

# In My Backyard

## Tomato Hornworms

### The Gardener's Nemesis



***Tomato Hornworm, very similar to its cousin, the Tobacco Hornworm. The v-shaped white marks on its side identify it. Tobacco Hornworms have straight, diagonal marks.***

Like Tic-Toc, the Croc, Captain's Hook's nemesis in Peter Pan, we have our own tick-tocking nemesis in the Tomato Hornworm. which voraciously eats our tomato, pepper and potato plants destroying our hopes for a larder filled with fresh vegetables. The Hornworm, when agitated, makes a clicking sound that is very distractive to someone who is not used to an insect making a regular, rhythmic noise, like a bomb counting down to detonation. That, coupled with their huge size, makes them quite terrible for the dedicated gardener.

And, yet, if allowed to grow to maturity and pass through metamorphosis, the Hornworm turns into the Five-Spotted Hawk Moth, a hummingbird-sized insect which often hovers and flutters around the flowers like our tiny feathered friends, feeding off the nectar. But is the trade-off of sacrificing a few plants worth the effort to have Five-Spotted Hawk Moths? Most gardeners would say, "NO!"



### ***Five-Spotted Hawk Moth***

Tomato Hornworms and their cousins, the Tobacco Hornworms are very similar in appearance and sometimes difficult to distinguish. Both worms are about 4" in length and possess a "horn" on their tail end. The distinguishing characters are white markings and the color of the horn...white diagonal stripes along the side and a red horn in Tobacco Worms and "V"-shaped white marks and blue or black horns in Tomato Hornworms. They often will occur at the same time in your garden, although Tobacco Hornworms generally live in the south or warmer climate and not so often found in the northern regions of the US.

Hornworms can cause extensive damage to gardens, and even though they move slowly, can decimate plants or rows of plants overnight. They feast on the leaves and unripened fruit, but will bore holes in ripe fruit, just to get a taste, I suppose, but never completely consume it. But, the damage is done. They are difficult to find because of the matching green color and their habit of staying on the underside of leaves. But, their large, black droppings on the ground below the plant are a dead giveaway. They are one of the largest caterpillars in North America.

Tomato Hornworms produce the Five-Spotted Hawk Moth and Tobacco Hornworms produce the Sphinx Moth, very similar in appearance and habit. The moths lay their eggs on the underside of the leaves where they soon hatch and begin their journey of destruction. They are not happy in sunlight so they feed on the shady, darker areas during the day, and feed on the outer leaves at night. The best time to find them is at sunrise or sunset when they have emerged to the exterior to feed. They have five stages of growth as a caterpillar, then drop to the soil, burrow in and pupate. The full-grown moth emerges to feed and hunt for a mate. The Five-Spotted Hawk Moth has a wingspan of 4 to 5 inches and is quite the speed demon; they



***Tobacco Hornworm covered with Braconid Wasp pupae. They will metamorphose into adults which will find more worms to inject with new eggs. A good, natural control of Hornworm populations.***

have been clocked at flying 30 miles per hour. But, they can hover like a hummingbird and are sometimes mistaken for them, especially in the darkening of the evening. They usually hole up for the day and travel by night. Occasionally you will find one hovering around your porch light or landed on the wall around the light.

Other than using pesticides, which might harm beneficial insects, or plucking them from the plants and smashing them, the only natural predator besides birds and some animals are the parasitic Braconid Wasps, who attack Hornworms and inject eggs into their backs...many eggs. The eggs mature into larvae and begin to feast on the internal organs, but not killing the Hornworm. When ready, the wasp larvae bore to the surface and make white cocoons on the back of the worm. They hatch into adults and move out to find other Hornworms. So...it is wise not to kill Hornworms that are covered with the white cocoons. Just wait until the wasps hatch, then get rid of the Hornworm, if it hasn't already been eaten by the wasp babies.

Gardeners have become creative in dealing with Hornworms. They discovered that hornworms will glow bright green under a black light with an amber filter at night, with background vegetation visible as very dark green. This is a good way to find the sneaky little camouflage experts. Besides the pluck-and-smash method, some gardeners turn their chickens loose in the garden and let them do their duty, which they perform with relish because they do love big, fat worms. Rototilling the soil of your garden before planting will kill the eggs laid last season. Others use folklore remedies, such as dusting plants with red pepper dust or liquid, which Hornworms apparently don't like. A spray can be made up of water, vegetable oil and liquid soap



Photo: Salvador Vitanza, Ph.D. - [elp.tamu.edu](http://elp.tamu.edu)

***Parasitic Braconid Wasp, a Hornworm's nightmare.***

to administer to plants to drive the worms away. My grandmother collected my grandfather's cigarette butts in a jar of water and made a spray to put onto the plants. Even though Tobacco Hornworms love tobacco plants, they (and many other pests) don't like the concentrated nicotine in the cigarette butt stew she made up. You can use a range of chemical pesticides, but you must be careful not to kill off your beneficial bugs.



Photo: [texasbutterflyranch.com](http://texasbutterflyranch.com)

***Hornworm hiding place.***

One writer suggested collecting the Hornworms in a jar and watch them fight...apparently, they are quite belligerent towards each other. Otherwise, you can keep them separated and watch them pupate and emerge as quite beautiful, large moths.

**And, what's in your backyard?**