

VEGETABLE CROPS HOTLINE

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

Liz Maynard, Editor
600 Vale Park Road
Valparaiso, IN 46383
(219) 531-4200
emaynard@purdue.edu



vegcropshotline.org

No. 584
June 12, 2014

IN THIS ISSUE

- CORN EARWORM
- STRIPED CUCUMBER BEETLES
- POTATO LEAFHOPPER
- SEEDCORN MAGGOT
- STINK BUGS
- ANTHRACNOSE OF WATERMELON
- PUMPKIN PLANTING TIME
- GOT GAPs QUESTIONS?

CORN EARWORM - (Rick Foster, fosterre@purdue.edu 765-494-9572) - We have been catching relatively low numbers of corn earworms in our pheromone traps (see Figure 1) for several weeks now. Growers with sweet corn at or approaching silking should have their earworm traps in place or be monitoring reported catches at the Purdue Ag Center nearest them at <http://extension.entm.purdue.edu/cornearworm/index.php>. Remember that we are now recommending treatment of sweet corn that silks prior to the silking of the neighboring field corn when any moths are being caught in your local trap and fresh green silks are present on your sweet corn (see Figure 2). With the relatively low moth catches we are seeing, I recommend treating with an insecticide every 4 to 5 days from when about 50-70% of your plants are silking until the majority of silks have turned brown. See the *Midwest Vegetable Production Guide* (ID-56, mwvegguide.org) for insecticide choices. When neighboring field corn begins to silk, the threshold should increase to 10 moths per night in the pheromone trap.



Figure 1. Hartstack trap with captured earworm moths.
(Photo by John Obermeyer)



Figure 2. Earworm and ear tip damage. (Photo by John Obermeyer)

STRIPED CUCUMBER BEETLES - (Rick Foster, fosterre@purdue.edu 765-494-9572) - Fairly heavy populations of striped cucumber beetles (see Figure 3) have been observed throughout the state and today (June 10) I saw the first muskmelon plants showing visible symptoms of bacterial wilt in the Vincennes area. Dan Egel confirmed bacterial wilt (see Figure 4) with field tests and observation of ooze under the microscope. Muskmelon and cucumber growers should be monitoring their fields closely and treating with an appropriate insecticide when an average of 1 or more beetles per plant are found. Because watermelons and squash are not susceptible to bacterial wilt, the threshold for treating those crops is 5 beetles per plant. You should especially watch the seedling stage since that is when those plants are most vulnerable.



Figure 3. Striped cucumber beetle feeding on pollen.
(Photo by John Obermeyer)



Figure 4. Bacterial wilt in cucumber. (Photo by John Obermeyer)



POTATO LEAFHOPPER - (Rick Foster, fosterre@purdue.edu 765-494-9572) - Potato leafhoppers have completed their annual migration northward and are actively feeding on susceptible crops. Potato and snap bean growers in particular should be actively scouting for this pest. They will feed on the underside of the leaves so you need to turn over the leaves to look for the nymphs. Adults will likely fly away so watch for them as you turn over the leaves. Don't wait until you see the symptoms of damage, hopperburn, (see Figure 5) because once the symptoms are apparent, the plants have already been injured to the point of reducing yield. Again, see the *Midwest Vegetable Production Guide* (ID-56) for insecticide recommendations.



Figure 5. Potato leaf hopper damage. (Photo by John Obermeyer)



SEEDCORN MAGGOT - (Rick Foster, fosterre@purdue.edu 765-494-9572) - With the cool wet weather earlier in the spring, I have received several reports of damage to melons and other crops from seedcorn maggots. Once the damage occurs, there is nothing you can do but replace the plants. With the warmer weather we have been experiencing, I expect that we are likely done with seedcorn maggots for this year. Our research has shown that when soil temperatures reach 70°F, seedcorn maggot flies will not lay eggs in the fields. To avoid problems next year, try to limit the amount of organic matter present in your fields, since that is one of the factors that attracts flies to lay eggs. Of course, planting later will avoid the problem but that often isn't an acceptable strategy.



STINK BUGS - (Rick Foster, fosterre@purdue.edu 765-494-9572)- For several years we have been on the lookout for brown marmorated stink bugs to become a serious problem in fruits and vegetables in Indiana. Although we had a couple of confirmed reports of problems last year, so far they have not been a serious pest. However, this spring I believe that I have seen more native stink bugs than I have ever seen before. Stink bugs will feed with their sucking mouthparts on a variety of crops, but two that are most vulnerable are tomato and pepper. As your field grown crops begin to set fruit, or as your high tunnel crops continue to produce fruit, you should be on the lookout for stink bugs. They are often fairly secretive, but if you see egg masses (see Figures 6 & 7) or any nymphs or adults on your plants, you should consider treating with an insecticide. See the *Midwest Vegetable Production Guide* (ID-56) for details.



Figure 6. Stink bug egg masses, light color is just laid, dark color is ready to hatch. (Photo by John Obermeyer)



Figure 7. Don't confuse the oval lady beetle eggs with the barrel-shaped stink bug eggs. (Photo by John Obermeyer)



ANTHRACNOSE OF WATERMELON - (Dan Egel, egel@purdue.edu, 812-886-0198) - Anthracnose of watermelon has been observed recently on watermelon in south-western Indiana. The fungus that causes anthracnose of watermelon can also cause the disease on cucumber and cantaloupe as well also other crops in the cucurbit family. However, different fungi cause anthracnose diseases of peppers, tomatoes and various shade trees.

Symptoms of anthracnose of watermelon include jagged, irregular lesions on leaves (see Figure 8). The center of such lesions will fall out with time giving the leaf a shot hole appearance. Lesions of stems are often spindle shaped. Severe outbreaks of anthracnose can result in pit-like lesions on fruit that may turn a pink-salmon color under moist conditions (see Figure 9).

Wet, warm weather favors the establishment and spread of anthracnose. Symptoms often become severe when the plant canopy develops sufficiently to increase relative humidity.

The fungus that causes anthracnose may survive from year to year in crop residue. In addition, the anthracnose fungus may be seed borne.

Cucurbit growers should utilize crop rotations of at least three years to reduce crop residue. Similarly, fall tillage will help to reduce the amount of crop residue. Growers should purchase seed tested for anthracnose and avoid saving seed from fields with anthracnose. Excellent sanitation should be practiced in transplant greenhouses.

There are no commercially available resistant varieties of watermelons to race 2 of anthracnose. Race 1 of anthracnose affects primarily cucumbers and cantaloupe.

Most cucurbit growers in Indiana find it necessary to apply fungicides protectively throughout the season. More information about fungicide choices may be found in the *Midwest Vegetable Production Guide for Commercial*

Growers (ID-56) mwvegguide.org. The Purdue MEL-CAST system alerts growers to when weather conditions are conducive to foliar disease. To find out more about the MELCAST system, see <https://www.extension.purdue.edu/extmedia/BP/BP-67-W.pdf>

Additional information about anthracnose may be found at <https://www.extension.purdue.edu/extmedia/BP/BP-180-W.pdf>.



Figure 8. Anthracnose lesions on watermelon leaf. Note angular appearance of lesions. (Photo by Dan Egel)



Figure 9. Anthracnose lesions on watermelon fruit can result in sunken areas with a salmon or pink color. (Photo by Dan Egel)



PUMPKIN PLANTING TIME - (Dan Egel, egel@purdue.edu, 812-886-0198) - It is time to think about when to plant pumpkin seed to avoid serious yield loss from virus diseases. Purdue University recommends that pumpkins should be planted by about June 20 to manage for pumpkin viruses. (The June 20 date has been established for southern Indiana-adjust your date accordingly.)

Almost all pumpkin fields will have symptoms of virus infection. There are several related virus diseases of pumpkin that cause similar symptoms. Those symptoms include a mosaic (see Figure 10) on foliage and shoestringing of leaves. Pumpkin fruit infected with virus may become deformed (see Figure 11).

However, if pumpkins are planted sufficiently early, virus diseases will not become widespread or severe until the fruit has set. Pumpkin plants are most susceptible to yield or quality losses before fruit set or early in fruit development.

Aphids spread most important pumpkin viruses. The aphids that spread pumpkin viruses are more abundant as the season progresses. This is the reason it is best to plant early. Although insecticides can be used to manage aphid infestations in pumpkins, insecticides will not stop aphids from infecting pumpkins with viruses. This is because aphids will spread the virus particles before the insecticides have a chance to work.



Figure 10. Virus symptom on pumpkin foliage includes mosaic of leaves. (Photo by Dan Egel)



Figure 11. If pumpkin fruit are infected with virus early in development, the resulting fruit may be small and deformed. (Photo by Dan Egel)



GOT GAPs QUESTIONS? - Scott Monroe, Purdue Extension Educator for Ag and Natural Resources in Daviess County, will act as Purdue Extension's state-wide Good Agricultural Practices 'answer person' this summer. Fruit and vegetable growers across the state with questions about food safety on farms and in packing houses can contact him by phone at 765-427-9910, or by email at jmonroe@purdue.edu.