

Hudson Valley Laboratory
Department of Entomology

Peter Jentsch; Extension Associate
3357 Route 9W; P.O. Box 727
Highland, NY 12528

Phone: 845-691-7151
FAX: 845-691-2719
pjj5@cornell.edu

● **Agricultural Research and Extension on Tree Fruits and Vegetables** ●

Sweet Corn Pest Report

Thursday, July 31

The trap catch data from New Paltz this week indicates that the 2nd generation European corn borer adults continue their flight in multiple sites including Ulster and Orange counties, but numbers have been dropping and remain relatively low. Most of the region including WNY, PA and NJ and seeing moderate to low ECB trap numbers. As we have observed over the past few years, variable population levels have been seen in the Hudson Valley. Traps in Hurley (25 ECB-E, 0 ECB-Z) and Florida (5 ECB-E, 12 ECB-Z) are higher than New Paltz (2 ECB-E, 6 ECB-Z) and Accord (0 ECB-E, 0 ECB-Z). A reminder that trap locations should be placed in corn moving to tassel and silk so as to optimize adult captures.

From the onset of ECB sustained flight we can predict the development of larval hatch based on degree day accumulations (Table 1.) Given the cooler temperatures over the past two weeks, peak hatch had occurred at 100DD on 26th of July with 1st and 2nd instar appearing at 200DD on 30th of July. We can expect larger 3rd and 4th instar larva over the next week, which will lead to decreased control with insecticides (NEWA: Poughkeepsie Forecast). Cooler temperatures are more conducive to effective larva control using pyrethroids. However, The OP's and carbamates are less prone to loss of efficacy from high temperatures than are the pyrethroids. The spinosad Entrust and spinetoram Radiant SC is only moderately reduced by increased temperature (Table 2). Field scouting should be ongoing in all fields that are in the whorl and silk stage for the presence of newly emerging ECB-E and other insect pests. Damage threshold for fresh market sweet corn in the silk stage is 5%.

Corn earworm (CEW) adults were also active this but the populations remain quite low with trap captures ranging from 0 to 6 per trap in 4 sites. CEW trap counts in Florida and New Paltz (1 per trap per week each site) suggest a 6-day spray schedule with a 5-day schedule recommended for high population sites in Hurley (Table 3). A tighter schedule may be required in sites where ECB larva populations are experiencing continued larval emergence. Fall armyworm adults have yet to be observed in our traps.

Western bean cutworm (WBC) adults are increasing throughout the state with nearly all sites in WNY finding adult captures in traps. Highest trap numbers of WBC can be found in W.PA. This week we observed 2 WBC adults per trap in Florida, Orange County with no other adults found in three other locations. However, no eggs or larva of the WBC have been observed in the Hudson Valley. We are presently at 1688.6 DD since 1 May, which indicates greater than 75% of WBC larva are predicted to have emerged (NEWA-Highland).

The sap beetle complex continues to be a problem in small fruit, vegetable and sweet corn. High populations were observed feeding on corn last week in Hurley. This insect group includes the picnic

beetles and dusky sap beetle that move into sweet corn to feed and contaminate the stand. Adults of the sap beetle emerge in June and July with only a single generation per year. However, the dusky sap beetle has a 30 days life cycle with three to four generations per year, giving rise to potentially high and damaging populations as the season progresses. Carbaryl is relatively ineffective against this complex. Populations overwinter and develop on decomposing organic matter.

Regional Pestwatch data indicates regional low levels of CEW in NJ, NY with the exception of moderate levels in E.LI. (Mattituck at 4.29 moths per day; Calverton at 3.29 / day), with central PA generally showing low populations.



Dusky Sap Beetle, *Carpophilus luubris* Murray.

Table 1. Degree day accumulations for predicting ECB activities in the field.*

Degree days from event (F°)	Life stage
0	Increasing moth flight (peak)
100	Peak egg hatch
200+	1st - 2nd instar larvae
350+	3rd instar larvae
400+	4th instar larvae
550+	5th instar larvae
900+	Pupation
1150 - 1700	Adult moths

*from: European Corn Borer Development and Management, USDA NC Reg. Ext. Pub. No. 327, May 1989. Threshold = 50°F (10°C)

Table 2. Environmental temperature impact on insecticide efficacy to European corn borer.

The influence of post-exposure temperature on the toxicity of insecticides to *Ostrinia nubilalis* (Lepidoptera: Crambidae).

Musser,F.R., Shelton, A.M.
Pest Management Science.
Volume 61, Issue 5 , Pages 508 - 510 2005



Examined the influence of post-treatment temperature on insecticide toxicities.
Temp. change from 24 to 35 degrees C (75 - 95°F)

Pyrethroids	Warrior (lambda-cyhalothrin)	9.5 fold decrease
	Brigade (bifenthrin)	13.6 fold decrease
Carbamate	Lanate (methomyl)	no change
Spinosyn	SpinTor (spinosad)	3.8 fold decrease

The results demonstrate that the most effective insecticide against a pest may vary with environmental conditions.

Table 3. CEW spray schedule based on pheromone trap captures.

Per Day	Per Five Days	Per Week	Days Between Sprays
<0.2	<1.0	<1.4	No Spray(for CEW)
0.2-0.5	1.0-2.5	1.4-3.5	6 days
0.5-1.0	2.5-5.0	3.5-7.0	5 days
1-13	5-65	7-91	4 days
over 13	over 65	over 91	3 days



ECB "window pane" damage



ECB feeding on emerging tassel



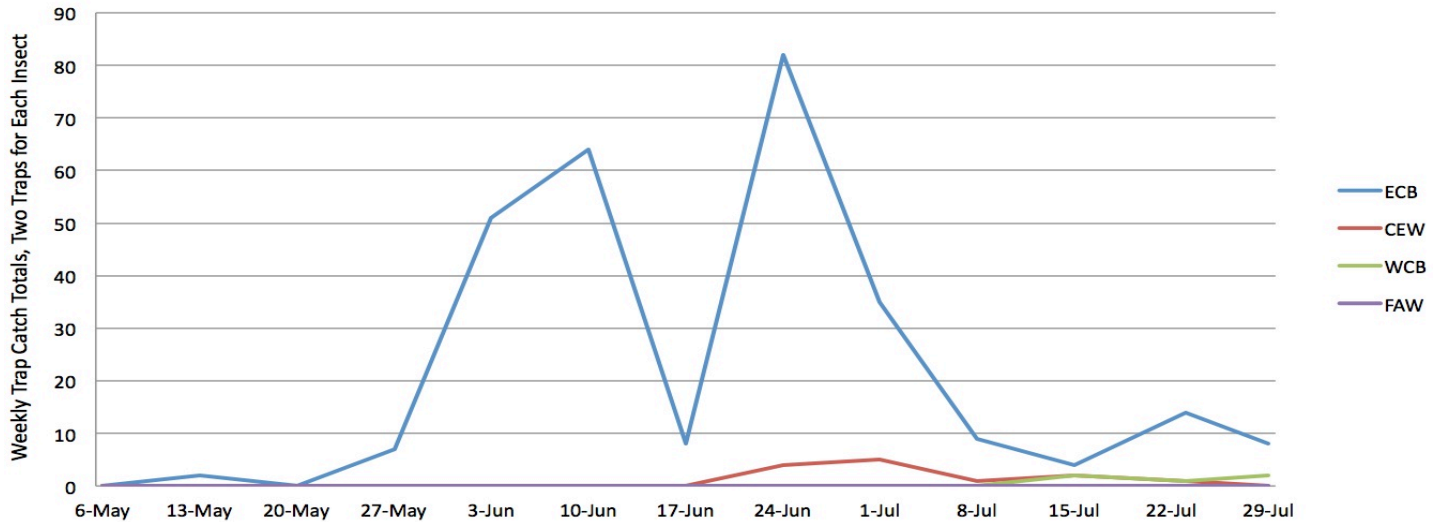
ECB pinhole damage



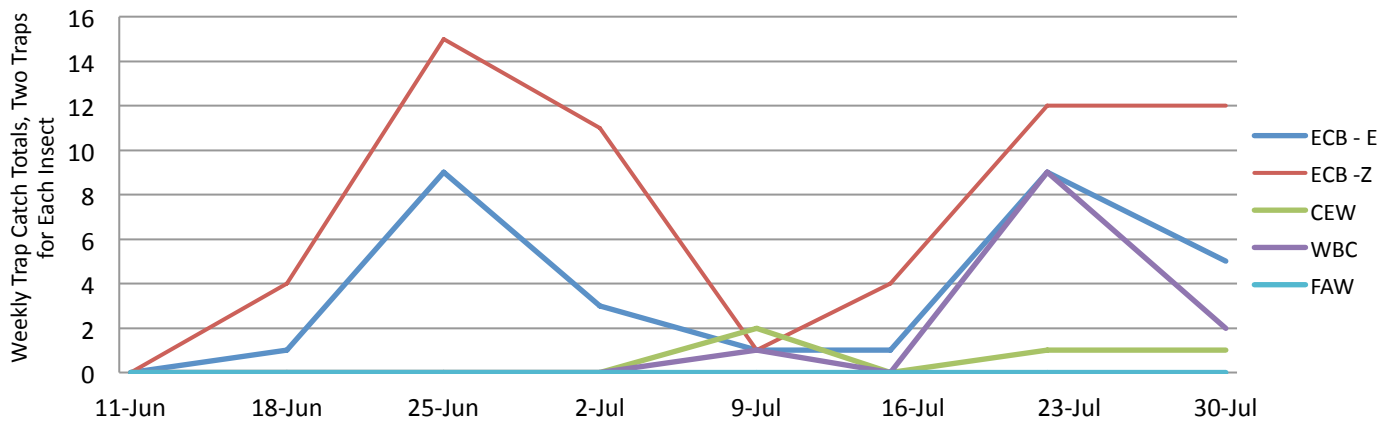
CEW and FAW feeding damage

2013 European corn borer (ECB), Fall Armyworm (FAW), and Corn Earworm (CEW) Adult Flight Data

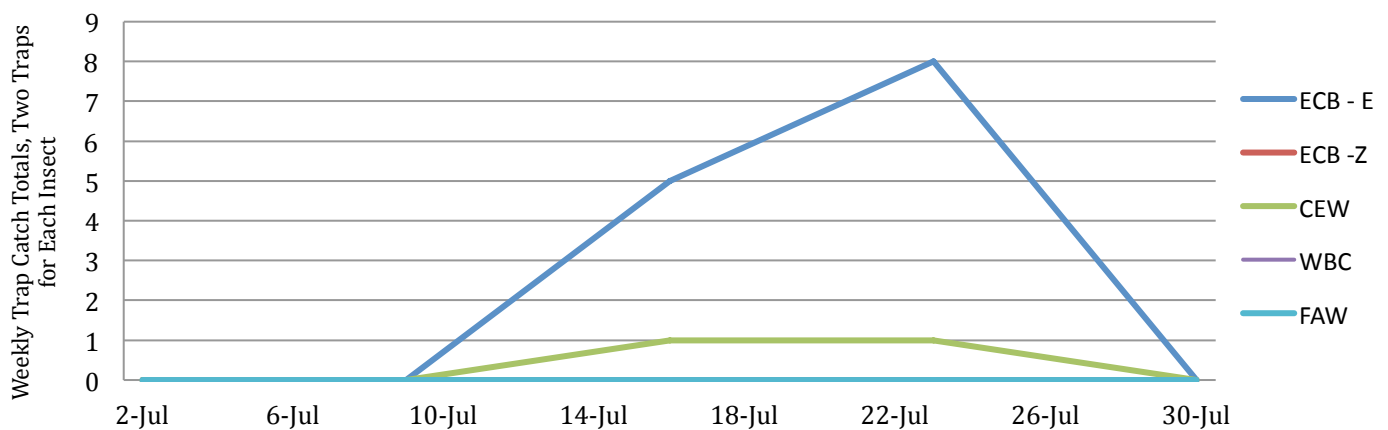
Wallkill View Farms, New Paltz, NY



Florida, NY



Accord, NY





The **western bean cutworm (WBC)**, *Striacosta albicosta*, is a late season pest of corn (including field, sweet and popcorn), first trapped in the Hudson Valley in 2012. It is an emerging pest in the Eastern US. The western bean cutworm completes a single generation per year.



Adult moths fly in mid-summer and females lay eggs on the upper surfaces of corn leaves. As a late-season corn pest, WBC larvae feed on tassels, silks, and developing kernels and can cause severe damage. Chemical control can be a challenge because larvae spend considerable time inside the husk.