

**Problem:** Tomato and Tobacco Hornworms - *Manduca quinquemaculata* and *Manduca sexta*



**Hosts:** Primarily tomato but can also attack eggplant, pepper, and potato.

**Description:** The larval stage of this insect is a 3 1/2 to 4-inch long pale green caterpillar with 5 pairs of prolegs and a "horn" on the last segment. The two most common hornworms are the tobacco hornworm (7 diagonal white stripes and, most commonly, a red horn) and the tomato hornworm ("V" shaped markings with a horn that is often black). The adult of the tobacco Hornworm is the Sphinx moth. The Five-spotted Hawk Moth is the adult of the tomato hornworm. Both moths are stout-bodied, grayish-colored insects with a wing spread of 4 to 5 inches.

The larva is the damaging stage and feeds on the leaves and stems of the tomato plant leaving behind dark green or black droppings. Though initially quite small with a body about the same size as its horn, these insects pass through 4 or 5 larval stages to reach full size in about a month. The coloration of this larva causes it to blend in with its surroundings and is often difficult to see despite its large size. It eventually will burrow into the soil to pupate. There are two generations a year.

**Recommendations:** This insect is parasitized by a number of insects. One of the most common is a small braconid wasp. Larvae that hatch from wasp eggs laid on the hornworm feed on the inside of the hornworm until the wasp is ready to pupate. The cocoons appear as white projections protruding from the hornworms body. If such projections are seen, leave the infected hornworms in the garden. The wasps will kill the hornworms when they emerge from the cocoons and will seek out other hornworms to parasitize.

Handpicking is an effective control in small gardens. Bt (Dipel, Thuricide), spinosad (Conserve; Captain Jack's Dead Bug Brew, Monterey Garden Insect Spray, Natural Guard Spinosad), cyfluthrin (BioAdvanced Tomato and Vegetable Insect Killer) and other insecticides may also be used to control hornworms.

**References:**

1. [Tomato Hornworm](#), Insect Diagnostic Laboratory, Cornell University Extension Service
2. [Tomato Hornworms](#), University of Minnesota Extension
3. Garden Insects of North America, Whitney Cranshaw, pg 146

**Last Update:** 11/15/2023



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