NC STATE UNIVERSITY

**COLLEGE OF AGRICULTURE & LIFE SCIENCES** 

# North Carolina Pest News



Departments of Entomology and Plant Pathology

**CAUTION !** The information and recommendations in this newsletter are applicable to North Carolina and may not apply in other areas.

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

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See current and archived issues of the *North Carolina Pest News* on the Internet at: <u>http://ipm.ncsu.edu/current\_ipm/pest\_news.html</u>



# ANNOUNCEMENTS AND GENERAL INFORMATION

# **Squash and Cucurbit Workshop**

North Carolina Cooperative Extension and Upper Mountain Research Station will lead a workshop on producing and managing squash, pumpkins, cucumbers, and other varieties of cucurbits in the North Carolina High Country on the afternoon of Thursday, September 5, 2013. The Cucurbit Workshop will take place at the Upper Mountain Research Station, located at 8004 NC Hwy. 88 East in Laurel Springs, North Carolina from 1:00 p.m. through 5:00 p.m. This workshop is free and open to all area farmers, industry professionals and Extension agents with an interest in growing and harvesting cucurbit crops. The field day will include teachers, specialists, and leaders (workshop-9-5-2013pressrelease.pdf). To ensure adequate materials for all participants, preregistration is encouraged. To register, or for more information, call the North Carolina Cooperative Extension, Ashe County Center at (336) 246-5850.

# Southeast Peanut Field Day

Southeast Peanut Field Day is on September 11, 2013 and starts at 9:30 a.m. at the Border Belt Tobacco Station in Whiteville, North Carolina. Contact David Jordan, Department of Crop Science, North Carolina, at (919) 515-4068 for more information.

# FIELD AND FORAGE CROPS

From: Jack Bacheler, Extension Entomologist

# **Cotton Insects on the Decline?**

This week we appear to be much closer to putting cotton insects in the rear view mirror. Only stink bugs remain a possible threat in some late cotton fields, with cotton aphids, spider mites and bollworms no longer able to inflict economic damage.

# Even without using the stink bug card or web app

(http://ipm.ncsu.edu/cotton/insectcorner/sbapp2/index.html) for treatment decisions based on internal boll damage and week of bloom, if hardened off speckled bolls (including cracked and/or open bolls), outnumber small bolls in the top of plants by about 5 to 7 to one, stink bugs should no longer be an economic problem in those fields. In those situations, the internal boll damage treatment threshold (still based on the sampling of quarter-sized bolls) would likely be 50% or above. My guess is that less than 15% of our cotton acreage is still vulnerable to stink bug damage as of August 30. Often at this time of year, stink bugs tend to gravitate more to soybean fields.

Although the caterpillar toxin in early-planted WideStrike and Bollgard II cotton varieties tends to lose some of its effectiveness at this time of year, bollworm moth levels appear to be too low to create a problem in the coming days or weeks.

Beginning this coming week, I'll begin the  $29^{th}$  and final year of our annual damaged boll survey. This year, our project's boll damage assessments will target only: 1) what kind (mostly bollworm vs. stink bug) and the amount of boll damage; and 2) possible regional differences in boll damage. We will not be making comparisons between BGII and WideStrike bollworm efficacy this year. Past surveys have clearly demonstrated that in producer-managed cotton fields, BGII was more efficacious against bollworms than WideStrike, but the differences in bollworm damage between these technologies were very slight. Additional *Bt* genes available in commercial lines going forward (i.e., WideStrike 3) will render differences in caterpillar efficacy between competing technologies even more minimal (that is, unless bollworm or budworm resistance to *Bt* genes develops!). It'll be interesting to find out how much late season boll damage our producers experienced in 2013.

From: Dominic Reisig, Extension Entomologist

# Soybean Loopers are Here - When and What to Spray

Soybean loopers are a migratory pest that we sometimes see in soybeans late in the season. Numbers really picked up in our research plots in the Sandhills region of the state and we've picked up more and more in the Blacklands region. Remember that the threshold for soybean loopers (and all defoliating pests) is 15% defoliation throughout the canopy. Loopers generally defoliate from the bottom of the canopy up so peel back those plants when you scout.

Although pyrethroids will knock loopers back initially, they will often resurge because they are tolerant to these chemicals and because natural enemies are removed. My top choices for soybean looper are Belt, Prevathon and Steward. There are premix products that will also work, such as Besiege, but these should only be used if you need the non-worm portion of the premix (such as stink bugs or kudzu bugs at threshold). Remember that you want to preserve natural enemies, if possible. Tracer/Blackhawk and Intrepid are also good effective chemicals for loopers.

# Should You Spray Insecticide Over Flowering Beans?

The short answer to the question, "should you spray and insecticide over flowering soybeans", is "no". You should only spray if you've reached 15% defoliation throughout the canopy or are at one kudzu bug nymph per sweep of the net. This means that the vast majority of our fields do not need an insecticide at flowering. I understand the temptation to tank mix in a cheap pyrethroid when you're already spraying a field. However, even at \$2 an acre, your money is likely wasted and can cause problems later in the season. Common questions/comments and answers:

Can corn earworm eat flowers? Yes, but the plant can shed 80 to 90% of the flowers without impacting yield. A student was recently funded to work on this with me by the North Carolina Soybean Producers Association. She showed that earworm larvae will eat flowers. However, even at levels that were 2 to 3x the podding threshold, we did not see a yield impact. Most fields won't have levels these high.

# No Relationship Between Corn Earworm Larvae Number and Yield at Peak Flowering for 2-3x Podding Threshold Levels



Blue arrow depicts the threshold level for podding soybeans. If there were a relationship between corn earworm numbers and yield, we would expect yield to decrease as earworm levels increase. There is no such relationship.

Will the pyrethroid clean-up insects that are already out there? Put another way, "I'm killing something", right? Pyrethroids are broad-spectrum insecticides and you will likely kill a lot of things. The trouble is that you will also kill natural enemies. Last week, I sprayed a broad-spectrum insecticide on flowering soybeans to **ENCOURAGE** insect populations. Often when I do this, I can flare worm pest levels (which is how we got the numbers in the flowering studies above). It's better to wait and spray once the soybeans are podding. A lot can happen between flowering and podding to kill those worms.

A lot of people tell me they sprayed last year at flowering and did not have any insect problems. Someone once told me that insecticides work great in the absence of insects. Generally you can follow up your spray and see that you did a decent job on cleaning up. Resurgence is the problem here. The major problems I saw last year with corn earworm, loopers and beet armyworms were following automatic sprays. Natural enemies were killed and the worms had a heyday.



View from the sweep net after 10 sweeps. The result three weeks after an automatic spray at flowering.

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

# Physiological Scorch of Soybean: Is it "SDS", Black Root Rot ("CBR"), Brown Stem Rot, Phytopthora Root and Stem Rot or Just Weather?

# **Physiological Scorch**

Some soybeans exhibit a symptom referred to as "Physiological Scorch". When there is extensive chlorosis (yellowing) between the veins of the leaf, or necrosis (dead tissue) between the veins, which may occur on the top of the plant or throughout the plant, we refer to this symptom as physiological scorch. It typically occurs when the roots and vascular systems are not effectively doing their jobs, such as when root and or stem pathogens restrict the vascular system when soybean is in the reproductive phase, especially during pod filling. We suspect in some cases no disease may be involved or specifically to blame for these symptoms. Wet or saturated soils through much of the State has resulted in root systems that are poorly developed. Now that things are drying out a little, the root systems may not be able to meet all the demands of the shoots and pods for nutrients and water. What we view as a "burning up of the plant", is really just the plant response to a water and nutrient shortage when demand is greatest. Once plants enter the reproductive stage, they will add only a few new roots and will not replace those that have died, thus the plant is limited in what it can do.

A number of pathogens can cause this symptom. Most commonly this symptom is associated with "SDS" (sudden death syndrome) or "CBR" (Cylindrocladium black root rot) of soybean. Lab and or visual analysis are needed to distinguish between the two diseases. Other diseases that may occasionally cause these symptoms include Dectes stem borer, Phytophthora root and stem rot, stem canker and charcoal rot. Regardless of which disease is present, fungicides are unlikely to provide a remedy since these are a result of root rots or other vascular disease.



Example of physiological scorch.

For more information see:

http://www.ces.ncsu.edu/depts/pp/notes/Soybean/soy007/soy007.htm and http://www.ces.ncsu.edu/depts/pp/notes/Soybean/soy005/soy005.htm.

# FRUIT AND VEGETABLES

From: Lina Quesada-Ocampo, Extension Plant Pathologist

# Are Your Cucurbits Infected with *Phytophthora capsici*?

Several cucurbit fields throughout the State are experiencing problems with *Phytophthora capsici* fruit and root rot. This is not surprising since rain favors this pathogen and North Carolina has received heavy rainfall this growing season. However, it is important that you determine if *P. capsici* is in your field since this pathogen can be difficult to control.

*P. capsici* fruit rot symptoms include water-soaked lesions that are covered in white spores that look like powdered sugar.



*Phytophthora capsici* fruit rot on watermelon. Note the water-soaked lesion covered with white spores that look like powdered sugar. Photo: Dr. Lina Quesada, North Carolina State University Vegetable Pathology Lab.

*P. capsici* root rot symptoms include wilting, rot, stunting of the plant and plant death. Some of these symptoms can also be seen when plants have a Pythium or Fusarium root rot infection and it is important to determine which pathogen is causing disease since control strategies will be different depending on the pathogen. Watermelon and cucumber vines are typically less susceptible to *P. capsici* than squash. However, all the fruit are highly susceptible, especially if fruit are in direct contact with soil.



Wilting and plant death caused by *Phytophthora capsici* on squash. Photo: Dr. Lina Quesada, North Carolina State University Vegetable Pathology Lab.

It is also possible to see *Phytophthora capsici* leaf blight symptoms on cucurbits, especially after heavy rains and in areas with standing water or conducive to soil splashing on leaves.



*Phytophthora capsici* leaf blight on squash leaf. Photo: Dr. Lina Quesada, North Carolina State University Vegetable Pathology Lab.

Further information about disease caused by *P. capsici* and control strategies can be found in this disease factsheet

(http://www.cals.ncsu.edu/plantpath/extension/fact\_sheets/Cucurbits\_-\_Phytophthora\_blight.htm) and in the *North Carolina Agricultural Chemical Manual* (http://ipm.ncsu.edu/agchem/10-toc.pdf). The Vegetable Pathology Lab (http://projects.cals.ncsu.edu/veggiepathology/) will continue to publish

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information about this pathogen and we have compiled *Phytophthora capsici* alerts: <u>http://plantpathology.ces.ncsu.edu/tags/pcapsici/</u>.

Many factors can influence control strategies for *P. capsici* and in some cases a field-specific approach will be needed to manage disease. If you think *P. capsici* is infecting your cucurbits please contact your local Extension agent (<u>http://www.ces.ncsu.edu/local-county-center/</u>) and send photos and/or physical samples to the *Plant Disease and Insect Clinic* 

(http://www.cals.ncsu.edu/plantpath/extension/clinic/submit-sample.html) for assistance.

Follow us on Twitter (<u>https://twitter.com/QuesadaLabNCSU</u>) and Facebook for more veggie disease alerts (<u>https://www.facebook.com/QuesadaLabNCSU</u>).

# **ORNAMENTALS AND TURF**

From: Steve Frank, Extension Entomologist

# **Orangestriped Oakworms**

I have several reports of orangestriped oakworms this week. I found a whole slew of them at a play ground in Cary. I was trying to snap pictures while kids ran around stomping them. Orangestriped oakworms can defoliate trees in some cases, but often only a branch or two are affected. They have one generation a year. This time of year they are noticeable because they are very big and start coming down to the ground to pupate. Thus, they have caused all the damage they will cause for this year and no treatment is needed.



Orangestriped oakworm. Photo: S. D. Frank.

# **INSECT TRAP DATA**

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

# Light Trap Data from Bertie County

******	* * * * * *	*****	* * * * * *	*****	*****	*****	*****	****
				Hexle	ena			
		Winds	sor	TN	Г	Wooda	ard	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	NR	NR	-	-	-
August	9	2	1	2	0	0	4	_
August	10	NR	NR	NR	NR	NR	NR	_
August	11	NR	NR	NR	NR	NR	NR	_
August	12	NR	NR	3	4	9	7	-
August	13	5	6	9	NR	6	28	_
August	14	3	6	NR	NR	5	7	_
August	15	0	0	NR	NR	NR	NR	_
August	16	NR	NR	NR	NR	NR	NR	-
August	17	NR	NR	NR	NR	NR	NR	_
August	18	NR	NR	NR	NR	NR	NR	_
August	19	7	1	5	0	NR	NR	-
August	20	0	0	NR	NR	2	2	-
August	21	1	0	NR	NR	NR	NR	-
August	22	NR	NR	NR	NR	NR	NR	-
August	23	1	2	3	7	NR	NR	-
August	24	NR	NR	NR	NR	NR	NR	-
August	25	NR	NR	NR	NR	NR	NR	-
August	26	0	0	1	0	7	8	-
August	27	0	0	NR	NR	0	1	-
August	28	-	-	-	-	0	7	-
* * * * * * *	* * * * * *	+ + + + + + +	* * * * * *	+ + + + + +	+ + + + + +	+ + + + + +	+ + + + + +	++++

BW = bollworms; GSB = green stink bugs; NR = No Report From: Mike Carroll, Agricultural Extension Agent, Craven County

#### Light Trap Data from Craven County

* * * * * * * * * * * *	*****	*******	*****	******	****
	1	Number of	f Adul	t Insect	s
	* * * *	*******	* * * * * *	* * * * * * * *	****
Date	BW	GSB	BSB	FAW	THW
**********	*****	*******	*****	******	****
July 8		Date	Initi	ated	
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
August 9	25	1	0	0	1
August 12	30	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

******	***************************************											
			Num	ber of	Adult	: Inse	ects					
	***************************************											
	West	Edgec	ombe	С	bakle	У	Lav	vrenc	ce			
	****	*****	****	*****	* * * * *	****	*****	****	***			
Date	CEW	BS	GS	CEW	BS	GS	CEW	BS	GS			
******	* * * * * * * * * * * *	*****	*****	******	* * * * *	****	******	****	***			
July 5	-	-	-	2	3	7	-	-	-			
July 8	-	-	-	1	2	20	-	-	-			
July 1	0 –	-	-	0	0	6	-	-	-			
July 1	2 0	1	1	2	0	6	-	-	-			
July 1	5 0	0	0	3	0	0	-	-	-			
July 1	7 0	0	0	4	1	8	-	-	-			
July 1	9 1	0	0	0	0	9	-	-	-			
July 2	2 0	1	0	0	2	10	-	-	-			
July 2	4 0	0	0	0	0	6	-	-	-			
July 2	6 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
August	9	ND	-	-	24	0	1	0	0	2
August	12	ND	-	-	26	0	2	0	0	3
August	14	8	0	2	16	0	1	0	0	13
August	16	1	0	0	19	0	0	0	0	1
August	19	0	0	1	26	0	0	1	0	0
August	21	0	0	0	2	0	0	1	0	2
August	23	0	0	2	6	1	0	0	0	2
August	26	0	0	0	5	0	0	-	-	-
August	28	0	0	1	11	0	0	0	0	0
August	30	1	0	1	-	-	-	-	-	-
*****	* * *	* * * * * * *	* * * * *	****	******	* * * * *	****	*****	*****	****
Abbrevi	ati	ons: CH	EW = c	corn e	earworm	s; BS	= bro	own st	ink bı	ıgs;
		GS = q	green	stin	ks bugs	; ND :	= No 1	Data		

#### From: Arthur Whitehead, Jr., County Extension Director, Halifax County

#### Light Trap Data from Halifax County

******	******	* * * * * *	* * * * * *	******	*****	* * * * * *	*****	*****	****
	I	Hobgod	bd		Dawso	on		Weld	on
	* * * *	* * * * * *	****	****	*****	***	****		
Date	CEW	GSB	BSB	CEW	GSB	BSB	CEW	GSB	BSB
*******	*******	* * * * * *	*****	******	*****	* * * * * *	*****	*****	* * * * *
July 15	NR	-	-	NR	-	-	NR	-	-
July 17	0	0	0	NR	-	-	NR	-	-
July 19	NR	-	-	NR	-	-	NR	-	-
July 22	NR	-	-	NR	-	-	NR	-	-
July 24	NR	-	-	NR	-	-	NR	-	-
July 26	1	0	0	3	0	0	NR	-	-
July 29	NR	-	-	NR	-	-	NR	-	-
July 31	NR	-	-	NR	-	-	NR	-	-
August 2	NR	-	-	NR	-	-	NR	-	-
August 5	0	2	0	NR	-	-	5	1	0
August 7	0	6	0	26	1	0	5	1	0
August 9	0	2	0	49	7	0	7	0	0
August 1	2 0	2	0	NR	-	-	8	2	0
August 1	4 0	2	0	43	7	-	NR	-	-
August 1	6 0	4	1	4	0	0	NR	-	-
August 1	9 1	0	0	26	0	0	6	0	0
August 2	1 1	2	0	39	0	0	6	0	0
August 2	3 0	2	0	NR	-	-	NR	-	-
August 2	6 NR	-	-	14	1	0	8	0	0
* * * * * * * *	* * * * * * * * *	* * * * * *	*****	******	*****	* * * * * *	* * * * * * *	*****	* * * * *

Abbreviations: CEW = corn earworms; GSB = green stink bugs; BSB = brown stink bugs; NR = No Report

# 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 t	rap					
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			
*****	*****	******	******	******	******	*******	******	* * * * * * * *	******			

* * * * *	*****											
	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				
August	10	0	10	0	0	2	0	0	0				
August	11	0	17	0	0	1	0	0	0				
August	12	1	10	0	0	2	4	0	0				
August	13	0	4	1	0	2	1	0	0				
August	14	0	6	1	0	3	1	0	0				
August	15	0	0	0	2	3	0	0	0				
August	16	0	2	1	0	1	0	0	0				
August	17	0	1	0	1	1	0	0	0				
August	18	0	0	0	1	0	0	0	0				
August	19	0	0	0	0	1	0	0	0				
August	20	0	0	0	0	0	1	0	0				
August	21	0	0	0	1	1	0	0	0				
August	22	0	3	0	0	2	0	0	0				
August	23	0	1	0	0	2	2	0	0				

1	August	24	0	3	0	0	0	0	0	0
ž	August	25	0	0	0	0	2	0	0	0
2	August	26	0	0	1	0	0	0	0	0
2	August	27	0	0	0	0	0	1	0	0
ž	August	28	0	0	0	0	0	2	0	0
ž	August	29	0	4	0	0	0	0	0	0
2	August	30	0	7	0	1	3	0	0	0
-	* * * * * * *	******	******	* * * * * * * *	******	******	******	******	******	: *
Ał	obrevia	ations:	HW = hc	ornworms	s; CEW =	= corn e	earworms	; ECB =	= Europe	ean
	corn b	orers;	AW = tr	ue army	worms;	AWC = a	rmyworm	comple	x; GSB :	=
ç	green s	stink bu	ıgs; BSI	3 = brov	vn stink	k bugs;	TBW = t	cobacco	budworm	ເຮ

From: Craig Ellison, Agricultural Extension Agent, Northampton County

#### Light Trap Data from Northampton County

Number of Adult Insects Woodland Conway Galatia Seaboard Gaston Jackson \*\*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*\*\*\*\*\*\* CEW GR BR Date - - -\_ \_ July 31 \_ \_ \_ \_ \_ \_ \_ \_ 15 13 0 \_ 2 1 1 14 10 0 20 1 0 12 31 August 2 - - -- - -0 0 0 0 21 6 2 27 2 3 25 27 August 5 - -\_ 18 2 0 1 August 7 0 0 0 8 0 0 12 0 0 16 0 0 40 9 - - -0 - - - 17 5 1 16 2 0 16 0 0 August 9 1 1 1 43 37 0 August 12 1 0 0 3 2 1 12 2 0 6 1 0 - - -45 43 2 9 13 0 - - -1 0 0 - - -24 0 0 27 93 August 14 0 0 0 0 0 0 0 2 0 0 \_ \_ \_ - - -2 2 August 16 0 0 0 0 - - -4 0 0 12 0 0 - - -August 19 14 10 0 4 12 August 21 0 0 0 \_ - -3 1 0 6 0 0 \_ \_ \_ 0 August 23 0 0 0 - - - 10 4 0 18 3 0 - - -1 17 0 August 26 0 0 0 - -\_ \_ \_ 1 0 0 4 0 0 \_ 2 2 0 August 28 1 0 0 \_ - -3 3 0 41 12 0 2 21 1 \_ \_ \_ August 30 \_ \_ \_ \_ \_ \_ - - -3 0 0 \_ \_ \_ 10 27 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

******	**********	*******	*******	*******
	Nu	umber of Adu	lt Insects	
	*********	******	*******	*******
		Green	Fall	Tobacco
Date	Bollworms	Stink Bugs	Armyworm	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
August 12	28	29	0	1
August 14	6	28	0	0
August 16	12	1	0	1
August 19	7	4	0	0
August 21	2	0	0	0
August 26	5	1	0	0
August 28	3	0	0	0
*******	* * * * * * * * * * * *	*********	********	* * * * * * * * *

#### Light Trap Data from Onslow County

#### From: Scotland County Extension Center

#### Light Trap Data from Scotland County

****	****	****	****	****	*****	******	* * * * *	****	****	******	****	****	****
						Number	of A	dult	Insec	ts			
		***	****	****	*****	******	* * * * *	****	****	******	****	****	****
			Gił	oson			Joł	nn′s			Laur	inburg	3
		***	****	****	*****	***	* * * * *	****	****	***	****	****	****
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	2	16	21	0	_	12	5	14	-	1	11	13	_
July 24	4	44	7	0	-	25	6	17	-	1	2	6	-
July 20	6	22	2	0	-	44	1	1	-	5	0	2	-
July 29	9	118	13	0	-	54	3	12	-	15	7	2	-
July 31	1	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	-
August	7	-	-	-	-	-	-	-	-	-	-	-	-
August	9	-	-	_	-	-	_	-	-	-	_	_	-
August	12	-	-	_	-	-	_	-	-	-	_	_	-
August	14	20	13	1	-	19	16	2	-	23	7	28	-
August	16	15	1	0	-	6	0	0	-	21	4	9	-
August	19	18	12	0	-	32	8	4	-	11	2	2	-
August	21	9	8	0	-	12	0	0	-	11	5	6	-
August	23	15	9	0	-	14	4	3	-	-	-	-	-
August	26	-	-	-	-	34	13	8	-	-	-	-	-
* * * * * * *	* * *	* * * *	*****	* * * * *	*****	*****	*****	*****	* * * * * *	*****	*****	*****	* * *

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

From: Andrew Baucom, Agricultural Extension Agent, Stanly County

# **Light Trap Data from Stanly County**

* * * * * * * * * * *	* * * * * * *	* * * * * * * * * * * *	*****
	Number *****	of Adult Ir *********	1sects *****
Date ********	CEW ******	BR *********	GR *****
August 19	0	2	0
August 21	0	0	0
August 23	0	0	0
August 26	1	0	0
August 28	0	0	0
August 30	0	0	2
******	******	* * * * * * * * * * * *	*****
CEW = corn e	earworm	moths; BR =	brown
stink bugs	; GR =	green stink	bugs

From: Dominic Reisig, Extension Entomologist

# Light Trap Data from Tidewater Research Station

* * * * * * * * * * * *	*****	*****	******	*****	*****	****
		Number	of Adı	ult In	sects	
	*****	*****	*****	*****	*****	****
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	earwo	rms; T	BW = t	obacco	budwor	rms;	
AW = armyworms; SBL :	= soybe	ean loo	opers;	BSB =	brown	stink 2	bugs;	
GSB = green stink bugs								

From: Tyler Whaley, Agricultural Extension Agent, Wayne County

*********	* * * * * * * *	*****	*****	* * * *
	Number	of Adu	lt Inse	ects
	******	*****	*****	****
		Golds	oro	
	******	*****	*****	* * * *
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
August 12	5	1	12	0
August 14	10	2	20	1
August 16	2	0	2	0
August 21	7*	2*	20*	0
	(5	day co	ount)	
August 23	4	0	4	1
August 26	2	1	0	0
**********	******	* * * * * *	*****	* * * *

# Light Trap Data from Wayne County

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

* * * * * * * * * * * * * *	* * * * *	*****	* * * * * * * *	****	* * * * * * * * * *	***
		Numb	er of A	dult I	insects	
	* * * *	*****	* * * * * * * *	****	* * * * * * * * * *	***
	Ken	ly	Four	tain	Pender	c's
	****	****	****	****	* * * * * *	* * *
Date	CEW	GSB	CEW	GSB	CEW (	GSΒ
* * * * * * * * * * * * * * *	* * * * *	* * * * * *	* * * * * * * *	****	* * * * * * * * * *	* * *
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
August 12	3	3	35	11	7	0
August 14	1	1	15	5	17	1
August 16	4	0	10	1	32	2
August 19	2	1	15	3	37	2
August 21	0	0	10	7	15	0
August 23	0	1	9	0	7	0
August 26	0	1	11	0	12	1
August 28	0	2	8	5	4	0
August 30	2	6	16	1	5	0
* * * * * * * * * * * * * *	*****	*****	* * * * * * * *	*****	* * * * * * * * * *	+ * *

#### Light Trap Data from Wilson County

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.