



In This Issue

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Hornworms in tomatoes ♦ Jim Jasinski, OSU Extension, IPM Program; Celeste Welty, Dept. of Entomology

For the past week, hornworms have been found in heirloom tomato plots at the Western Ag Research Station in South Charleston. ♦ These large caterpillars are common throughout Ohio and can often be found feeding initially on the top of tomato plants but will also feed on the surface of green fruit. ♦ Although usually very difficult to spot in the canopy because of their camouflaged coloring, their large fecal pellets (frass) on nearby foliage or ground is often used to detect them. The sheared appearance of the tomato canopy is another indicator of their presence. Both the tomato and tobacco hornworm have the characteristic ♦ horn ♦ on the top of their last abdominal segment. ♦ The horn is red on tobacco hornworm while the horn is black on tomato hornworm. White markings across the sides of the caterpillar can also be used to differentiate the two species: straight white markings are found on tobacco hornworms while white ♦v♦ shaped markings are found on tomato hornworms. ♦ The tobacco hornworm is usually more common in Ohio tomato fields than the tomato hornworm. The length of the worms found at the research station was up to 3 inches, which is near their maximum size.

Hornworms are often found with many small white cocoons stuck on their body. The cocoons show that biological control by natural enemies is in progress. A hornworm covered with cocoons has been parasitized by *Cotesia congregata*, a small braconid wasp. By the time the cocoons emerge from the larva, the hornworm is close to death and will not reach its pupal stage. One wasp will emerge from each cocoon.

The threshold for treating this pest is two or more hornworms or fresh damage per 40 plants scouted of any stage, from seedling to fruiting. ♦ Whether parasitoid cocoons are seen or not, the chances of biocontrol contributing to the management of this pest are increased greatly by avoiding the use of broad-spectrum insecticides. The best insecticide to use is one of the BTs such as Dipel or Javelin or Xentari. If insect pests in addition to hornworms are found in the tomato field, then conventional insecticides will be needed; most insecticides are very toxic to hornworms so the selection of the product should be based on the other pest(s). Products such as carbamates (Lannate, Sevin) and pyrethroids (Asana, Baythroid, Pounce, Warrior) are toxic to hornworms but disruptive to natural enemies like the *Cotesia* parasitoid. Products such as Spintor, Radiant, Intrepid, Confirm, or Neemix are toxic to hornworms but have a more gentle impact on beneficial insects.

Pictures by C. Welty & J. Jasinski:

1) healthy hornworm



2) parasitized hornworm



3) damage to fruit



4) damage to leaves



Bob's Video Vegetable Notes

Check out my new video, How to set up a corn earworm trap: <http://vegnet.osu.edu>


Dr. C. Welty will take you through the steps in setting up a corn earworm trap such as equipment needed, where to place the lure and how to handle what you have trapped. This video links you to another document that provides more specific information on traps and where to get your equipment. Click on the [Link](#) button in the video player (see red arrow) in picture below.

Coming next week. How to take samples to submit to the Plant and Pest Diagnostic Clinic and a behind the scenes look as to what happens to your sample in the diagnostic process.



	Setting Up a com earworm trap How to set up a com earworm trap by Dr. C. Welty	10:40
	How to use a Cardy Meter To Fertilize or Not, that's the question?	05:40

[Link](#)

Previously: 

7. How to Use a Cardy meter

6. Season Extension (examples from central OH)

5. Strawberry Season Preview (A visit with 3 growers)

[Use the scroll bar on the right side of the playlist to see all the videos.](#)