

Tomato Growers Battle Hornworms

Texas A&M AgriLife Extension Service — Galveston County Office



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PHOTO CREDIT: Dr. William M. Johnson

Experienced tomato growers are likely to be familiar with hornworms inflicting damage on their plants. Tobacco hornworms are the most common hornworm found on tomatoes grown in Gulf Coast gardens.

After weeks of shelter-at-home actions because of the COVID-19 crisis, home tomato growers are especially gratefully to be able to harvest the tasty fruits of their labors. The one fly-in-the-ointment for tomato growers this time of year is a pale green caterpillar with black and white markings—the voracious hornworm.

If you have grown tomatoes for several years, you are likely to have had an encounter with hornworms. Tomato growers in Galveston County typically experience their first encounter with this insect pest during the month of June.

The damage is typically done before you see any

hornworm caterpillars. One day your tomato plants seem healthy and lush and the next day they are missing leaves and looking battered.

There are two types (species) of hornworms—the tomato hornworm and the tobacco hornworm. Both types are green caterpil-





lars with white distinctive markings on their sides. The tomato hornworm caterpillar has eight V-shaped stripes, while the tobacco hornworm has seven diagonal stripes.

If you're not into counting stripes then just observe the color of the "horn" on a caterpillar's rear end. The name "hornworm" comes from the distinctive projection or "horn" positioned on its rear end.

The tomato hornworm usually has a slightly curved, red-colored horn at the rear while the tobacco hornworm has a black horn that is straight. The horn is prominent from the time the larva hatches from the egg. Contrary to popular belief, the horns do not have a stinger.

Ironic as it may sound, the tobacco hornworm is the usual culprit on locally grown tomatoes. The tobacco hornworm is more common in the southern United States, especially the Gulf Coast States (including Texas). In contrast, the tomato hornworm is uncommon along the Gulf Coast and is more likely to be encountered by tomato growers in northern states.

The hornworm is the caterpillar stage of a sphinx moth (also called the hawk moth). Sphinx moths have a wingspan of about five inches and hover like hummingbirds, feeding at dusk on the nectar of deep-throated flowers such as four o'clocks, petunias, and flowering tobacco.

The caterpillar's large size—nearly four inches when mature—allows it to strip great quantities of foliage in a relatively short time. In large numbers, these caterpillars can create extensive damage. Hornworms feed on the leaves and new stems of the tomato plant, and sometimes on the fruit. It also loves munching on eggplant, potato, and pepper—all members of the nightshade family.

The adult moth lays its eggs on the underside of tomato leaves in the spring. Female moths deposit one to five eggs per plant visit and may lay dozens of eggs over her short lifetime. The greenish eggs take about a week to hatch into small caterpillars that feast their way through your tomato plants and leave behind dark green or black droppings.

After crunching on tomato plants for 3-4 weeks, hornworm caterpillars then crawl down the main stem of a plant to ground. They burrow several inches into the soil to form a pupa (the nonfeeding stage where the caterpillar changes to an adult).

If weather conditions are suitable, the moth may emerge from the pupa in the soil in two to four weeks to mate and begin laying eggs again for the next cycle. In most cases, the pupa remains in the soil thorough the upcoming winter season, with the adult moth emerging in June of the following year.

In small gardens, the most effective and immediate method of control is to remove the plump caterpillars by hand (this is a good task for non-squeamish kids) and immerse them in a can of soapy water. The caterpillars are generally found at the top of the plant and are easily seen in the morning. If you're not too squeamish, simply snip the marauders in half with scissors.

Keep a close eye on your tomato plants starting in early June. Examine plants at least twice a week to check for small hornworm caterpillars and missing foliage. Catching infestations early will make controls more effective and reduce damage.

Prevention is also an important element in hornworm control. Thoroughly tilling the garden soil after the tomato harvest season is finished will help reduce the number of overwintering pupae in the soil.

The caterpillars are susceptible to *Bacillus thuringiensis* (an organic insecticide sold under various trade names including as Dipel, Thuricide, and BT Worm Killer), as well as many common vegetable insecticides such as Sevin and malathion.

