

North Carolina Pest News

Departments of Entomology and Plant Pathology



Stephen J. Toth, Jr., editor

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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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See current and archived issues of the *North Carolina Pest News* on the World Wide Web at:
http://ipm.ncsu.edu/current_ipm/pest_news.html

ANNOUNCEMENTS AND GENERAL INFORMATION

Final Issue of *North Carolina Pest News* for 2006

This will be the final issue of the *North Carolina Pest News* for 2006. The editor would like to thank all of the Extension specialists and county agents and directors that contributed articles and/or insect trap data for the newsletter this season.

If you have any comments, criticisms or suggestions regarding the content or format of the *North Carolina Pest News*, please forward them to the editor (e-mail: Steve_Toht@ncsu.edu). Your input will help us improve the quality of the newsletter in the future.

Thank you for your interest in the *North Carolina Pest News*. The newsletter will resume in April of 2007. Meanwhile, individual articles on insect and disease pests in North Carolina will be provided as *Pest Alerts* via electronic mail and the Internet (http://ipm.ncsu.edu/current_ipm/palert99.html).

FIELD AND FORAGE CROPS

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

Current Soybean Disease Situation

Sentinel plots continue to be monitored weekly, and several samples from kudzu in the southern part of the state were taken to the lab for examination. All were negative for Asiatic soybean rust. Rust has not been found in North Carolina thus far. Frogeye leaf spot is fairly common in susceptible varieties as is target spot and these diseases may warrant fungicide application on highly susceptible varieties. A strobilurin fungicide (Headline or Quadris) is recommended for these diseases. Soybean downey mildew is also prevalent in most areas of the State.

Asiatic Soybean Rust Outlook: New Rust Find in South Carolina

Asiatic soybean rust is starting to develop at a faster pace to the south of North Carolina. The most recent find is at the research station near Florence, South Carolina. A few pustules on one leaf out of 50 leaves examined. This is within a hundred miles of much of North Carolina. Asiatic soybean rust has been confirmed near St. Matthews, in Calhoun County in South Carolina. One lesion was found on one of 25 leaves on a maturity group V soybean at stage R5 (full sized pods with small beans); no lesions were found on the group IV variety at the same site. A second sentinel plot in Dorchester County, South Carolina, south of Santee Cooper, was found with more pustules on the late variety. It is at Wells Cross Road at near the intersection of 178 and 15. This is no closer than the previous find. Dr. John Mueller of Clemson University is recommending that those growers with good yield potential should consider spraying a fungicide. This recommendation is within the scope of what we are recommending with the 100-mile limit. A combination of Strobilurin and a triazole (Headline SBR, Stratego, or

Quilt) may be the best approach for them since they rarely grow anything earlier than a maturity group VI soybean and many group VII soybeans are susceptible to Frogeye and Target spot.

Ninety-one percent of the soybean crop has set pods. Thus, about 85 to 95 percent of the crop is no longer at risk. Soybean producers in the southern counties of North Carolina should be alert for rust moving any closer. If rust gets within 100 miles, and the soybeans do not yet have fairly good sized seeds in the pods, we suggest spraying with a strobilurin fungicide. Assuming that some growers may not get into the field before mid-week after the rain, consider a combination of a strobilurin and a triazole (Headline SBR, Stratego, or Quilt), especially on late maturity (Group VII or VIII) and/or late-planted soybean.

Soybeans that have full sized soybeans in the pods (stage R6) before rust is identified in the field will probably mature before rust causes significant yield loss, and it is illegal to spray any of our fungicides that late in soybean development. As infrequently as rust affects soybeans that have not started blooming, we also would not spray soybeans that have not started blooming yet.

Web Resources for Asiatic Soybean Rust

A number of excellent resources are available on the web to assist you with decision making on Asiatic soybean rust. The North Carolina soybean rust forecast is available on web (<http://www.ces.ncsu.edu/depts/pp/soybeanrust/index.php>) and USDA soybean rust and soybean aphid web site (<http://www.usda.gov/soybeanrust/>). The USDA site also contains tools to help manage insurance claims and current information on labeled fungicides.

ORNAMENTALS AND TURF

From: Michael G. Waldvogel and Stephen B. Bambara, Extension Entomologists

Slaughtering Cow Killers

We are receiving numerous reports about velvet ants, a.k.a. cow killers (Fig. 1). These insects aren't cow killers or ants. They are wasps in the family Mutillidae. The body of the velvet ant is covered with reddish and black hairs that give it a velvety appearance. Male velvet ants have wings, but the wingless females are the ones most often spotted by people in their yards. Most species of velvet ants are parasites of other bees and wasps, including formidable creatures like cicada killers. The female velvet ant is often seen scurrying over open, sandy stretches of soil that are the preferred nesting sites for many ground-dwelling bees and wasps. She lays her eggs on or near a developing bee (not on the adult) and her offspring proceed to feed on the helpless host insects.



Fig. 1. The cowkiller, a parasite of the cicada killer wasp. Image from James R. Baker.

Female velvet ants make a squeaking sound if they are handled. This is soon followed by a distinct shriek by the unfortunate person who picked her up and was stung in the process. Most inquiring minds ask about the severity of the stings. We would say that they are on par with any bee or wasp sting, but we've never picked one up either, so we're just guessing. Of course, people who are hypersensitive to bee and wasp stings may have a more severe reaction and should avoid close encounters with the cowkiller. Treatment for velvet ant stings is the same as for any bee/wasp sting.

Velvet ants are not social insects. We're not referring to their dispositions, but to the fact that they are solitary wasps more like cicada killers. They do not live in a colony. So, even if you see several velvet ants (which is quite likely the case), they are all individual females doing their own thing and roaming in search of prey. For this reason, dousing your yard with pesticides is not going to be efficient because there is no nest of these things for you to target.

The velvet ant has a tough exoskeleton, which protects her from stings by the host wasps in the nests that they invade and it similarly provides some protection from light-hearted (or light footed) attempts to crush her. Never employ this control method while barefoot. The best advice, is to just let them “do their thing.”

From: Stephen B. Bambara, Extension Entomologist

Scale Identification Help

Want to try to identify your own scale insects? Weigh in at the following web site: <http://www.sel.barc.usda.gov/scalekeys/keys/ScaleInsectsHome/ScaleInsectsHome.html>.

Bark Beetle Images With Lots of Bite

For information and images of bark and wood boring beetles, see the following web site: <http://www.barkbeetles.org/>.

Homeowner Insecticides: Active Ingredients Versus Trade Names

Information on homeowner insecticides changes frequently and you're not likely to find this information neatly in the *North Carolina Agricultural Chemicals Manual*, so county Extension agents who fight this battle regularly may find some help in the following resources on the web:

http://ipm.ifas.ufl.edu/applying/tactics/pesticides/insecides_in_colorado_2004.pdf

<http://www.bayeradvanced.com/garden/master-gardener/active-ingredients.cfm>

<http://www.spectracide.com/>

Coming Attractions in the Landscape This Fall

Grubs in lawns. Soon would be the time to treat for grubs, but it is doubtful that many homeowners approach anywhere near the insecticide treatment threshold. Don't treat unless you count 10+ grubs per square foot of turf. You may not need to treat the entire lawn.

Fall spiders. Ignore the spiders and sweep away the nests with a broom. See information on common spiders in the landscape in *Ornamental and Turf Insect Information Note No. 137* on the web at: <http://www.ces.ncsu.edu/depts/ent/notes/Other/note137/note137.html>.

Twolined spittlebugs. If populations of twolined spittlebugs were high in turf this summer, adults may start to damage the leaves of some hollies. See an article on twolined spittlebugs in the August 26, 2005 *North Carolina Pest News* on the web at: http://ipm.ncsu.edu/current_ipm/05PestNews/05News20/ornament.html.

Twig girdler. These longhorned beetles are probably becoming active, especially on hickory, oak and pecan (Fig. 2). They girdle the tips of twigs of these trees, but the twigs remain in the trees until the leaves fall from the trees and a stiff breeze knocks them to the ground. Clean up and destroy any fallen twigs with the neatly clipped ends and leaves attached. See information on twig girdlers in *Ornamental and Turf Insect Information Note No. 96* on the web at: <http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/note96/note96.html>.



Fig. 2. The twig girdler and her damage on pecan. Image from James R. Baker.

INSECT TRAP DATA

From: Thomas G. Pegram, Agricultural Extension Agent, Union County

Light Trap Data From Anson, Stanly and Union Counties

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*****
                        Number of Adult Insects
*****
      Anson S      Anson N      Union S      Union N      Stanly
*****          *****          *****          *****          *****
Date      CBW  GR  BR  CBW  GR  BR  CBW  GR  BR  CBW  GR  BR  CBW  GR  BR
*****
July 17    12  78  20   10  0  0   18  17  0   38  4  0    8  0  0
July 19     -   -   -   15  0  0   19  12  0   30  2  0   14  0  0
July 21    18  11  2   28  0  0   81  17  0   40  4  1   15  1  0
July 24    55  48  7  101  1  2  211  13  0   59  26  3   24  0  0
July 26     0  0  0  157  3  0  250   9  0   46  18  1   23  1  0
July 28     0  0  0  133  1  0  185  12  0   44  8  0   27  2  0
July 31     -   -   -  132  5  0  215  14  0   36  9  2   42  3  0
August 2    -   -   -  118  4  1  230  15  0   43  8  0   33  2  0
August 4    -   -   -  102  1  0  245  12  0   57  11  0   10  0  0
August 7    71 158  9   80  1  0  375   9  0   52  4  0    5  1  0
August 9    39  14  0   28  0  0  150   6  0   67  3  0   16  0  0
August 11   42  21  1   38  5  0  145   4  0   61  7  0   17  0  0
August 14   36  6  0   52  0  0  180   5  0   84  1  0   26  0  0
August 16   22  46  1   28  3  0  168  14  0   42  4  0   15  1  0
August 18   11  17  0   27  1  0  152  19  0   28  0  0   24  1  0
August 21   46  46  1   42  0  0  134  33  0   42  8  0   26  1  0
August 23  105 147  0   36  0  0   76  17  0   25  5  0   12  0  0
August 25   68  28  0   55  2  0   75  22  0   19  3  0    9  0  0
August 28   48  16  0   34  0  0    -   -   -   11  1  0    5  0  0
August 30   33  8  0   42  0  0    -   -   -   17  3  0    4  5  0
Sept. 1    -   -   -   70  0  0    -   -   -    9  1  0    5  2  0
*****
    
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CBW = cotton bollworm moths; GR = green stink bugs; BR = brown stink bugs

Trap Locations and Cooperators:
 Anson N: Ansonville area (Fincher Martin)
 Anson S: Deep Creek area (Richard Melton)
 Union N: New Salem area (Tom Pegram)
 Union S: White Store area (Greg Hargett)
 Stanly: Richfield area (Shannon Braswell)

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

Light Trap Data From Bertie County

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*****
      Windsor      Woodard      Hexlena      Roxobel      Colerain
*****          *****          *****          *****          *****
Date      BW  GSB  BSB  BW  GSB  BSB  BW  GSB  BSB  BW  GSB  BSB  BW  GSB  BSB
*****
July 10         0  0  0   -  -  -   -  -  -    1  0  0   -  -  -
July 11         0  2  0   -  -  -    0  0  0   -  -  -   -  -  -
    
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July 12	0	3	0	2	0	0	-	-	-	-	-	-	-	-	-
July 13	0	3	0	-	-	-	0	17	0	3	3	0	5	1	0
July 14	0	5	0	2	10	0	0	9	0	-	-	-	-	-	-
July 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July 17	-	-	-	7	12	0	0	11	0	2	14	0	-	-	-
July 18	1	9	0	-	-	-	0	3	0	1	2	0	-	-	-
July 19	1	6	0	11	7	0	0	2	0	0	3	0	2	7	0
July 20	0	7	0	8	5	0	0	8	0	0	22	0	2	1	0
July 21	7	1	0	5	2	0	1	6	0	-	-	-	-	-	-
July 22	1	6	0	-	-	-	-	-	-	-	-	-	-	-	-
July 23	15	2	0	-	-	-	-	-	-	-	-	-	-	-	-
July 24	18	0	0	14	1	0	5	11	0	-	-	-	15	0	0
July 25	19	6	0	27	0	0	4	2	0	-	-	-	18	0	0
July 26	10	1	0	24	3	0	4	7	0	-	-	-	35	1	0
July 27	35	9	0	24	5	0	2	7	0	9	1	0	15	2	0
July 28	22	2	0	-	-	-	3	7	0	11	0	0	46	0	0
July 29	30	3	0	-	-	-	-	-	-	-	-	-	-	-	-
July 30	55	1	0	-	-	-	-	-	-	-	-	-	-	-	-
July 31	102	0	0	7	1	0	54	31	0	50	6	0	60	4	0
August 1	93	4	0	178	1	0	39	7	0	16	4	0	170	0	0
August 2	215	10	0	87	8	0	53	6	0	19	3	0	236	6	0
August 3	265	12	0	77	1	0	66	12	0	-	-	-	305	3	0
August 4	202	8	0	83	4	0	65	5	0	19	5	0	351	4	0
August 5	115	3	0	80	2	0	-	-	-	31	5	0	-	-	-
August 6	34	3	0	56	0	0	-	-	-	-	-	-	-	-	-
August 7	14	0	0	42	3	0	92	0	0	21	2	0	470	0	0

BW = Bollworm moths; GSB = Green stink bugs; BSB = Brown stink bugs

From: Mike Williams, County Extension Director, Chowan County

Light Trap Data From Chowan County

Adult Insects

Date	CEW	GSB	BSB	ECB
July 18	0	6	0	0
July 19	0	4	0	3
July 20	0	2	0	5
July 21	1	6	-	-
July 22	7	2	-	-
July 23	-	-	-	-
July 24	43	2	-	-
July 25	40	2	-	-
July 26	35	1	-	-
July 27	41	13	-	-
July 28	51	27	-	-
July 29	46	4	-	-
July 30	81	68	-	-
July 31	160	8	-	-
August 1	140	7	-	-
August 2	137	19	-	-
August 3	265	20	-	-
August 4	161	21	-	-

August 5	103	5	-	-
August 6	-	-	-	-
August 7	65	0	-	-
August 8	51	0	-	-
August 9	78	2	-	-
August 10	11	0	-	-
August 11	21	0	-	-
August 12	17	0	-	-
August 13	8	0	-	-
August 14	10	0	-	-
August 15	35	0	-	-
August 16	85	0	-	-
August 17	36	0	-	-
August 18	41	1	-	-
August 19	39	0	-	-
August 20	34	0	-	-
August 21	74	1	-	-
August 22	195	0	-	-
August 23	182	0	-	-
August 24	147	0	-	-
August 25	191	1	-	-
August 26	335	2	-	-
August 27	491	0	-	-
August 28	400+	1	-	-
August 29	400+	0	-	-
August 30	500+	0	-	-
August 31	-	-	-	-

CEW = Corn earworms (bollworms); GSB = Green stink bugs;
 BSB = Brown stink bugs; ECB = European corn borers

From: Mike Carroll, Agricultural Extension Agent, Craven County

Light Trap Data From Craven County

Number of Adult Insects

Date	THW	TBW	CEW	GSB	BSB	ECB	FAW	BAW	Looper
July 10	3	1	9	3	1	0	0	0	0
July 12	1	0	5	3	0	0	0	0	0
July 17	4	0	31	16	0	0	0	0	0
July 19	2	0	16	2	0	2	0	0	0
July 21	7	1	23	2	3	0	0	0	0
July 24	4	0	42	3	0	4	2	0	0
July 25	2	0	21	4	1	0	0	0	0
July 26	1	1	36	2	0	0	0	0	0
July 27	2	0	31	1	1	0	0	0	0
July 28	4	0	43	2	0	0	0	0	0
July 31	9	0	318	16	1	0	2	0	0
August 1	0	2	96	3	0	1	3	0	0
August 2	4	0	187	7	3	1	2	0	0
August 3	1	0	153	3	1	0	0	0	0
August 4	4	0	149	6	1	0	0	0	0
August 7	3	2	179	2	0	0	4	0	0
August 9	0	0	42	0	0	0	2	0	0

August 11	0	0	23	0	1	0	0	0	0
August 14	4	0	24	0	0	0	0	0	0
August 16	0	0	7	0	0	0	7	0	0
August 21	4	0	37	0	4	4	3	0	0

THW = tobacco hornworms; TBW = tobacco budworms; CEW = corn earworms;
 GSB = green stink bugs; BSB = brown stink bugs; ECB = European corn
 borers; FAW = fall armyworms; BAW = beet armyworms

Location of trap: Cove City

From: Colby S. Lambert, Agricultural Extension Agent, Cumberland County

Light Trap Data From Cumberland County

Number of Adult Insects

Date	THW	CEW	GSB	BSB
June 30			trap set up	
July 3	2	9	22	6
July 5	0	2	15	4
July 7	0	6	3	1
July 10	0	2	7	1
July 12	-	-	-	-
July 14	1	0	31	2
July 17	4	16	29	1
July 19	19	40	23	1
July 21	28	129	10	2
July 24	13	439	10	0
July 26	4	401	0	0
July 28	6	321	15	1
July 31	-	-	-	-
August 2	9	180	46	8
August 4	-	-	-	-
August 7	9	466	67	5
August 9	1	103	20	0
August 11	0	114	24	0
August 14	4	152	14	0
August 16	1	91	24	1
August 18	4	141	50	0
August 21	5	122	41	0
August 23	6	82	15	0
August 25	11	145	15	0
August 28	18	180	24	0
August 31	28	134	33	1

THW = tobacco hornworms; CEW = corn earworms;
 GSB = green stinks bugs; BSB = brown stink bugs

From: Curtis D. Fountain, Agricultural Extension Agent, Duplin County

Light Trap Data From Duplin County

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*****
                Number of Adult Insects
                *****
Date            BW            GSB            BSB
*****
July 7          3             2             1
July 10         1             2             2
July 12         1             5             1
July 14         0             8             2
July 17         0            21             2
July 19         0            17             3
July 21         0             6             0
July 24        321            15             0
July 26        286             9             0
July 28        161             7             0
July 31        715            32             0
August 2       557            60             1
August 4       525            32             2
August 7       152            12             1
August 9        57            13             2
August 11      48             2             1
August 14      13             0             0
August 16      14             0             0
August 18      31             3             0
August 21      12             2             0
August 23      10             8             0
August 25       8             1             0
August 28       3             1             0
August 30       6             1             1
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BW = cotton bollworms; GSB = green stink bugs; BSB = brown stink bugs

Trap location: Albertson
 Cooperator: Justin Murphy

From: Arthur R. Bradley, Jr., Agricultural Extension Agent, Edgecombe County

Light Trap Data From Edgecombe County

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*****
                Number of Adult Insects
                *****
                W Edgecombe /a      Coakley /b      Lawrence /c
                *****            *****            *****
Date            CEW  BS  GS      CEW  BS  GS      CEW  BS  GS
*****
July 7          0   0   3       7   0  48       -   -   -
July 10         0   0   0      14  7   1       -   -   -
July 12         0   0  12       3   0  34       -   -   -
July 14         0   0  13       4   0  61       -   -   -
July 17         0   0   3       9   0  27       0   0   1

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July 19	0	0	2	7	0	24	0	0	0
July 21	0	0	4	6	0	12	0	0	2
July 24	-	-	-	29	1	61	5	0	0
July 26	30	0	2	46	0	11	55	0	11
July 28	45	1	8	46	0	14	11	0	2
July 31	117	1	13	72	0	39	1	0	0
August 2	50	0	8	107	0	14	11	0	5
August 4	58	0	13	190	0	39	70	0	1
August 7	30	0	1	79	0	1	22	0	1
August 9	29	1	3	39	0	3	11	0	4
August 11	25	0	4	-	-	-	3	0	1
August 14	-	-	-	35	0	1	1	0	0
August 16	23	0	4	169	0	16	7	0	2
August 18	13	1	2	122	0	2	4	0	0
August 21	14	0	6	76	0	9	15	0	0
August 23	10	0	2	-	-	-	22	0	2
August 24	-	-	-	290	0	6	-	-	-
August 25	15	0	0	84	0	0	2	0	0
August 28	14	0	4	330	0	3	192	0	17
August 30	27	0	0	425	0	12	15	0	0
September 1	-	-	-	125	0	2	90	0	12

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

a = trap located 12 miles west of Tarboro; maintained by Tom Porter.
b = trap located 5 miles east of Tarboro; maintained by Bryan Mayo.
c = trap located at Lawrence; maintained by Terri Thomas.

From: Paul Smith, Agricultural Extension Agent, Gates County

Light Trap Data From Gates County

No. of Adult Insects	

Date	Corn earworms

August 3	4
August 4	-
August 5	15
August 6	6
August 7	4
August 8	10
August 9	26
August 10	5
August 11	9
August 12	7
August 13	10
August 14	5
August 15	8
August 16	4
August 17	6
August 18	6
August 19	1
August 20	-
August 21	3

August 22 9
 August 23 8
 August 24 5
 August 25 7
 August 26 -
 August 27 61
 August 28 44
 August 29 21
 August 30 44

From: Arthur Whitehead, Jr., Agricultural Extension Agent, Halifax County

Light Trap Data From Halifax County

Date	Hobgood			Scotland Neck			West Enfield			Weldon		
	CEW	GSB	BSB	CEW	GSB	BSB	CEW	GSB	BSB	CEW	GSB	BSB
July 17	-	1	-	-	-	-	-	-	-	-	-	-
July 19	-	-	-	-	-	-	-	-	-	-	-	-
July 21	-	-	-	-	-	-	10	0	0	5	0	0
July 24	5	2	-	7	4	-	8	-	4	10	3	-
July 26	55	-	-	8	7	-	10	3	-	16	3	-
July 28	-	-	-	11	-	-	23	-	-	-	-	-
July 31	1	-	-	16	-	-	27	-	-	16	-	-
August 2	11	-	-	22	-	-	26	-	-	-	-	-
August 4	70	-	-	25	-	-	29	-	-	4	-	-
August 7	22	-	-	32	-	-	28	-	-	10	-	-

Abbreviations: CEW = corn earworms;
 GSB = green stinks bugs; BSB = brown stink bugs

From: Keith B. Walters, Agricultural Extension Agent, Hoke County

Light Trap Data From Hoke County

Boyles Farm			
Date	Moths	GSB	BSB
June 28	28	4	0
June 30	72	26	0
July 3	-	-	-
July 5	13	7	0
July 7	41	9	13
July 10	32	7	0
July 12	16	5	1
July 14	17	33	4
July 17	12	22	3
July 19	27	27	2

July 21	39	14	3
July 24	23	14	11
July 26	223	9	17
July 28	198	7	7
July 31	327	23	18
August 2	276	32	18
August 4	147	11	2
August 7	353	36	8
August 9	78	6	0
August 11	167	7	0
August 14	319	13	0
August 16	64	12	0
August 18	51	13	0
August 21	96	17	0
August 23	86	7	0
August 25	117	20	0
August 28	243	22	0
August 30	109	10	0

GSB = green stink bugs; BSB = brown stink bugs

Location of trap is Shannon Road, Shannon.
Trap monitored by Johnny Boyles.

From: Curtis D. Fountain, County Extension Director, Jones County

Light Trap Data From Jones County

Number of Adult Insects

Date	BW	GSG	BSB	HW
July 21	3	3	1	2
July 24	4	1	0	2
July 26	6	1	7	3
July 28	63	0	0	10
July 31	140	1	6	7
August 2	244	4	1	10
August 4	265	2	4	6
August 7	25	1	2	9
August 9	28	1	0	3
August 11	16	0	0	5
August 14	2	0	0	3
August 16	1	0	0	2
August 18	1	0	0	2
August 21	5	0	0	5
August 23	6	3	0	6
August 25	12	0	0	5

Trap Location: Comfort
Monitored by: Morris and Brett Pike

BW = bollworms; GSB = green stink bugs;
BSB = brown stink bugs; HW = hornworms

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 7
June 8      0      0      0      0      0      0      0      0
June 9      0      0      1      0      0      0      0      0
June 10     0      0      1      0      0      0      0      0
June 11     0      0      0      0      1      6      1      0
June 12     0      0      1      1      0      0      2      0
June 13     0      1      2      0      0      0      0      0
June 14     0      0      3      0      0      0      0      0
June 15     0      0      1      0      0      0      0      0
June 16     0      0      2      2      0      3      2      0
June 17     0      0      0      0      0      1      0      0
June 18     0      0      0      0      0      2      0      0
June 19     0      0      0      0      1      3      0      0
June 20     1      1      0      0      0      2      0      0
June 21     1      0      0      0      0      1      2      1
June 22     0      0      0      1      2      0      0      0
June 23     1      0      1      0      0      5      7      1
June 24     0      3      2      0      0      1      1      0
June 25     0      4      1      0      0      2      2      0
June 26     0      5      0      0      1      1      1      1
June 27     1      2      0      0      0      10     0      0
June 28     0      2      0      0      0      2      0      1
June 29     1      1      0      1      0      5      0      3
June 30     0      6      2      0      0      3      1      0
*****
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July

```
*****
                        Number of Adult Insects
*****
Date      HW      CEW      ECB      AW      AWC      GSB      BSB      TBW
*****
July 1      1      12     1      0      0      2      0      0
July 2      1      6      0      0      1      0      0      0
July 3      0      4      0      0      0      2      2      0
July 4      0      3      0      0      0      7      0      0
July 5      0      4      0      1      0      4      1      0
July 6      0      5      0      0      0      4      0      0
July 7      0      8      3      1      2      1      0      1
July 8      0      3      0      0      1      3      0      1
July 9      0      3      0      0      0      0      0      0
July 10     0      2      0      0      0      1      0      0
July 11     0      5      0      0      1      3      0      0
July 12     0      12     0      0      1      6      0      0
July 13     0      5      0      0      1      3      0      0
July 14     0      12     0      0      4      7      0      0
July 15     0      9      0      1      0      2      0      0
*****
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July 16	0	6	1	0	0	2	0	0
July 17	1	8	4	1	1	4	0	0
July 18	2	14	3	1	2	13	1	0
July 19	0	12	12	1	7	20	1	3
July 20	1	7	9	1	7	2	0	2
July 21	2	12	8	1	5	3	0	1
July 22			light	inadvertently	unplugged			
July 23	1	4	5	1	1	2	0	1
July 24	4	23	2	1	5	0	0	4
July 25	9	59	2	1	1	29	0	5
July 26	6	44	4	1	3	3	0	3
July 27	1	105	9	4	0	17	1	4
July 28	5	99	5	3	4	8	0	7
July 29	2	41	2	1	1	5	0	0
July 30	3	177	7	2	4	8	0	3
July 31	1	158	8	1	3	10	2	6

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: J. B. Coltrain, County Extension Director, Martin County

Light Trap Data From Martin County

	Farm Life			Robersonville			Palmyra		

Date	BW	GSB	BSB	BW	GSB	BSB	BW	GSB	BSB

July 17	8	1	0	3	8	0	1	8	0
July 19	5	0	0	6	10	0	0	0	0
July 21	6	2	0	3	5	0	-	-	-
July 24	23	0	0	40	7	0	1	7	0
July 26	21	3	0	8	6	0	2	3	0
July 28	19	7	0	8	5	0	-	-	-
July 31	46	17	2	20	10	0	2	3	0
August 2	78	8	0	22	8	1	15	15	0
August 4	60	2	0	65	8	1	131	31	0
August 7	27	14	2	21	0	0	62	1	0
August 9	53	23	0	34	4	0	51	10	0
August 11	28	6	0	27	3	1	16	33	0
August 14	14	1	0	16	0	0	21	1	0
August 16	7	4	0	21	4	0	23	9	0
August 18	17	5	0	18	1	0	26	1	0
August 21	10	6	0	33	2	0	29	13	0
August 23	17	5	0	58	1	0	64	8	0
August 25	34	1	0	95	0	0	94	7	0
August 28	35	7	0	148	2	0	26	10	0
August 30	63	2	0	250	4	0	31	16	0
September 1	44	3	0	35	2	0	55	5	0

BW = Bollworm moths; GSB = Green stink bugs; BSB = Brown stink bugs

From: Craig Ellison, Agricultural Extension Agent, Northampton County

Light Trap Data From Northampton County

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*****
                        Number of Adult Insects
*****
      Woodland      Conway      'Neck      Seaboard      Gaston      Jackson
      *****      *****      *****      *****      *****      *****
Date      CEW GR BR      CEW GR BR      CEW GR BR      CEW GR BR      CEW GR BR      CEW GR BR
*****
July 17      - - -      - - -      - - -      - - -      - - -      0 84 6
July 19      - - -      - - -      - - -      4 10 0      - - -      0 124 4
July 21      - - -      - - -      - - -      - - -      - - -      - - -
July 24      - - -      2 0 0      26 17 0      30 0 0      - - -      61 140 3
July 26      1 0 0      10 12 1      29 13 0      40 6 0      - - -      83 11 1
July 28      3 4 2      9 8 0      24 19 0      31 1 0      32 0 0      59 72 3
July 31      3 22 2      10 19 4      50 35 0      72 12 0      53 0 0      208 191 2
August 2      1 11 1      9 18 1      53 41 0      57 12 2      22 2 0      103 94 2
August 4      4 13 1      17 9 4      49 58 0      46 8 2      24 0 0      157 135 5
August 7      0 0 0      3 4 0      53 8 0      - - -      11 0 0      199 20 0
August 9      22 1 0      6 0 0      58 9 0      29 0 0      - - -      271 20 0
August 11     13 0 0      4 2 0      49 9 0      7 0 0      - - -      227 8 0
August 14     8 0 0      6 0 0      19 2 0      9 0 0      - - -      204 1 0
August 16     11 1 0      4 2 0      34 6 0      - - -      - - -      227 28 0
August 18     7 0 0      12 2 0      19 1 0      - - -      - - -      145 9 0
August 21     8 2 0      11 3 0      33 7 0      - - -      - - -      212 129 0
August 23     6 0 0      23 19 0      34 3 0      - - -      - - -      154 34 0
August 25     6 2 1      13 4 0      43 17 0      - - -      - - -      105 17 0
August 28     18 3 0      52 0 0      51 23 0      - - -      - - -      146 23 0
August 30     50 8 0      33 4 0      - - -      - - -      - - -      201 45 0
*****

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CEW = corn earworms; gr = green stink bugs; br = brown stink bugs
 Locations: Woodland, Conway, 'Neck, Seaboard, Gaston and Jackson
 Monitored by: L. Culpepper, K. Edwards, B. Johnson, T. Flythe,
 D. Grant and B. Bryant

From: Bryant M. Spivey, Agricultural Extension Agent, Onslow County

Light Trap Data from Onslow County

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*****
                        Number of Adult Insects
*****
Date      Bollworms      GSB      BSB
*****
July 3      15      7      0
July 5      43      17      0
July 7      21      2      0
July 10     18      0      1
July 12     16      4      3
July 14     22      20      0
July 17     93      7      0
July 19     32      7      2
July 21     50      6      0
July 24     156     14      0

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July 26	203	12	1
July 28	246	13	2
July 31	345	8	0
August 2	125	6	0
August 4	101	6	2
August 7	59	3	0
August 9	68	6	0
August 11	20	0	0
August 15	28	8	0
August 18	20	1	0
August 21	55	7	0
August 23	30	5	0

GSB = green stinks bugs; BSB = brown stink bugs

Insect counts are from a single black light trap located approximately 1 mile east of Richlands.

From: Lewis Smith, County Extension Director, Perquimans County

Light Trap Data From Perquimans County

No. of Adult Insects

Date	Bollworms
July 28	1
July 29	9
July 30	29
August 1	80
August 2	96
August 3	77
August 4	87
August 5	48
August 6	21
August 7	11
August 8	22
August 9	14
August 10	6
August 11	6

From: Everett Davis, County Extension Director, Robeson County

Light Trap Data From Robeson County

Number of Adult Insects

Date	BW	GSB	BSB	FAW
July 8-9	7	8	1	4
July 10	4	9	0	0

July 11-12	7	12	1	0
July 13	5	5	0	1
July 14	27	12	1	3
July 15-16	62	21	2	2
July 17	63	19	2	1
July 18	102	25	1	6
July 19	162	21	1	4
July 20	211	27	2	6
July 21	258	22	3	6
July 23-23	349	32	2	7
July 24	312	15	2	9
July 25	315	21	0	16
July 26	481	20	0	23
July 27	387	15	1	19
July 28	457	18	0	21
July 29-30	761	32	3	23
July 31	536	32	2	11
August 1 #	89	6	0	0
August 2	137	18	1	1
August 3	194	23	0	1
August 4	162	11	0	2
August 5-6	209	12	1	3
August 7	93	8	0	2
August 8	-	-	-	-
August 9-10	219	42	2	3
August 11-13	165	28	1	10
August 14	27	4	0	6

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

Location is Rowland; monitored by Kay McGirt

= field was sprayed

From: Josh Gaddy, Agricultural Extension Agent, Sampson County

Light Trap Data from Sampson County

Number of Adult Insects

Date	BW	GSB	BSB	THW

June 30			trap set up	
July 3	0	4	0	2
July 5	3	9	0	0
July 7	2	6	0	2
July 10	4	8	0	0
July 12	1	11	1	2
July 14	1	5	0	0
July 17	0	23	2	4
July 19	1	15	5	9
July 21	11	12	0	18
July 24	20	5	0	15
July 26	105	10	3	6
July 28	127	75	13	16

July 31	150	21	4	6
August 2	101	31	18	6
August 4	158	28	10	8
August 7	33	60	8	9
August 9	67	11	1	2
August 11	60	30	2	5
August 14	71	5	1	5
August 16	23	5	1	5
August 18	21	12	0	10
August 21	37	31	1	6
August 23	28	3	0	8
August 25	56	21	2	11
August 28	95	8	0	18
August 30	95	17	4	9

BW = cotton bollworms; GSB = green stink bugs;
BSB = brown stink bugs; THW = tobacco hornworms

Black trap located 6 miles south of Clinton on
US-701S on the farm of Mike and James Hope.

From: David E. Morrison, Agricultural Extension Agent, Scotland County

Light Trap Data From Scotland County

Number of Adult Insects

Date	Gibson				John's				Laurinburg			
	BW	GSB	BSB	FAW	BW	GSB	BSB	FAW	BW	GSB	BSB	FAW
July 7	-	-	-	-	1	1	2	-	2	4	-	-
July 10	11	3	-	-	9	-	-	-	6	7	1	-
July 12	12	17	-	-	9*	2*	-	-	3	3	1	-
July 14	16	38	-	-	21	5	-	-	3	10	-	-
July 17	16	26	1	-	54	23	1	-	24	14	3	-
July 19	24	17	-	-	70	7	-	-	18	10	2	-
July 21	94	5	-	-	138	7	-	-	75	5	-	-
July 24	263	20	-	-	198	1	-	-	190	15	-	-
July 26	352	2	-	-	292	3	-	-	230	5	-	-
July 28	232	17	2	-	145	4	1	-	418	19	-	-
July 31	411	28	-	-	593	5	1	-	408	16	-	-
August 2	124	36	-	-	375	30	2	-	336	7	1	-
August 4	212	15	-	-	275	30	1	-	224	10	-	-
August 7	181	14	-	-	94	3	-	-	111	7	-	-
August 9	102	1	-	-	109	2	-	-	129	1	-	-
August 11	194	4	-	-	145	1	-	-	113	5	-	-
August 14	69	2	-	-	78	-	-	-	57	2	-	-
August 16	58	23	-	-	43	3	1	-	37	-	3	-
August 18	19	2	-	-	71	1	-	-	27	-	-	-
August 21	118	20	-	-	127	6	1	-	47	3	2	-
August 23	180	12	-	-	117	1	-	-	146	1	3	-
August 25	156	9	-	-	191	1	-	-	237	1	-	-
August 28	57	9	-	-	274	2	1	-	99	2	1	-
August 30	136	8	-	-	564	5	-	-	61	2	-	-
Sept. 1	62	2	-	-	-	-	-	-	41	-	-	-

Sept. 5	148	9	-	-	151	3	-	-	103	1	-	-
Sept. 6	74	-	-	-	55	-	-	-	69	-	-	-
Sept. 8	50	1	-	-	-	-	-	-	74	-	-	-

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

Trap Location: Gibson, Johns and Laurinburg
 Monitored by: Jim Ellis, David Morrison,
 Percy Rachels, Rusty Muse and T. G. Gibson

* light unplugged

From: Kevin Johnson, Agricultural Extension Agent, Wayne County

Light Trap Data from Wayne County

Number of Adult Insects

Date	Seven Springs				Goldsboro			
	GSB	BSB	BW	THW	GSB	BSB	BW	THW
June 26	-	-	-	-	43	3	10	6
June 28	-	-	-	-	81	4	-	-
June 29	-	-	-	-	131	11	4	1
July 3	-	-	-	-	91	9	5	2
July 5	-	-	-	-	63	10	-	-
July 7	-	-	-	-	47	4	2	2
July 10	-	-	-	-	15	0	5	3
July 12	2	1	-	-	17	3	3	1
July 14	2	-	8	-	29	4	-	-
July 17	15	2	20	-	111	11	2	5
July 19	-	-	-	-	37	4	13	3
July 21	3	-	37	7	17	-	18	2
July 24	1	2	62	3	47	2	78	11
July 26	11	1	100	4	32	-	157	8
July 28	9	-	105	-	66	5	209	3
July 31	10	1	125	10	174	10	264	8
August 2	25	8	235	3	134	12	238	5
August 4	5	6	130	6	174	18	224	3
August 7	7	3	250	5	101	9	174	6
August 9	52	3	96	3	14	2	35	1
August 11	-	-	-	-	20	4	30	2
August 14	-	-	-	-	10	1	19	0
August 16	-	-	-	-	32	2	72	3
August 18	-	-	-	-	25	2	53	0
August 21	-	-	-	-	47	7	71	5
August 23	-	-	-	-	25	9	80	2
August 25	-	-	-	-	5	0	30	2

GSB = green stink bugs; BSB = brown stink bugs;

BW = budworms; THW = hornworms

Cooperators: D. M. Price (Seven Springs); Willie Howell (Goldsboro)

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

Light Trap Data From Wilson County

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*****
                        Number of Adult Insects
*****
                Lucama      Pender's Xrds      Sims      Fountain
*****
Date            CEW  BS  GS      CEW  BS  GS      CEW  BS  GS      CEW  BS  GS
*****
July 14         5   1  16       -   -   -       -   -   -       -   -   -
July 17        13   2   2       -   -   -       -   -   -       9   0  23
July 19         6   0   2       5   0   0       2   0   1       8   0  18
July 21         6   0   0       7   0   1       3   0   2       2   0   3
July 24        30   0   1      11   2   5      14   0   2      17   0   4
July 26        33   0   3      21   0   0      81   0   1      51   0   3
July 28        36   0   0      15   0   2     255   0   0      66   0   0
July 31        60   0   1      66   0   9      84   0   7      61   0  20
August 2       46   0   0      71   0   2      44   0   1      34   0   9
August 4       49   0   0      51   0   3      31   0   0      66   1  24
August 7       73   0   0      26   0   0       3   0   2      40   0   9
August 9       18   1   1       8   0   0       2   0   0      18   0   8
August 11      26   1   2      17   0   0       0   0   0      27   1   1
August 14       7   0   0      12   0   0       1   0   0       6   0   0
August 16      20   0   0       6   0   2       0   0   2      10   0  14
August 18      21   0   1      26   0   0       3   0   0      15   0   2
*****

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Locations: Lucama, Pender's Crossroads, Sims and Fountain
 Monitored by: Chris Bass, Adam Gardner, Thad Sharpe, IV and Barbara Smith

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