficacy among fungicide products were determined by direct comparisons among products in field tests and are based on a single application of the labeled rate as listed in the table, unless otherwise noted. **Table includes systemic fungicides available that have been tested over multiple years and locations. The table is not intended to be a list of all labeled products[1].** Efficacy categories: NR=Not Recommended; P=Poor; F=Fair; G=Good; VG=Very Good; E=Excellent; NL = Not Labeled for use against this disease

Fungicide(s)				Aerial web blight	Anthracnose	Brown spot	Cercospora leaf blight[2]	Frogeye leaf spot[3]	*Phomopsis*/ *Diaporthe* (Pod and stem blight)	Soybean rust	White mold[4]	Harvest restriction[5]
Class	Active ingredient (%)	Product/Trade name	Rate/A (fl oz)									
QoI Strobilurins Group 11	Azoxystrobin 22.9%	Quadris 2.08 SC	6.0 - 15.5	VG	VG	G	F	VG	--[6]	G-VG	P	14 days
	Fluoxastrobin 40.3%	Aftershock 480 SC Evito 480 SC	2.0 – 5.7	VG	G	G	--[6]	VG	--[6]	--[6]	NL	R5 (beginning seed) 30 days
	Picoxystrobin	Aproach 2.08 SC	6.0 - 12.0	VG	G	G	--[6]	VG	--[6]	G	--[6]	14 days
	Pyraclostrobin 23.6%	Headline 2.09 EC/SC	6.0 - 12.0	VG	VG	G	F	VG	--[6]	G-VG	NL	21 days
DMI Triazoles Group 3	Cyproconazole 8.9%	Alto 100SL	2.75 – 5.5	--[6]	--[6]	VG	--[6]	F	--[6]	VG	NL	30 days
	Flutriafol 11.8%	Topguard 1.04 SC	7.0 – 14.0	--[6]	VG	VG	F	VG	----[6]	E	G	21 days
	Propiconazole 41.8%	Tilt 3.6 EC Multiple Generics[7]	2.0 - 4.0	P	VG	G	NL	F	NL	VG	NL	R5 (beginning seed)
	Prothioconazole 41.0%	Proline 480 SC[8]	2.5 – 4.3	NL	NL	NL	NL	VG	NL	VG	G	21 days
	Tetraconazole 20.5%	Domark 230 ME	4.0 – 5.0	NL	VG	VG	F	VG	--[6]	VG-E	G	R5 (beginning seed)
MBC Thiophanates Group 1	Thiophanate-methyl	Topsin-M Multiple Generics	10.0 – 20.0	--	--	--	F	VG		G	G	21 days

Fungicide(s)				Aerial web blight	Anthracnose	Brown spot	Cercospora leaf blight	Frogeye leaf spot	*Phomopsis/ Diaporthe* (Pod and Stem blight)	Soybean rust	White mold	Harvest restriction
Class	**Active ingredient (%)**	**Product/Trade name**	**Rate/A (fl oz)**									
SDHI Carboximides Group 7	**Boscalid 70%**	**Endura 0.7 DF**	**3.5 – 11.0**	--[6]	NL	VG	--[6]	P	NL	NL	G	21 days
Mixed mode of action	**Azoxystrobin 18.2% Difenconazole 11.4%**	**Quadris Top 2.72 SC**	**8.0 – 14.0**	--[6]	--[6]	--[6]	--[6]	VG	--[6]	VG	NL	14 days
	Azoxystrobin 7.0% Propiconazole 11.7%	**Avaris 1.66 SC Quilt 1.66 SC HM-0812 1.66 SC**	**14.0 – 20.5**	--	--[6]	G	--[6]	G	--[6]	VG	NL	21 days
	Azoxystrobin 13.5% Propiconazole 11.7%	**Quilt Xcel 2.2 SE**	**10.5 - 21.0**	E	VG	G	F	VG	--[6]	VG	NL	R6
	Fluoxastrobin 18.0% Tebuconazole 25.0%	**Evito T 3.99 F**	**4.0 - 6.0**	--[6]	F	VG	--[6]	F	--[6]	--[6]	NL	30 days
	Pyraclostrobin 28.58% Fluxapyroxad 14.33%	**Priaxor 4.17 SC**	**4.0 – 8.0**	E	VG	E	F	VG	--[6]	E	--[6]	21 days
	Trifloxystrobin 11.4% Propiconazole 11.4%	**Stratego 250 EC**	**10.0**	G-VG	VG	G	F	VG	--[6]	VG	NL	21 days
	Trifloxystrobin 32.3% Prothioconazole 10.8%	**Stratego YLD 4.18 SC[9]**	**4.0 – 4.65**	VG	VG	VG	F	VG	--[6]	VG	NL	21 days

[1]Multiple fungicides are labeled for soybean rust only, powdery mildew, and alternaria leaf spot, including tebuconazole (multiple products) and Laredo (myclobutanil). Contact fungicides such as chlorothalonil may also be labeled for use.
[2] Cercospora leaf blight efficacy relies on accurate application timing, and standard R3 application timings may not provide adequate disease control. Fungicide efficacy may improve with later applications.
[3] Fungicides with a solo or mixed QoI mode of action may not be effective in areas where QoI-resistance has been detected in the fungal population that causes frogeye leaf spot.
[4] White mold efficacy is based on an R1 application timing, and lower efficacy is obtained at an R3 application timing, or if disease symptoms are already present at the time of application.
[5]Harvest restrictions are listed for soybean harvested for grain. Restrictions may vary for other types of soybean (edamame, etc.) and soybean for other uses such as forage or fodder.
[6]Insufficient data is available at this time to make statements about efficacy of these products for diseases listed in the table.
[7]Multiple generic products containing this mode of action may also be labeled in some states.
[8]Proline has a supplemental label (2ee) for soybean, only for use on white mold in IL, IN, IA, MI, MN, NE, ND, OH, SD, WI. A separate 2ee for NY exists for white mold.
[9]Stratego YLD has a supplemental label (2ee) for white mold on soybean only in IL, IN, IA, MI, MN, NE, ND, OH, SD, WI.

Many products have specific use restrictions about the amount of active ingredient that can be applied within a period of time or the amount of sequential applications that can occur. Please read and follow all specific use restrictions prior to fungicide use. This information is provided only as a guide. It is the responsibility of the pesticide applicator by law to read and follow all current label directions. Reference to products in this publication is not intended to be an endorsement to the exclusion of others that may be similar. Persons using such products assume responsibility for their use in accordance with current directions of the manufacturer. Members or participants in the NCERA-212 or NCERA-208 group assume no liability resulting from the use of these products.

Soybean rust symptoms on back of leaf.

FRUIT AND VEGETABLES

From: Emma Lookabaugh, Plant Disease and Insect Clinic, and Barbara Shew, Extension Plant Pathologist

Pesky Blackberry Foes

Here in North Carolina, blackberry season is in full swing! For many North Carolinians, that means it is the perfect time to stock up their freezer or pull out those Ball jars and preserve some tangy blackberry jam. Blackberry season brings back sweet summertime memories of riding my bike down the road to the blackberry thicket at the edge of the woods, gorging myself with fresh, juicy berries (probably picking up a few chiggers in the process), and heading home with purple stains on my hands, face, and clothes. Whether you prefer to pick your own berries or buy a pack from the local Farmer's Market, we can all agree that blackberries are a signature snack for a late summer's day. Unfortunately, blackberries, like all things delicious, come with their fair share of pests and diseases that impact fruit production.

This summer, we have seen two similar but different diseases on blackberry samples: orange rust on blackberry and black raspberry and leaf and cane rust on blackberry. Orange rust is typically the more devastating disease because it can become systemic, moving from leaves into other parts of the plant. The orange rust fungus has two forms, *Arthuriomyces peckianus* (formerly *Gymnoconia peckiana*) and *Gymnoconia nitens*, which differ only in the number of spore stages produced. Pustules full of orange-yellow spores develop on the undersides of leaves in late May and early June. These spores are blown to healthy leaves and infect when humidity is high and leaves are wet. Heavily infected leaves may die and defoliate. Once the plant is infected, the rust fungus becomes systemic. It grows down the infected shoot, into the crown, and then can enter newly formed roots. Symptoms associated with shoot infections include proliferation of shoots, weak and spindly canes, and lack of spines on the shoots. In mid-to-late summer, brownish black pustules that contain dark teliospores develop on the undersides of

lower leaves. Teliospores do not infect, but germinate to produce basidiospores that can infect new buds or shoots, or the teliospores can overwinter on leaves before producing basidiospores the following year. Infected plants remain infected throughout their lifetime and do not recover.

Orange rust pustules on underside of leaves. Note leaf distortion. Photo: *Plant Disease and Insect Clinic* Database.

Orange rust does not kill the plant outright, but infected plants are completely lost to production due to their inability to produce blossoms and berries. Controlling orange rust is largely achieved through cultural practices. Plant disease-free stock plants, eradicate diseased plants and wild berries in the surrounding area, and completely remove and destroy the entire plant as soon as symptoms develop on canes or leaves. Thin healthy plants to promote air circulation and to reduce leaf wetness.

Leaf and cane rust is caused by the fungus *Kuehneola uredinis*. Leaf and cane rust produces yellow spores in pustules that split the bark of infected canes, causing them to become weak. The pustules can also be found on the undersides of leaves. Diseased old canes should be pruned after fruiting. Alternate-year fruiting programs can help reduce disease pressure and routine fungicide spray programs may be effective in preventing new infections.

Care must be taken to differentiate systemic orange rust from leaf and cane rust because leaf and cane rust does not require drastic removal methods to control disease. Identification of the rust pathogen requires a microscope and considerable knowledge in rust morphology. Suspect samples should be sent to the *Plant Disease and Insect Clinic* for a formal diagnosis.

Leaf and cane rust. Note yellow spores bursting from cane. Photo: North Carolina State University Database.

Leaf and cane rust. Infected leaves maintain shape unlike those infected with orange rust. Photo: North Carolina State University Database.

ORNAMENTALS AND TURF

From: Steve Frank, Extension Entomologist

Redheaded Pine Sawfly

This week we had a clinic report of pine defoliation on North Carolina State University campus. The culprit is probably the redheaded pine sawfly, *Neodiprion lecontei*. It is a pest of pines in ornamental landscapes, nurseries, and plantations. Adults emerge in spring and a second generation occurs in mid-summer. Eggs are laid on many 2 and 3 needled pine species such as Jack pine, loblolly pine and red pine. Sawflies are not flies and the larvae do not turn into butterflies. They are non-stinging herbivorous wasps. They can defoliate trees and bushes in the landscape. Since they are gregarious it is sometimes possible to prune off an infested branch and remove all the larvae. Management for sawflies is similar as for caterpillars though not all the insecticides will work so check the label. Horticultural oil is a good bet especially for small larvae. Formulations that contain azadirachtin or spinosad are also effective. For sawflies and caterpillars, management of full-grown caterpillars is generally not warranted. The damage is already done and they are hard to kill.

Redheaded pine sawflies on *Pinus uncinata*. Photo: S. D. Frank.

INSECT TRAP DATA

From: Richard W. Rhodes, County Extension Director, Bertie County

Light Trap Data from Bertie County

	Windsor		Hexlena TNT		Woodard		PBRS
Date	BW	GSB	BW	GSB	BW	GSB	BW
July 22	1	1	-	-	-	-	0
July 23	-	-	-	-	-	-	0
July 24	0	0	0	1	-	-	0
July 25	0	1	0	0	-	-	-
July 26	0	0	NR	NR	-	-	0
July 27	0	0	NR	NR	-	-	0
July 28	0	0	NR	NR	-	-	0
July 29	0	0	NR	NR	-	-	-
July 30	3	0	NR	NR	-	-	-
July 31	4	0	4	0	-	-	-
August 1	NR	NR	NR	NR	-	-	-
August 2	3	0	NR	NR	-	-	-
August 3	4	0	NR	NR	-	-	-
August 4	4	1	NR	NR	-	-	-
August 5	6	0	5	0	-	-	-
August 6	NR	NR	NR	NR	-	-	-
August 7	4	1	5	0	-	-	-
August 8	5	3	-	-	-	-	-

BW = bollworms; GSB = green stink bugs;
NR = No Report

From: Mike Carroll, Agricultural Extension Agent, Craven County

Light Trap Data from Craven County

	Number of Adult Insects				
Date	BW	GSB	BSB	FAW	THW
July 8	------ Date Initiated -------				
July 11	3	1	0	0	1
July 12	2	0	0	0	0
July 15	8	1	0	0	1
July 16	7	0	0	0	1
July 17	8	0	0	0	1
July 19	8	0	0	1	0
July 22	12	0	0	0	1
July 26	20	1	0	0	0

July 30	25	2	0	0	6
August 1	16	0	0	0	2
August 2	22	2	0	1	4
August 5	26	3	0	2	3
August 6	8	1	0	0	1

BW = bollworms; GSB = green stink bugs; BSB = brown stink bugs;
FAW = fall armyworms; THW = tobacco hornworms

Location of trap: Cove City
Cooperators: R & W McCoy Farms and Cove City Fertilizer

From: Arthur R. Bradley, Jr., County Extension Director, Edgecombe County

Light Trap Data from Edgecombe County

	Number of Adult Insects								
	West Edgecombe			Coakley			Lawrence		
Date	CEW	BS	GS	CEW	BS	GS	CEW	BS	GS
July 5	-	-	-	2	3	7	-	-	-
July 8	-	-	-	1	2	20	-	-	-
July 10	-	-	-	0	0	6	-	-	-
July 12	0	1	1	2	0	6	-	-	-
July 15	0	0	0	3	0	0	-	-	-
July 17	0	0	0	4	1	8	-	-	-
July 19	1	0	0	0	0	9	-	-	-
July 22	0	1	0	0	2	10	-	-	-
July 24	0	0	0	0	0	6	-	-	-
July 26	0	0	0	6	0	0	1	0	1
July 29	2	1	0	7	1	1	0	0	15
July 31	14	0	0	5	0	0	1	0	6
August 2	18	0	0	10	0	0	0	0	6
August 5	28	1	0	10	0	0	0	0	6
August 7	16	0	0	26	0	0	0	0	2

Abbreviations: CEW = corn earworms;
BS = brown stink bugs; GS = green stinks bugs

From: Alan A. Harper, Lenoir County

Light Trap Data from Lenoir County

June

	Number of Adult Insects						
Date	HW	CEW	ECB	AW	AWC	GSB	BSB	TBW
June 1	---------- Put up light trap ----------							
June 2	0	0	0	0	0	7	0	0
June 3	0	1	1	0	0	10	0	0
June 4	0	0	0	0	0	5	0	0
June 5	0	0	1	0	0	2	0	0
June 6	0	0	0	0	0	0	0	0
June 7	0	0	0	0	0	3	1	0
June 8	0	0	0	0	0	3	0	0
June 9	0	0	1	0	0	12	1	0
June 10	0	0	0	0	0	4	0	0
June 11	0	0	0	0	0	0	0	0
June 12	0	0	0	0	0	2	0	0
June 13	0	0	0	1	0	4	1	0
June 14	0	0	0	0	0	0	0	0
June 15	0	0	0	0	0	0	0	0
June 16	0	0	1	0	0	0	1	0
June 17	0	0	0	0	0	1	0	0
June 18	0	0	0	0	0	0	1	0
June 19	0	0	0	0	0	0	0	0
June 20	0	0	0	0	0	0	0	0
June 21	0	0	2	0	1	0	0	0
June 22	0	0	0	0	0	1	0	0
June 23	0	0	0	0	0	0	0	0
June 24	0	0	0	0	0	0	0	0
June 25	0	0	0	0	0	1	0	0
June 26	0	0	0	0	0	0	0	0
June 27	0	0	0	0	1	0	0	0
June 28	0	0	0	1	0	0	0	0
June 29	0	0	0	0	0	0	0	0
June 30	0	0	0	0	0	2	0	0

July

	Number of Adult Insects						
Date	HW	CEW	ECB	AW	AWC	GSB	BSB	TBW
July 1	1	0	0	0	0	3	0	0
July 2	0	0	0	0	0	0	0	0
July 3	0	0	0	0	0	3	2	0
July 4	0	0	0	0	0	6	0	0
July 5	0	0	1	0	1	4	2	0
July 6	0	0	0	0	0	5	0	0
July 7	0	0	0	0	0	1	0	0

July 8	0	0	0	0	0	0	0	0
July 9	0	0	0	0	0	0	1	0
July 10	0	0	0	0	0	1	0	0
July 11	0	0	0	0	1	1	1	0
July 12	0	0	0	0	0	0	0	0
July 13	0	0	0	0	0	0	0	0
July 14	1	0	0	0	0	0	0	0
July 15	0	0	0	0	0	0	0	0
July 16	0	0	0	0	0	1	0	0
July 17	0	0	0	0	0	2	1	0
July 18	0	0	0	0	0	0	0	0
July 19	0	0	0	0	0	0	0	0
July 19	0	0	0	0	0	0	0	0
July 20	0	0	0	0	0	0	0	0
July 21	0	0	0	0	0	0	0	0
July 22	0	0	0	0	0	0	0	0
July 23	0	0	0	0	0	0	0	0
July 24	0	1	0	0	1	1	0	0
July 25	1	2	1	0	2	2	0	0
July 26	0	0	0	0	1	2	0	1
July 27	1	3	0	0	1	1	0	1
July 28	1	4	0	0	2	0	0	0
July 29	0	10	0	0	2	0	0	1
July 30	0	14	0	0	4	0	0	0
July 31	0	27	0	0	4	1	0	1

August

	Number of Adult Insects							
Date	HW	CEW	ECB	AW	AWC	GSB	BSB	TBW
August 1	0	38	0	0	4	1	1	0
August 2	1	10	1	0	1	1	0	1
August 3	0	23	0	0	2	0	0	0
August 4	0	0	0	0	0	0	0	0
August 5	0	22	0	1	7	0	0	0
August 6	0	27	0	3	5	0	0	1
August 7	0	38	1	5	4	0	0	2
August 8	0	34	0	0	1	1	1	2
August 9	0	14	0	3	0	1	0	0

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

From: Craig Ellison, Agricultural Extension Agent, Northampton County

Light Trap Data from Northampton County

	Number of Adult Insects																	
	Woodland			Conway			Galatia			Seaboard			Gaston			Jackson		
Date	CEW	GR	BR	CEW	GR	BR	CEW	GR	BR	CEW	GR	BR	CEW	GR	BR	CEW	GR	BR
July 31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	13	0
August 2	2	1	1	-	-	-	-	-	-	14	10	0	20	1	0	12	31	0
August 5	0	0	0	-	-	-	21	6	2	18	2	0	27	2	3	25	27	1
August 7	0	0	0	-	-	-	8	0	0	12	0	0	16	0	0	40	9	0
August 9	1	1	1	-	-	-	17	5	1	16	2	0	16	0	0	43	37	0

CEW = corn earworms; GR = green stink bugs; BR = brown stink bugs

Locations: Woodland, Conway, Galatia, Seaboard, Gaston and Jackson
Monitored by: L. Culpepper, K. Edwards, Ben Harris, T. Flythe, D. Grant and B. Bryant

From: Melissa E. Huffman, Agricultural Extension Agent, Onslow County

Light Trap Data from Onslow County

	Number of Adult Insects			
Date	Bollworms	Green Stink Bugs	Fall Armyworm	Tobacco Hornworm
July 1	0	0	0	0
July 3	0	0	0	0
July 5	0	0	0	0
July 8	0	0	0	0
July 10	0	2	0	0
July 12	0	1	0	0
July 15	0	0	0	0
July 17	6	2	0	0
July 19	6	3	0	1
July 22	11	8	1	0
July 24	8	15	1	0
July 26	8	6	0	0
July 29	25	5	0	1
July 31	21	8	0	2
August 2	----------	Data not collected	----------	
August 5	20	74	0	2
August 7	12	2	2	1
August 9	16	8	0	0

Trap Location: Richlands; Cooperator: Richlands Farm, Inc.
Insect counts are from a single black light trap located approximately 1 mile east of Richlands.

From: Scotland County Extension Center

Light Trap Data from Scotland County

	Number of Adult Insects											
	Gibson				John's				Laurinburg			
Date	BW	GSB	BSB	FAW	BW	GSB	BSB	FAW	BW	GSB	BSB	FAW
July 17	0	0	0	-	11	14	34	-	0	0	0	-
July 19	4	6	5	-	12	7	20	-	0	11	44	-
July 22	16	21	0	-	12	5	14	-	1	11	13	-
July 24	44	7	0	-	25	6	17	-	1	2	6	-
July 26	22	2	0	-	44	1	1	-	5	0	2	-
July 29	118	13	0	-	54	3	12	-	15	7	2	-
July 31	114	3	0	-	94	8	9	-	0	0	0	-
August 2	0	0	0	-	66	5	4	-	12	2	6	-
August 5	268	39	1	-	53	23	53	-	20	2	16	-

BW = bollworms; GSB = green stink bugs;
BSB = brown stink bugs; FAW = fall armyworms

From: Dominic Reisig, Extension Entomologist

Light Trap Data from Tidewater Research Station

	Number of Adult Insects					
Date	CEW	TBW	AW	SBL	BSB	GSB
July 5	0	0	0	0	0	0
July 8	0	0	0	0	0	0
July 10	0	0	0	0	1	1
July 12	0	0	0	0	1	3
July 15	0	1	0	0	6	2
July 17	0	0	0	0	2	8
July 19	0	1	0	0	6	3

Abbreviations: CEW = corn earworms; TBW = tobacco budworms;
AW = armyworms; SBL = soybean loopers; BSB = brown stink bugs;
GSB = green stink bugs

From: Tyler Whaley, Agricultural Extension Agent, Wayne County

Light Trap Data from Wayne County

	Number of Adult Insects			
	Goldsboro			
Date	GSB	BSB	CEW	HW
July 14	-	2	-	0
July 15	5	6	0	0
July 17	9	19	0	0
July 19	0	6	0	0
July 22	2	5	0	0
July 24	1	5	0	0
July 26	1	1	1	1
July 29	1	0	7	1
July 31	9	1	15	0
August 2	2	0	27	0
August 5	5	2	40	0
August 7	0	0	0	0
August 9	4	1	16	0

GSB = green stink bugs; BSB = brown stink bugs; CEW = corn earworms; HW = hornworms

Cooperator: Willie Howell Farm (Goldsboro)

From: Norman E. Harrell, Agricultural Extension Agent, Wilson County

Light Trap Data from Wilson County

	Number of Adult Insects					
	Kenly		Fountain		Pender's	
Date	CEW	GSB	CEW	GSB	CEW	GSB
July 29	-	-	3	5	-	-
July 31	1	0	2	6	-	-
August 2	5	0	42	4	-	-
August 5	7	0	33	2	0	0
August 7	7	1	32	5	0	0
August 9	8	11	32	16	1	3

CEW = corn earworms; GSB = green stink bugs

Locations: Kenly, Fountain and Pender's Cross Roads
Monitored by: Norman Harrell, Barbara Smith and Adam Gardner

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.