

North Carolina Pest News

Departments of Entomology and Plant Pathology



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CAUTION !

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

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

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FIELD AND FORAGE CROPS

From: Dominic Reisig, Extension Entomologist

Brown Marmorated Stink Bug is Found at Damaging Levels in Piedmont Cotton – This is a First . . .

For those accustomed to the rapid spread of kudzu bug, brown marmorated stink bug seems like a slowpoke. This is an insect we've been talking and warning about for years. Unfortunately it's decided to make its debut in Cleveland County, North Carolina. Here are some initial observations about it, predictions, and what should be done.

Brown marmorated stink bug (BMSB) is an invader from Asia. It has been confirmed in many parts of North Carolina, but its [main distribution](#) has so far been restricted to the mountains and Piedmont. In August, I received a report of this insect at damaging levels in Cleveland County, North Carolina, cotton. Previously, Dr. Ames Herbert, Virginia Tech, reported a single individual BMSB nymph present in Virginia Coastal Plain cotton. Dr. Herbert published studies caging this insect and demonstrating that it would not only feed on cotton, but that it actually preferred to feed on larger sized bolls (bigger than one-inch diameter) than our native (brown and green) stink bugs. The appearance of BMSB in our Piedmont is very consistent with its distribution and spread. So far, we haven't noted this insect at damaging levels farther into the Coastal Plain.



Brown marmorated stink bug can be distinguished from our native stink bugs by the white bands on the antennae.



On a field visit to Cleveland County, North Carolina, I noted that BMSB was the dominant species present. Green stink bug was also present, but not at the levels of BMSB (BMSB produces an attraction pheromone that is attractive to other species, such as green stink bug).

One field (pictured) had BMSB along the field edge near the mowed weeds. Likely stink bugs moved in from the weeds on the field edge into the cotton. In soybeans and corn, other researchers have documented that BMSB seems to prefer field edges in – dropping into the edges from adjacent woody hosts, especially tree of heaven, and not moving more than about 50 to 60 feet into fields. This has been good since growers have had some success with edge treatments. The woods pictured in the background of the photo were chock full of tree of heaven, but there was no stink bug injury near the woods. Furthermore, I visited another three-acre field that was entirely infested with BMSB, with woods on at least two sides – there was no edge effect and nearly 100% of the bolls were damaged, with boll rot on all locules.



Boll injured from brown marmorated stink bug.

It is too early to say if the spatial distribution in cotton will follow that of corn and soybeans, but it did not during my initial observations. Therefore, for the time being, I am recommending sprays over the entire field, unless its distribution can clearly be delineated.

Another observation was that very small nymphs could easily feed on large bolls (our native brown and green stink bug adults cannot penetrate bolls larger than 1-inch in diameter). This is consistent with the studies by Dr. Herbert, Virginia Tech – and is not a good thing – since our stink bug threshold is based on sampling internal injury of one-inch diameter bolls. Likely our future established threshold for BMSB will be very different than the threshold for our native stink bugs.



Small nymph feeding on large boll.

BMSB is probably here to stay in Piedmont cotton, but will likely not spread farther in to the Coastal Plain. Our sampling of cotton will have to intensify to identify the species present. We recommend sampling internal injury from one inch bolls away from field edges for our native stink bugs. Growers who suspect BMSB should focus on field edges and see if they can delineate the extent of where the insects are. For now, internal injury can probably still be used as a good cue for development of stink bug injury. If BMSB is present and a spray is cued based on injury of one-inch diameter bolls, a spray should knock out insects that might be present in the future to feed on larger bolls.

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

Tobacco Insect Scouting Report – August 22, 2014

It is week seventeen with our scouting reports and not much change can be seen. There are still a few flea beetles, but well under threshold amounts. Hornworm pressure seems to be declining and there are still quite a few stilt bugs hanging around on the plants, which are beneficial! Harvest is in full swing at most sites and will continue on for the next few weeks.

Scouting Report, Eastern 1 – Grower Standard Field

| Insect observation | No. aphid infested plants | Flea beetles per plant | Percent tobacco budworm infested plants | Hornworms per plant | Percent cutworm damaged plants | Other insects |
|--------------------|---------------------------|--|---|---------------------|--------------------------------|---|
| Treatment needed? | 0 – No treatment | 0.78 flea beetles/plant– No treatment | 0% budworm infested plants – No treatment | 0 – No treatment | 0 – No treatment | 0.18 stilt bugs/plant 0 stink bugs/plant |

Scouting Report, Eastern 2 – IPM Field

| Insect observation | No. aphid infested plants | Flea beetles per plant | Percent tobacco budworm infested plants | Hornworms per plant | Percent cutworm damaged plants | Other insects |
|--------------------|---------------------------|--|--|---------------------|--------------------------------|--|
| Treatment needed? | 0 – No Treatment | 2.84 flea beetles/plant – No treatment | 0% tobacco budworm infested plants – No treatment | 0 – No treatment | 0 – No Treatment | 0.1 stilt bugs/plant 0 stink bugs/plant |

Scouting Report, Eastern 3 – Grower Standard Field

| Insect observation | No. aphid infested plants | Flea beetles per plant | Percent tobacco budworm infested plants | Hornworms per plant | Percent cutworm damaged plants | Other insects |
|--------------------|---------------------------|---------------------------------------|--|---------------------|--------------------------------|-----------------------|
| Treatment needed? | 0 – No treatment | 2.5 flea beetles/plant – No treatment | 0% tobacco budworm infested plants – No treatment | 0 – No treatment | 0 – No treatment | 0.03 stilt bugs/plant |

Scouting Report, Eastern 4 – IPM Field

| Insect observation | No. aphid infested plants | Flea beetles per plant | Percent tobacco budworm infested plants | Hornworms per plant | Percent cutworm damaged plants | Other insects |
|--------------------|---------------------------|--|--|---------------------|--------------------------------|---|
| Treatment needed? | 0 – No Treatment | 2.9 flea beetles/ plant – No treatment | 0% tobacco budworm infested plants – No treatment | 0 – No treatment | 0 – No Treatment | 0.05 stilt bugs/plant 0.08 stink bugs/plant 0.08 big eye bugs |

Scouting Report Piedmont 1 – Grower Standard Field

| Insect observation | No. aphid infested plants | Flea beetles per plant | Percent tobacco budworm infested plants | Hornworms per plant | Percent cutworm damaged plants | Other insects |
|--------------------|---|--|--|---------------------|--------------------------------|--|
| Treatment needed? | 0.03 aphid infested plants – No treatment | 0.48 flea beetles/plant – No treatment | 0% tobacco budworm infested plants – No treatment | 0 – No treatment | 0 – No treatment | 0.03 parasitized budworms/plant 0.13 stilt bugs/plant |

Scouting Report, Piedmont 2 – IPM Field

| Insect observation | No. aphid infested plants | Flea beetles per plant | Percent tobacco budworm infested plants | Hornworms per plant | Percent cutworm damaged plants | Other insects |
|--------------------|---------------------------|---------------------------------------|--|---------------------|--------------------------------|-----------------------|
| Treatment needed? | 0 – No Treatment | 1.9 flea beetles/plant – No treatment | 0% tobacco budworm infested plants – No treatment | 0 – No treatment | 0 – No Treatment | 0.10 stilt bugs/plant |

More Information

To see last week's scouting report, click [here](#).

(Originally posted at: <http://tobacco.ces.ncsu.edu/2014/08/tobacco-insect-scouting-report-august-22-2014/>)

ORNAMENTALS AND TURF

From: Steve Frank, Extension Entomologist

Azalea Caterpillars

Azalea caterpillars, *Datana major*, are among our most attractive caterpillar species. They feed primarily on *Rhododendron* spp., but this week we also found them on blueberries. They are most evident late in the summer. There is one generation of this pest each year. Adults lay eggs on the underside of azalea leaves where the small caterpillars feed gregariously. As they grow the caterpillars take on the coloration seen in the picture below. Unfortunately, by the time they are noticed azalea caterpillars can consume a lot of foliage and defoliate a shrub. Scout for these caterpillars by scanning shrubs for bare twigs then look closer to investigate. If you find a group of them, prune the branch out. In larger infestations or nurseries there are several insecticides active on caterpillars, but any product works best on small stages.

See link: <http://www.ces.ncsu.edu/depts/ent/notes/O&T/shrubs/note07/note07.html>



Azalea caterpillars. Photo: Adam Dale, North Carolina State University.

Redheaded Pine Sawfly

This week we had a clinic report of pine defoliation on 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 two and three 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 an infested branch and remove all the larvae. Management for sawflies is similar to caterpillar management 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.

From: Mike Munster, Ornamental Pathologist, Plant Disease and Insect Clinic

Box Blight Confirmed in Wake County

Box blight has been confirmed in boxwood plants originating in a nursery in the North Carolina mountains and offered for sale at the North Carolina State Farmers Market in Raleigh. The disease also has been confirmed at the Raleigh home of the vendor. A small number of customers may have purchased infected plants between the beginning of July and mid-August 2014.

Box blight is a destructive fungal disease of boxwood leaves and twigs. Symptoms include brown leaf spots, dark streaks on twigs, and extensive leaf drop. *Sarcococca* (sweetbox) and *Pachysandra* can also become infected. A [fact sheet](#) is available with additional information about identification and management of this disease. Note that sanitizer information is currently being updated. For most bleach formulations the correct ratio of bleach to water is now 1:14.

Personnel from the North Carolina Department of Agriculture and Consumer Services are attempting to trace the sales of these plants from the Farmers Market. Careful removal and destruction of all infected shrubs may help keep losses to a minimum and prevent further local spread. If you believe you may have purchased one of the plants in question, please contact the office of Phil Wilson, Plant Pest Administrator for the North Carolina Department of Agriculture & Consumer Services at 919-707-3753. Other parties with questions about box blight should direct them to their local County Cooperative Extension Service office.

INSECT TRAP DATA

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

Light Trap Data from Bertie County

```
*****
                                Hexlena
                                Windsor    TNT        Woodard
                                *****    *****    *****
Date      CEW GSB    CEW GSB    CEW GSB
*****
July 28      5   6      4  27      -   -
July 30      2   0      2   3      2   1
*****
```

Abbreviations: CEW = corn earworms; GSB = green stink bugs

From: Mike Carroll, Agricultural Extension Agent, Craven County

Light Trap Data from Craven County

```

*****
                        Number of Adult Insects
*****
Date      BW*   GSB   BSB   AW   HW
*****
July 16    ----- Date Initiated -----
July 18      13     0     0     0     1
July 21      28     0     0     0     2
July 23      30     1     0     0     1
July 25      18     1     0     0     1
July 28     105     1     0     0     2
July 30      76     1     0     0     1
August 1    136     1     0     2     1
August 4    259     1     0     2     2
August 6     80     2     0     0     0
August 8     49     0     0     0     1
August 11    65     0     0     1     1
August 14    18     2     0     1     1
August 17    40     0     0     0     1
August 19    76     3     0     2     3
August 20    32     2     0     2     1
*****

```

Abbreviations: BW* = bollworms; GSB = green stink bugs;
 BSB = brown stink bugs; AW = true armyworms;
 HW = tobacco hornworms

*Bollworms reflect corn earworm and tobacco budworm counts

Cooperator: 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   BSB   GSB      CEW   BSB   GSB      CEW   BSB   GSB
*****
July 11      -     -     -         0     3     6         -     -     -
July 14      0     1     0         1     0     1         -     -     -
July 16      0     0     0         0     0     3         -     -     -
July 18      0     0     0         -     -     -         -     -     -
July 21      0     1     0         -     -     -         -     -     -
July 23      1     0     0         5     0     1         -     -     -
July 25      1     0     1         8     2     6         -     -     -
July 28     14     1     1        15     0     1         -     -     -

```

| | | | | | | | | | |
|-----------|----|---|---|----|---|---|---|---|---|
| July 30 | 5 | 0 | 0 | - | - | - | - | - | - |
| August 1 | 12 | 0 | 0 | 43 | 0 | 1 | - | - | - |
| August 4 | 20 | 0 | 0 | 84 | 0 | 1 | - | - | - |
| August 6 | 9 | 0 | 0 | 35 | 0 | 0 | - | - | - |
| August 8 | 15 | 0 | 1 | 14 | 0 | 3 | - | - | - |
| August 11 | 14 | 0 | 0 | 12 | 0 | 2 | - | - | - |
| August 13 | 8 | 1 | 1 | - | - | - | - | - | - |
| August 15 | 13 | 0 | 0 | 9 | 0 | 1 | - | - | - |
| August 18 | 37 | 0 | 1 | - | - | - | - | - | - |
| August 19 | - | - | - | 25 | 0 | 7 | - | - | - |
| August 20 | 16 | 0 | 0 | - | - | - | - | - | - |
| August 22 | 10 | 0 | 1 | 8 | 0 | 3 | - | - | - |

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

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

Light Trap Data from Halifax County

| ***** | | | | | | | | | | |
|----------|---------|-----|-----|-----|----|--------|-----|-----|-----|----|
| | Hobgood | | | | | Dawson | | | | |
| | ***** | | | | | ***** | | | | |
| Date | CEW | BSB | ECB | GSB | HW | CEW | BSB | ECB | GSB | HW |
| ***** | | | | | | | | | | |
| July 24 | 7 | - | 0 | - | 0 | - | - | - | - | - |
| July 26 | 19 | - | 0 | - | 0 | - | - | - | - | - |
| August 6 | 4 | 0 | - | 0 | - | 43 | 1 | - | 9 | - |
| ***** | | | | | | | | | | |

Abbreviations: CEW = corn earworms;
ECB = European corn borers; 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 3 | ----- Put up light trap ----- | | | | | | | | |
| June 4 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | |
| June 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| June 6 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | |
| June 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| June 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| June 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| June 10 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | |

| | | | | | | | | |
|---------|---|---|---|---|---|---|---|---|
| June 11 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| June 12 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| June 13 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| June 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| June 15 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| June 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| June 17 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| June 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| June 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| June 20 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| June 21 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| June 22 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| June 23 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| June 24 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| June 25 | 0 | 3 | 0 | 2 | 1 | 1 | 0 | 0 |
| June 26 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| June 27 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| June 28 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| June 29 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| June 30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |

July

Number of Adult Insects

| Date | HW | CEW | ECB | AW | AWC | GSB | BSB | TBW |
|---------|----|-----|-----|----|-----|-----|-----|-----|
| July 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| July 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| July 3 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| July 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| July 5 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| July 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| July 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| July 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| July 9 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| July 10 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| July 11 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 |
| July 12 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 |
| July 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| July 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| July 15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| July 16 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| July 17 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 |
| July 18 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| July 19 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| July 20 | 0 | 2 | 0 | 0 | 1 | 2 | 0 | 0 |
| July 21 | 0 | 7 | 1 | 0 | 1 | 6 | 0 | 0 |
| July 22 | 1 | 8 | 0 | 0 | 2 | 3 | 0 | 0 |
| July 23 | 0 | 9 | 1 | 0 | 0 | 3 | 1 | 1 |
| July 24 | 0 | 11 | 0 | 0 | 0 | 3 | 3 | 0 |
| July 25 | 0 | 8 | 0 | 0 | 4 | 2 | 1 | 0 |
| July 26 | 0 | 26 | 0 | 0 | 0 | 5 | 0 | 0 |
| July 27 | 0 | 18 | 0 | 0 | 2 | 7 | 2 | 0 |
| July 28 | 0 | 20 | 0 | 1 | 3 | 8 | 7 | 0 |

| | | | | | | | | |
|---------|---|----|---|---|---|---|---|---|
| July 29 | 0 | 26 | 0 | 1 | 1 | 2 | 0 | 0 |
| July 30 | 0 | 36 | 0 | 0 | 1 | 0 | 0 | 0 |
| July 31 | 0 | 52 | 0 | 1 | 1 | 6 | 0 | 0 |
| ***** | | | | | | | | |

August

| Number of Adult Insects | | | | | | | | |
|-------------------------|----|-----|-----|----|-----|-----|-----|-----|
| Date | HW | CEW | ECB | AW | AWC | GSB | BSB | TBW |
| August 1 | 0 | 36 | 0 | 2 | 0 | 7 | 0 | 1 |
| August 2 | 0 | 30 | 0 | 1 | 0 | 3 | 1 | 2 |
| August 3 | 0 | 43 | 0 | 1 | 1 | 3 | 0 | 1 |
| August 4 | 0 | 46 | 0 | 0 | 0 | 4 | 0 | 1 |
| August 5 | 0 | 63 | 0 | 1 | 0 | 6 | 0 | 1 |
| August 6 | 0 | 26 | 0 | 0 | 0 | 5 | 0 | 0 |
| August 7 | 0 | 33 | 0 | 1 | 0 | 6 | 0 | 2 |
| August 8 | 0 | 21 | 0 | 0 | 0 | 2 | 1 | 0 |
| August 9 | 0 | 32 | 0 | 0 | 2 | 5 | 0 | 0 |
| August 10 | 0 | 15 | 0 | 0 | 1 | 0 | 0 | 0 |
| August 11 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 |
| August 12 | 0 | 5 | 0 | 0 | 0 | 3 | 0 | 0 |
| August 13 | 0 | 15 | 0 | 0 | 0 | 8 | 0 | 0 |
| August 14 | 0 | 8 | 0 | 0 | 0 | 1 | 0 | 0 |
| August 15 | 0 | 4 | 2 | 0 | 0 | 0 | 1 | 0 |
| August 16 | - | - | - | - | - | - | - | - |
| August 17 | 0 | 11 | 0 | 0 | 0 | 9 | 0 | 0 |
| August 18 | - | - | - | - | - | - | - | - |
| August 19 | 0 | 8 | 0 | 0 | 0 | 8 | 1 | 0 |
| August 20 | - | - | - | - | - | - | - | - |
| August 21 | 0 | 5 | 0 | 1 | 0 | 3 | 2 | 0 |
| August 22 | - | - | - | - | - | - | - | - |

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 | | | | | | | | | | | | | |
|-------------------------|---------|-----|-----|----|----------|-----|-----|----------|-----|-----|---------|-----|-----|
| | Galatia | | | | Seaboard | | | Woodland | | | Jackson | | |
| Date | CEW | GSB | BSB | HW | CEW | GSB | BSB | CEW | GSB | BSB | CEW | GSB | BSB |
| July 26 | - | 45 | 2 | 2 | - | - | - | - | - | - | - | - | - |
| July 29 | 7 | 15 | 1 | - | 4 | 6 | 0 | - | - | - | - | - | - |
| July 30 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - | - |
| July 31 | 0 | 0 | 0 | - | 2 | 1 | 0 | - | - | - | - | - | - |

| | | | | | | | | | | | | | |
|-----------|----|----|---|---|----|----|---|---|----|---|----|-----|---|
| August 1 | 0 | - | - | - | - | - | - | 1 | 0 | 0 | - | - | - |
| August 4 | 49 | 89 | 0 | - | 12 | 4 | 0 | 1 | 18 | 0 | - | - | - |
| August 5 | 23 | 3 | 0 | - | - | - | - | - | - | - | - | - | - |
| August 6 | 10 | 1 | 0 | - | 7 | 1 | 0 | 2 | 1 | 0 | - | - | - |
| August 8 | - | - | - | - | 12 | 3 | 0 | - | - | - | - | - | - |
| August 11 | - | - | - | - | 12 | 2 | 0 | 2 | 2 | 0 | - | - | - |
| August 12 | - | - | - | - | - | - | - | - | - | - | 21 | 1 | 0 |
| August 13 | 2 | 4 | 0 | - | 14 | 7 | 0 | 2 | 3 | 0 | - | - | - |
| August 14 | 3 | 1 | 0 | - | - | - | - | - | - | - | 30 | 138 | 0 |
| August 15 | - | - | - | - | 5 | 0 | 0 | - | - | - | 9 | 3 | 0 |
| August 19 | 5 | 18 | 0 | - | 16 | 6 | 0 | - | - | - | 86 | 31 | 1 |
| August 20 | 4 | 5 | 0 | - | 35 | 8 | 0 | 2 | 1 | 0 | 32 | 22 | 0 |
| August 22 | - | - | - | - | 16 | 44 | 0 | 2 | 0 | 0 | 39 | 22 | 0 |

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

From: Robeson County

Light Trap Data from Robeson County

Number of Adult Insects

| Date | CEW | ECB | AWC | AW | GSB | BSB |
|-----------|-----|-----|-----|----|-----|-----|
| July 29 | 43 | - | 1 | - | 3 | 0 |
| July 30 | 24 | 2 | 0 | 1 | 0 | 0 |
| August 1 | 41 | 0 | 0 | - | 1 | 0 |
| August 7 | 21 | 1 | 0 | 2 | 1 | 2 |
| August 11 | 16 | 2 | 0 | 7 | 0 | 0 |
| August 21 | 18 | - | 4 | 6 | 1 | 0 |

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

From: Scotland County Extension Center

Light Trap Data from Scotland County

Number of Adult Insects

| Date | Gibson | | | | | John's | | | | | Laurinburg | | | | |
|---------|--------|-----|-----|-----|-----|--------|-----|-----|-----|-----|------------|-----|-----|-----|-----|
| | CEW | ECB | GSB | TBW | BSB | CEW | ECB | GSB | TBW | BSB | CEW | ECB | GSB | TBW | BSB |
| July 23 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| July 25 | 5 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| July 28 | 4 | 4 | - | 288 | - | 5 | 0 | - | 559 | - | 2 | 1 | - | 55 | - |

Abbreviations: CEW = corn earworms; ECB = European corn borers; GSB = green stink bugs; TBW = tobacco budworms; BSB = brown stink bugs

Abbreviations: CEW = corn earworms;
GSB = green stink bugs

| ***** | | | | |
|-------------------------|-----|-----|-----|----|
| Number of Adult Insects | | | | |
| ***** | | | | |
| Goldsboro | | | | |
| ***** | | | | |
| Date | CEW | GSB | BSB | HW |
| ***** | | | | |
| July 7 | - | 2 | - | - |
| July 9 | - | 1 | - | - |
| July 11 | - | 1 | - | - |
| July 14 | - | 2 | - | - |
| July 16 | 4 | 6 | 2 | - |
| July 18 | 1 | 2 | 1 | - |
| July 21 | 5 | 5 | 1 | 2 |
| ***** | | | | |

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

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 | ECB | GSB | BSB | HW | CEW | ECB | GSB | BSB | HW | CEW | ECB | GSB | BSB | HW |
| ***** | | | | | | | | | | | | | | | |
| July 23 | 1 | - | 1 | 0 | - | 12 | 0 | - | - | 1 | - | - | - | - | - |
| July 25 | - | - | - | - | - | 20 | 5 | - | - | 7 | - | - | - | - | - |
| July 26 | 3 | 0 | - | - | 1 | - | - | - | - | - | - | - | - | - | - |
| July 28 | 3 | 0 | - | - | 3 | 5 | - | 29 | 5 | 3 | - | - | - | - | - |
| July 30 | 2 | - | 0 | 0 | - | - | - | - | - | - | 1 | - | 0 | 0 | - |
| August 1 | 3 | - | 0 | 0 | - | 6 | - | 10 | 0 | - | 9 | - | 0 | 0 | - |
| August 4 | 22 | - | 0 | 0 | - | 25 | - | 16 | 3 | - | 31 | - | 6 | 2 | 5 |
| August 6 | - | - | - | - | - | 18 | - | 23 | 6 | - | 45 | - | 4 | 0 | 1 |
| August 7 | 11 | - | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - |
| August 8 | 3 | - | 0 | 0 | - | 17 | - | 19 | 0 | - | 18 | - | 6 | 0 | - |
| August 11 | 4 | - | 1 | 0 | - | 35 | - | 19 | 0 | - | 64 | - | 4 | 2 | - |
| August 13 | 4 | - | 1 | 0 | - | 10 | - | 29 | 3 | - | 16 | - | 2 | 0 | - |
| August 15 | 5 | - | 0 | 0 | - | - | - | - | - | - | 24 | - | 0 | 0 | - |
| August 16 | - | - | - | - | - | 6 | - | 2 | 0 | - | - | - | - | - | - |
| August 18 | 6 | - | 1 | 0 | - | 21 | - | 75 | 6 | - | 26 | - | 5 | 4 | 3 |
| August 20 | 9 | - | 0 | 0 | - | 13 | - | 35 | 1 | - | 76 | - | 2 | 0 | - |
| August 22 | 3 | - | 2 | 0 | - | 13 | - | 46 | 3 | - | 32 | - | 0 | 0 | 6 |
| ***** | | | | | | | | | | | | | | | |

Abbreviations: CEW = corn earworms; ECB = European corn borers;
GSB = green stink bugs; BSB = brown stink bugs; HW = hornworms

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.