

North Carolina Pest News

Departments of Entomology and Plant Pathology



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CAUTION !

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

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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

FIELD AND FORAGE CROPS

From: Jack Bacheler, Extension Entomologist

Late Season Cotton Insect Control

As we approach mid-August, both bollworm moths and stink bugs tend to concentrate in late-maturing, still lush cotton fields, while “cut-out” fields are essentially ignored. This situation points to taking the maturity of cotton fields into consideration when dealing with these two pests.

In the case of bollworms, stay focused on the 3 percent larval threshold for squares, blooms, bloom tags and bolls on all *Bt* and non-*Bt* technologies. For most producers, the odds of reaching this threshold should decline significantly during the next week or two. Remember, however, that if bollworms become established on immature fruit, a bollworm hike down the plant to larger bolls is likely – and can be costly. This would be a good time of year to prioritize the order of scouting cotton fields, putting your major emphasis on later maturing cotton fields. Many cotton fields are no longer attractive or susceptible to insects.

A number of cotton fields are now approaching the sixth week of bloom, a developmental period for cotton when the internal boll damage threshold for stink bugs can now probably be safely be raised from 10 to 30 percent. This raising of the stink bug threshold can also be confirmed by “sizing” first position bolls passing them through a flat piece of wood, Plexiglas with a 1.25-inch hole. Bolls that do not fit through the hole are normally safe from stink bug damage. In cotton fields that have matured normally, don’t be surprised to find that most first position bolls are now safe. Yesterday, the untreated check plots in our Wayne County stink bug threshold test were in the 20 percent damage range, as opposed to the mid-30 percent range during the prior two weeks. The plots that were treated last week showed almost no damage.

I have had several reports of beet and fall armyworms this past week, though not at economically important levels.

In summary, with bollworms and stink bugs, try to take advantage of the crop’s cutting out and becoming less attractive to avoid unneeded sprays, but also be wary of threshold levels of these pests in fields that have either received adequate moisture or are late-maturing.

A Note about Soybeans

A good many cotton producers grow both soybeans and cotton. With the relatively high value of soybeans this year, some growers have been tempted put out a preventative late season fungicide plus pyrethroid insecticide combination spray, with no indication or reasonable expectation of disease presence or threshold levels of podworms. This practice typically benefits the chemical folks more than producers. A miss-timed, early pyrethroid spray for podworms can actually make podworm establishment and subsequent pod damage worse, while a late calendar spray is worthless. Add to this the increasing tolerance or resistance of podworms to pyrethroids, the cost of the application, and the low probability of a return on investment, and you have a very questionable practice.

From: Steve Koenning, Extension Field Crops Pathologist, and Keith Edmisten, Cotton Specialist, Department of Crop Science

Cotton Leaf Spots

Cotton leaf spots are common in North Carolina at this time. In many cases this is the result of hot temperatures and moisture stress. Even though potassium levels may be adequate in the soil, low soil moisture levels may limit the availability of this and other nutrients. Potassium is important in the disease resistance mechanisms of many plants, and deficiencies of this nutrient can enhance susceptibility to some fungi that are rarely a problem in this crop. The fungi *Stemphylium* and *Alternaria* typically cause leaf spots on cotton at "cut-out", and this appears to be what is happening in most cases. Tissue that is senescing early becomes more susceptible to these organisms. Another pathogen is *Cercospora gossypina* which typically has a red margin around the leaf spot. Yield loss, if any, due to these fungi are generally low, and data from fungicide trials on cotton are limited at this time. Currently the fungicides Headline and Topsin M are labeled for application on cotton. Either fungicide should be efficacious for these diseases, but we cannot provide an informed opinion as to whether fungicide sprays will improve cotton yield.

The major causes of leaf spots on cotton are: 1) potassium deficiency (a result of dry hot conditions); 2) early cut-out; 3) spray damage (especially if leaf spot is more evident in the upper leaves); and 4) fungal leaf spots (i.e., *Cercospora*, *Alternaria*, or *Stemphylium*).

ORNAMENTALS AND TURF

From: Steve Bambara, Extension Entomologist

More Beech Blight Aphid Boogie

Diane Turner, Horticulture Extension Agent, Haywood County, brought our attention to a YouTube video of beech blight aphids doing their thing. You can see the video on her blog at <http://masteryourgarden.blogspot.com/2007/09/beech-blight-aphid-boogie.html>. There is no music attached, but I highly recommend starting up "Thriller" when you hit the "play" button. Go to <http://www.cduniverse.com/search/xx/music/pid/2226783/a/Thriller.htm> to hear audio sample. "Beat It" also works well. Thanks, Diane.

Peachtree Borer Time

Peachtree borer season is upon us now. We have already had one sample in the Plant Disease and Insect Clinic at North Carolina State University. These insects are common on peach and related *Prunus* trees, especially some laurel varieties in the landscape. The adults are day flying moths that resemble wasps. The wood boring larvae do all the damage (Fig. 1). Symptoms are frass and possible gum exudate (Fig. 2) around the base of the tree or shrub. There are several out-of-date treatment suggestions floating around. The most reliable treatment is preventive bark sprays on the lower trunk and crown region. There is no practical treatment for insects already boring in the wood. Though some adult moths (Fig. 3) are present most of the summer, the first of September is the peak moth flight period in eastern North Carolina in a typical year. For additional information on the peachtree borer, see *Ornamental and Turf Insect Note No. 141* on the web at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/note141/note141.html>. For a list of homeowner borer protective sprays, refer back to the June issue of the *North Carolina Pest News* at http://ipm.ncsu.edu/current_ipm/08PestNews/08News11/pestnews.html#title4.



Fig. 1. Damage by the peachtree borer. Image by H.C. Ellis (<http://www.bugwood.org>).



Fig. 2. Frass and tunneling by the peachtree borer. Image from NC State University.



Fig. 3. Female peachtree borer moth. Image by James R. Baker.

Western Flower Thrips Shows Resistance to Spinosad in Florida

Conserve, which contains the active ingredient spinosad, has been the solid choice for western flower thrips control in greenhouse for the last few years. Fears of future resistance seem to be realized now in Florida. For everyone, but especially for Conserve users, it is more important than ever to rotate chemicals.

Dow AgroSciences announced this week that it is voluntarily suspending the sale and use of multiple spinosyn insecticides in Broward County (Florida) and a portion of Palm Beach County. This is due to evidence that western flower thrips have developed resistance to a product with the active ingredient spinosad. Links to the Dow announcement, a supplemental Conserve label, and fact sheets on the western flower thrips are available on the University of Florida IFAS Pest Alert site at <http://pestalert.ifas.ufl.edu/dow-conserve.htm>.

Twolined Spittlebug Time for Holly

It is about the time that twolined spittlebug begins to move to holly (*Ilex*). I don't know the effects of last year's or this year's drought on spittlebugs in turf, but as grass dries, they will move to other plants such as holly. If this has ever been a problem on your holly, check them now. Undersides of leaves will appear splotchy.

Twolined spittlebugs are small (1/4 inch in size), dark insects (Fig. 4) that resemble leafhoppers. As the nymphs feed, they excrete the spittle which protects them from predators and dehydration. (By the way, the spittle isn't produced from the mouth end.) Because spittlebugs feed on turfgrass near the soil, their numbers may be high without being detected. Only after the adults emerge is the seriousness of an infestation realized. They have two orange lines across the wings. As these small insects fly, the dark red abdomen shows conspicuously. In late summer and early fall, the adult twolined spittlebugs fly to hollies (and other plants) to feed. They cause hollies to become splotchy and yellow (Fig. 5) and the leaves drop prematurely. Female twolined spittlebugs lay their eggs in turfgrass. The eggs are inserted into the plant stem or between the stem and leaf sheath. When the nymphs hatch from their eggs, they begin to feed. Spittlebugs suck sap from the plants with their needle-like mouthparts.



Fig. 4. Twolined spittlebug adult. Image by James R. Baker.



Fig. 5. Spittlebug damage on holly. Image by Steve Bambara.

Ornamental and Turf Insect Information Note No. 97 explains the biology of twolined spittlebugs and provides recommendations for chemical control. This note is available on the web at <http://www.ces.ncsu.edu/depts/ent/notes/O&T/lawn/note97/note97.html>.

INSECT TRAP DATA

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            Moths  GSB   Moths  GSB   Moths  GSB   Moths  GSB   Moths  GSB
*****
July 16         0    0     11    0     0    0     0    0     0    0
July 17         0    0     7     0     0    0     10   0     0    0
July 18         0    0     4     0     0    0     7    0     0    0
July 19         0    0     7     0     0    0     -    -     0    0
July 20         0    0     4     0     0    0     -    -     0    0
July 21         0    0     2     0     0    0     3    7     0    0
July 22         0    2     6     0     0    0     2    0     0    0
July 23         2    1     4     0     0    0     -    -     32   2
July 24         0    3     8     0     0    2     5    2     57   2
July 25         2    1    13    0     0    0     2    0     62   1
July 26         6    3    15    0     -    -     -    -     -    -
July 27        12    3    18    0     -    -     -    -     -    -
July 28         7    1    17    0     3    3     7    1    160   4
July 29        12    0    49    0     5    0     31   1    370   5
July 30        39    6    30    0     -    -     8    1     -    -
July 31        46    4    18    0    15    0     8    0     92   0
August 1         -    -     1    0    17    0     28   1    192   1
August 2        79    6     0    0     -    -     14   0     -    -
August 3         -    -    18    0     -    -     -    -     -    -
August 4        35    2    48    2    41    0     29   3    730   6
August 5         -    -    38    2     -    -     13   1    360   6
*****

```

Moths = Bollworm moths; GSB = Green stink bugs

From: Al Hight, County Extension Director, Brunswick County

Light Trap Data from Brunswick County

```

*****
Date            CEW      GSB      ECB      THW
*****
July 28         18       6        -        -
July 29         16       3        -        -
July 30         14       -        -        -
July 31         light turned off by mistake
August 1        37       6        -        -
August 2        28       6        -        -
August 3        21       4        -        1
August 4        37       6        -        -

```

August 5	22	5	1	-
August 6	22	10	-	-
August 7	25	8	1	-
August 8	21	5	-	1
August 10	17	4	2	-
August 12	7	-	1	-
August 13	10	2	-	1

CEW = corn earworm; GSB = green stink bug;
 ECB = European corn borer; THW = tobacco hornworm

From: Mike Williams, County Extension Director, Chowan County

Light Trap Data from Chowan County

Date	Bollworm moths	Stink bugs
July 24	10	-
July 25	15	2
July 26	14	0
July 27	-	-
July 28	66	3
July 29	50	0
July 30	-	-
July 31	228	3
August 1	115	0
August 2	60	0
August 3	21	6
August 4	56	0
August 5	67	16
August 6	55	5
August 7	58	1

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 18	4	0	28	4	1	2	7	-	-
July 21	0	0	6	6	1	5	3	1	1
July 23	3	0	21	1	1	2	4	0	1
July 25	3	1	29	4	0	3	1	1	0
July 28	2	1	82	3	1	3	0	2	3
July 30	5	-	62	3	1	3	6	3	3
August 1	-	-	-	-	-	-	-	-	-
August 4	7	3	227	13	2	5	12	4	4
August 6	4	0	190	14	1	2	17	2	2
August 8	3	0	90	5	2	2	13	2	0

August 11	4	0	97	2	0	2	14	0	2
August 13	2	0	55	1	0	2	3	1	2
August 15	1	0	4	0	0	0	1	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
 Cooperators: R&W McCoy Farms and Cove City Fertilizer

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

Light Trap Data from Cumberland County

 Number of Adult Insects

Date	THW	CEW	GSB	BSB
July 23	1	8	1	0
July 25	2	29	1	0
July 28	6	165	13	0
July 30	2	190	3	0
August 1	0	98	3	0
August 4	0	101	9	0
August 7	0	160	10	0

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

Trap located in Godwin at Cumberland/Harnett County Line
 at Lewis Farms off of Highway 301

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

Light Trap Data from Duplin County

 Number of Adult Insects

Date	BW	GSB	BSB
July 2	0	0	0
July 4	1	4	0
July 7	1	8	0
July 9	0	6	0
July 11	0	12	1
July 14	2	1	0
July 16	1	1	0
July 18	4	0	0
July 21	12	2	2
July 23	21	0	1

July 25	48	5	0
July 28	62	0	1
July 30	-	-	-
August 1	105	3	0
August 4	45	24	4
August 6	68	26	4
August 8	35	2	0
August 11	35	2	1
August 13	15	0	0
August 15	17	0	0

BW = cotton bollworms; GSB = green
stink bugs; BSB = brown stink bugs

Trap location: approximately two miles east of Albertson
Cooperator: Justin Murphy

From: Alan A. Harper, Lenoir County

Light Trap Data from Lenoir County

June

Number of Adult Insects

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

June 29	0	2	0	1	3	2	0	0
June 30	1	0	0	0	2	0	0	0

July

Number of Adult Insects

Date	HW	CEW	ECB	AW	AWC	GSB	BSB	TBW
July 1	0	4	0	2	5	0	0	1
July 2	1	1	1	0	3	0	0	0
July 3	0	1	2	0	7	0	0	0
July 4	3	1	3	0	4	2	0	0
July 5	1	0	0	0	2	0	0	0
July 6	2	6	4	0	4	1	0	0
July 7	1	4	0	0	3	0	0	0
July 8	3	2	2	0	0	2	0	0
July 9	2	2	3	0	2	0	0	0
July 10	3	2	1	0	0	0	0	0
July 11	3	2	3	2	1	0	0	0
July 12	4	0	1	2	0	0	0	1
July 13	3	2	1	1	1	0	0	0
July 14	5	1	3	0	2	1	0	0
July 15	5	3	3	0	3	0	0	1
July 16	3	3	1	3	1	1	0	0
July 17	0	2	0	0	0	0	0	0
July 18	0	4	0	0	0	3	0	0
July 19	1	4	0	0	0	0	0	0
July 20	1	7	1	0	0	1	0	0
July 21	1	10	0	0	1	4	0	0
July 22	0	4	1	0	1	1	0	0
July 23	1	16	0	0	0	1	0	0
July 24	1	19	0	0	0	2	0	0
July 25	1	47	1	2	1	0	0	1
July 26	0	52	0	0	0	1	0	0
July 27	0	47	0	1	0	1	0	0
July 28	0	36	0	0	0	0	0	0
July 29	1	61	1	0	1	4	0	1
July 30	0	32	0	1	0	1	0	0
July 31	0	37	1	0	1	1	0	1

August

Number of Adult Insects

Date	HW	CEW	ECB	AW	AWC	GSB	BSB	TBW
August 1	0	41	0	0	0	1	0	0
August 2	0	55	1	1	0	4	0	3
August 3	0	26	0	0	0	3	0	0
August 4	0	46	1	0	1	1	0	0
August 5	0	66	2	0	0	2	0	1
August 6	0	71	0	0	0	4	0	2
August 7	0	51	0	0	2	10	0	0
August 8	1	28	1	0	2	3	0	1
August 9	1	30	1	0	1	3	0	0

August 10	0	28	2	0	0	4	0	0
August 11	1	4	2	0	0	4	0	0
August 12	0	8	1	0	0	0	0	0
August 13	0	8	1	0	0	0	0	0
August 14	1	6	0	0	2	0	0	0
August 15	0	8	0	0	0	2	0	0

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

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

Light Trap Data from Martin County

Farm Life Robersonville

Date	BW	GSB	BW	GSB
July 14	4	0	4	1
July 16	2	0	4	0
July 18	2	0	2	0
July 21	4	0	2	2
July 23	4	0	2	0
July 25	6	5	6	0
July 28	11	1	8	1
July 30	13	6	9	1
August 1	20	3	6	0
August 4	17	7	9	0
August 6	14	1	12	3
August 8	18	3	18	1
August 11	20	1	23	0
August 13	8	0	11	0
August 15	5	0	16	0

BW = Bollworm moths; GSB = Green stink bugs

From: Charlie Tyson, Agricultural Extension Agent, Nash County

Light Trap Data from Nash County

Date	Bollworms	Stink bugs
August 1	16	0
August 4	46	0

BW = bollworms; SB = stink bugs

Trap location: near Hickory Crossroads

From: Craig Ellison, Agricultural Extension Agent, Northampton County

Light Trap Data from Northampton County

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*****
                        Number of Adult Insects
*****
      Woodland      Conway      Seaboard      Gaston      Jackson
*****      *****      *****      *****      *****
Date   CEW GR BR   CEW GR BR   CEW GR BR   CEW GR BR   CEW GR BR
*****
July 25   1  0  0   -  -  -   -  -  -   -  -  -   2  1  0
July 28   0  5  0   -  -  -   8  0  0   -  -  -   13 21  3
July 30   1  3  0   -  -  -   14 4  2   -  -  -   21 23  0
Aug.  1   2  3  0   -  -  -   8  1  0   -  -  -   58 11  0
Aug.  4   1  1  0   -  -  -   17 0  0   -  -  -   76 11  0
Aug.  6   0  3  0   -  -  -   21 0  0   -  -  -   76 17  1
Aug.  8   5  -  -   12 0  0   28 1  0   -  -  -   165 9  1
*****

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CEW = corn earworms; GR = green stink bugs; BR = brown stink bugs
 Locations: Woodland, Conway, Seaboard, Gaston and Jackson
 Monitored by: L. Culpepper, K. Edwards, T. Flythe,
 D. Grant and B. Bryant

From: Tray Bridgers, Agricultural Extension Agent, Sampson County

Light Trap Data from Sampson County

```

*****
                        Number of Adult Insects
*****
      Date           BW      GSB      BSB      THW
*****
July 25             34       4       -       -
July 28            117       3       -       3
July 30            102       8       -       -
August 1             65       4       -       1
August 4            154      11       -       6
August 6             71       7       -       5
August 8              -       -       -       -
August 11            -       -       -       -
August 14            45       1       -       5
August 15             5       2       -       1
*****

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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

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*****
                        Number of Adult Insects
*****
                Gibson                John's                Laurinburg
                *****                *****                *****
Date           BW  GSB  BSB  FAW           BW  GSB  BSB  FAW           BW  GSB  BSB  FAW
*****
July 16        -   -   -   -           46  -   1   -           32  1   -   -
July 18        -   -   -   -           24  2   -   -           36  1   -   -
July 21        45  4   -   -           121 4   -   -          140 1   -   -
July 23       101  4   1   -           172 4   1   -          309 5   -   -
July 25       112  -   -   -           217 2   -   -          362 4   -   -
July 28       238  5   -   -           517 4   -   -          405 12  -   -
July 30       184  7   -   -           390 4   1   -          386 10  -   -
Aug. 1        134  4   -   -           182 1   -   -          362 4   -   -
Aug. 4         54  4   -   -            85  9   2   -          220 2   -   -
*****

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

From: Kevin Johnson, Agricultural Extension Agent, Wayne County

Light Trap Data from Wayne County

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*****
                        Number of Adult Insects
*****
                Seven Springs                Goldsboro
                *****                *****
Date           GSB  BSB  CEW  HW           GSB  BSB  CEW  HW
*****
July 9          0   0   0   0           0   1   0   0
July 11         0   0   0   0           0   1   0   0
July 14         0   4   0   2           4   2   2   0
July 16         0   0   0   0           0   1   0   0
July 18         0   0   0   0           3   0   0   0
July 21         0   0   0   0           17  4   0   0
July 23         2   0   1   9           4   0   4   1
July 25         0   0   0   0           1   1  22   1
July 28        10   0  10  30           17  1  119  2
July 30         3   1  11  23           2   9  116  3
August 1        1   0  10  11           12  5   83  3
August 4        0   0   0   0           50  15  135  1
August 6        3   3  22  23           14  16  51   1
August 11       5   0  27  30           1   1  27   3
August 13       0   0   0   0           3   1  19   4
August 15       0   0   0   0           0   0  29   0
*****

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GSB = green stink bugs; BSB = brown stink bugs;
 CEW = corn earworms; HW = 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  GSB      CEW  GSB      CEW  GSB      CEW  GSB
*****
July 21      -   -          5   0          -   -          3   5
July 23      4   5          7   0          1   1          7   5
July 25      6   5          2   0          0   0          16  4
July 28     14  10          9   1          3   1          20  5
July 30     12   5          16  1          3   2          22  3
August 1     13   1          14  1          7   1          23  4
August 4     13   5          15  1          7   0          49  4
August 6     20   5          18  1          7   2          32  4
August 8     14   3          10  0          9   1          23  2
August 11    20   0          21  1          11  0          15  1
August 13    19   0           5   2           3   0           8   1
August 15    10   0          11  0           4   0           6   0
*****
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CEW = corn earworms; GSB = green stink bugs

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

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