

# VEGETABLE CROPS HOTLINE

A newsletter for commercial vegetable growers prepared by the  
Purdue University Cooperative Extension Service

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**CORN EARWORM ALERT** - (Rick Foster) - *The following article was written as a Vegetable Crops Hotline-BULLETIN, August 07, 2006.* Over the past several nights we have seen a dramatic increase in the number of corn earworm moths caught in our pheromone traps. In recent days we have been catching as many as 180 moths per night at West Lafayette and more than 270 moths per night at Vincennes. The threshold at which we generally recommend treating sweet corn in a vulnerable stage (fresh, green silks present) is 10 moths per night. Any sweet corn that has fresh, green silks present is in danger of suffering severe damage.

When populations are this high and temperatures are hot (as they have been), I recommend that growers spray silking sweet corn every two days. The hot temperatures will cause silks to grow faster and corn earworm eggs to hatch sooner, usually in two days. Therefore, to keep the ears protected, frequent sprays are needed. Once the silks start to turn brown, the danger is reduced. However, when populations are this high, there is some possibility of eggs being laid on silks that have already turned brown. If you choose to spray brown silks, I would increase the spray interval to 3-4 days. Remember that worms that hatch the last week before harvest will not be large enough to be noticed in the tip of the ear. Be sure to adhere to pre-harvest intervals.

The pyrethroid insecticides continue to be the pesticides of choice for earworm control. We are continuing to monitor the possibility of the development of resistance to the pyrethroid insecticides, but so far we haven't seen many field failures. I expect to have some additional data that will help us in the next couple of weeks, and I will make that available as soon as I have it.

My recommendations are to begin spraying a pyrethroid insecticide (Capture, Mustang Max, or Warrior) at a high rate beginning at 70% silk, or as close to that

as you can get. Sprays should then be applied every two days until the silks turn brown. When populations get this high, many growers have had success adding Penncap M to the spray tank. Penncap M is not a good earworm insecticide, but does an excellent job at killing corn earworm moths. I also recommend spraying late in the evening if at all possible. Drop nozzles that aim the insecticide right at the ear will also increase the level of control.

Tomato and pepper growers should also be aware of the possibility of increased problems and be prepared to be more vigilant in their control programs.

We will continue to monitor the moth flights and report them in the Hotline. Please call or email if you have questions (765-494-9572; [rfoster@purdue.edu](mailto:rfoster@purdue.edu)).



**PUMPKIN AND SWEET CORN TWILIGHT MEETING** - (Announcement) - Pumpkin and sweet corn variety plots will be featured at an evening plot tour planned for Tuesday, September 12, 2006, at the Pinney-Purdue Ag Center in Wanatah, Indiana. This will be a great opportunity to check out twenty pumpkin cultivars and thirty-eight sweet corn cultivars in the field. If we're lucky the sweet corn will be ready for tasting! Purdue Vegetable Specialists will also be on hand to discuss production practices and answer questions. Check the next issue of this newsletter for additional information and driving directions.

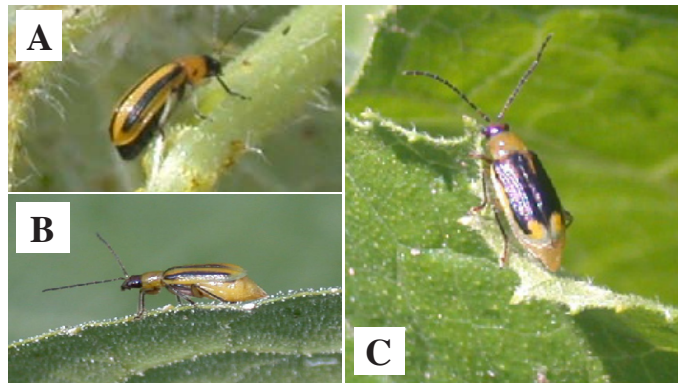


**PIGWEED FLEA BEETLE** - (Frankie Lam, Arwin Provonsha, Rick Foster, and John Obermeyer) - Relatively high populations of pigweed or *Disonycha* flea beetles (Figs. 1A and B) have been observed in Knox County cucurbit fields, including pumpkin, squash, and watermelon. During late July we found an average of two beetles per squash plant in a weedy organic field.

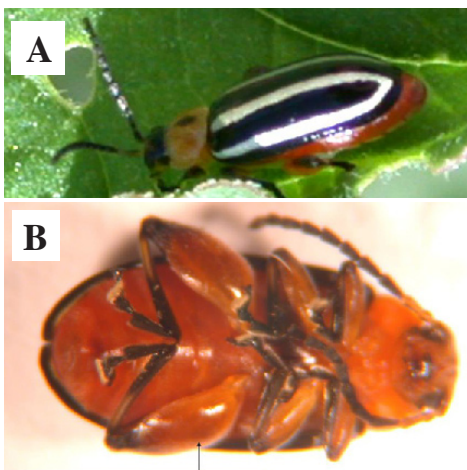
The pigweed flea beetle is a beneficial insect that mainly feed on pigweeds and related plants. This beetle may be found on various crops, but it does not feed on cucurbits. A feeding (no-choice) test of the beetle conducted on cucumber, muskmelon, pumpkin, squash, watermelon, and redroot pigweed conducted at the

Southwest Purdue Agricultural Center showed that the pigweed flea beetle did not feed on cucurbits, but only on pigweeds. Growers finding the pigweed flea beetles in weedy plots do not need to spray insecticides to control them.

Though the pigweed flea beetle looks similar to striped cucumber beetle (Fig. 2A) and western corn rootworm beetle (Figs. 2B and C) it is quite different because of its ability to jump like a flea. All these beetles belong to the leaf beetle family (Chrysomelidae). The following table compares the characteristic features and behavior of these beetles. Growers found beetles in fields should identify the beetles carefully before spraying insecticides. If you have questions concerning the beetles in your fields, please contact Frankie Lam at (812) 886-0198 or Rick Foster at (765) 494-9572.



**Figs. 2A.** Striped cucumber beetle; **B.** Female western corn rootworm beetle; **C.** Male western corn rootworm beetle. (Photos by Frankie Lam)



**Figs. 1A.** Pigweed flea beetle; **B.** Note enlarged hind leg segment (arrow). (Photos by Frankie Lam)

	Pigweed flea beetle	Striped cucumber beetle	Western corn rootworm beetle
<b>Underside of abdomen (belly)</b>	Orange	Black	Yellow
<b>Stripes</b>	Two white stripes are distinct, straight, and join at the end of each black wing cover	Black stripes are distinct, straight, and reach almost to the end of the yellow wing covers	Female: Black stripes are less distinct and do not reach the end of the yellow wing covers.  Male: Wing covers yellow and black, mostly cannot identify the stripes
<b>Hind legs</b>	An enlarged segment (femora)	No enlarged segment	No enlarged segment
<b>Jumping behavior</b>	Jump when disturbed	Do not jump when disturbed	Do not jump when disturbed

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