



Yellow, pink and green are common colors found in corn earworm larvae.

Article author: Pat Porter

Most recently reviewed by: Dalton Ludwick & Extension Entomologist at Weslaco (Vacant) (2020)

Common Name(s): Corn earworm, Cotton Bollworm, Soybean Podworm, Tomato Fruitworm

Description

Corn earworm belongs to the Order Lepidoptera (butterflies, moths and skippers) and the adult stage is a stout bodied, brownish to buttery-yellow moth with a wingspan of about 1 1/4 to 1 1/2 inches. There are usually darker bands present near the tips of the front and hind wings.

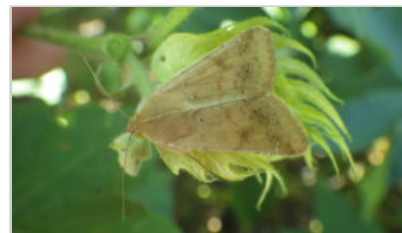
There are six larval instars (or stages). The first instar is about 1/16" long and the 6th instar can grow to 1 3/4 inches long. There is no one color for the larvae, and they can range from yellow to pink to green. Regardless of coloration there will be a darker stripe down the midline of the top of the larva, and somewhat wider stripes on the lateral edges of the body when viewed from above. A yellowish band is often found on the side of the larvae, and the band contains the dark, circular spiracles, the holes that let air into the insect's body. Larvae have many microspines on the back and sides of the body, and these are not found on other common corn caterpillar pests. The head is orange to tan but may be more brownish in some larvae.



Young corn earworm larva on hemp. Note the prominent microspines on the body.



Green form of a late-instar corn earworm larva.



Corn earworm adult. Kate Crumley.

Origin and Distribution

Corn earworm is native to the New World and overwinters in Texas, has multiple generations here, and is a threat throughout the growing season. In the United States, it is thought to be able to overwinter south of about 40 degrees north latitude, but as the summer progresses the moths fly north and infest the entire country and some of Canada.



Corn earworm adult showing typical buttery yellow color.

Habitat & Hosts

Corn earworm has an extremely wide food host range and can be found wherever its host plants grow. There are many non-crop plants on which the earworm can develop early in the year before crops and gardens are planted. Cultivated hosts include sweet corn, field corn, green beans, snap beans, cowpea, peas, peppers, eggplant, lettuce, sweet potato, rice, cotton, grapes, strawberry and many others. Typically the “worm” in sweet corn is the corn earworm. Corn earworm is also a very significant pest in hemp or cannabis production, and it is not uncommon to find larvae consuming buds and leaves.

Life Cycle

Eggs are laid singly on host plants. These are pearly white when laid and become somewhat more yellow over the course of the three days or so before they hatch. The larval stage, comprising six larval instars, lasts 12 to 15 days during the warm part of the growing season, longer when it is cooler. When fully grown, the 6th instar larvae leaves the host plant, burrows into the ground and enters the pupal stage which lasts 10 – 15 days during the summer. Adults emerge from the ground, mate and disperse to lay eggs. Sometimes they disperse very



Freshly deposited corn earworm egg on corn silk.

long distances on storm fronts. Moths consume liquids and nectar as food and they are not damaging to plants.

Management

If you live in the State of Texas, contact your [local county agent](#) or [entomologist](#) for management information. If you live outside of Texas, contact your local extension for management options.

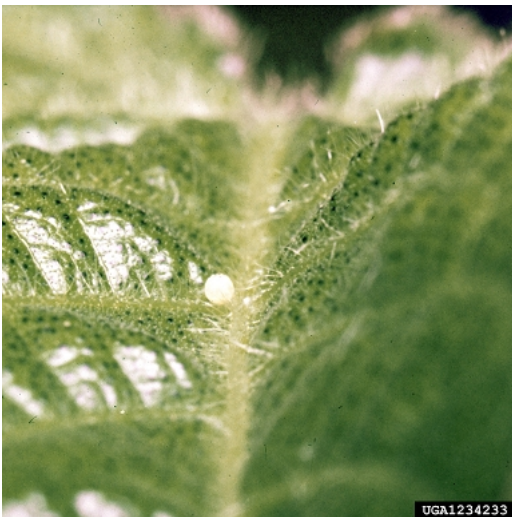
Management practices differ depending on which crop is being damaged. On field corn and sweet corn, the eggs are laid on silks, and the newly hatched larvae feed down the silk channel and then on the tip of the ear. In this case there is little opportunity to use insecticides because the larvae are in protected spaces. If insecticides are to be used, then they should be applied at the time of egg laying, usually with repeated applications from the time of silking until after the brown silk stage is reached.

Control is more straightforward when the earworms are feeding on the outside of the leaf or fruiting structure. In this case, sprayable formulations of *Bacillus thuringiensis* can be applied if a least toxic control method is desired. It must be noted, however, that corn earworms are now resistant to many of the Bt toxins in these sprayable insecticides because they built up resistance to them on Bt (GMO) corn in the last 25 years that corn has been used in the US. Synthetic pyrethroids can be effective, especially on smaller larvae, but it is also the case that corn earworms have developed significant levels of resistance to synthetic pyrethroids due to their widespread use in agriculture. Chlorantraniliprole is highly effective on corn earworm larvae, even large larvae. Spinosad and Spinetoram are very effective as well, as is the old insecticide carbaryl (Sevin). Agricultural producers have more options available and should consult a crop-specific control guide.

Citations

Corn Earworm. University of Florida Featured Creature: http://entnemdept.ufl.edu/creatures/veg/corn_earworm.htm.

[Bugwood Images](#)







Fall armyworm



Article author: Pat Porter
Most recently reviewed by: Ed Bynum (2018)

Common Name(s): Fall Armyworm

Pest Location

Row Crop

Description

Adult moths have a wingspan of approximately 1.5 inches. Females have front wings that are dark grey. Males have wings that have light and dark areas throughout and a whitish area near the tip.

Eggs are laid in groups of 100 to 200 and are covered by grey scales from the female moth's body. The scales often impart a "fuzzy" appearance to the egg mass. Eggs are pearly green in color when newly laid and darken to a brown color in about 12 hours. Just prior to larval hatch, which occurs in 3 – 7 days, the eggs become blackish colored.



Fall armyworm eggs 20 hours from hatch



Fall armyworm eggs 12 hours from hatch



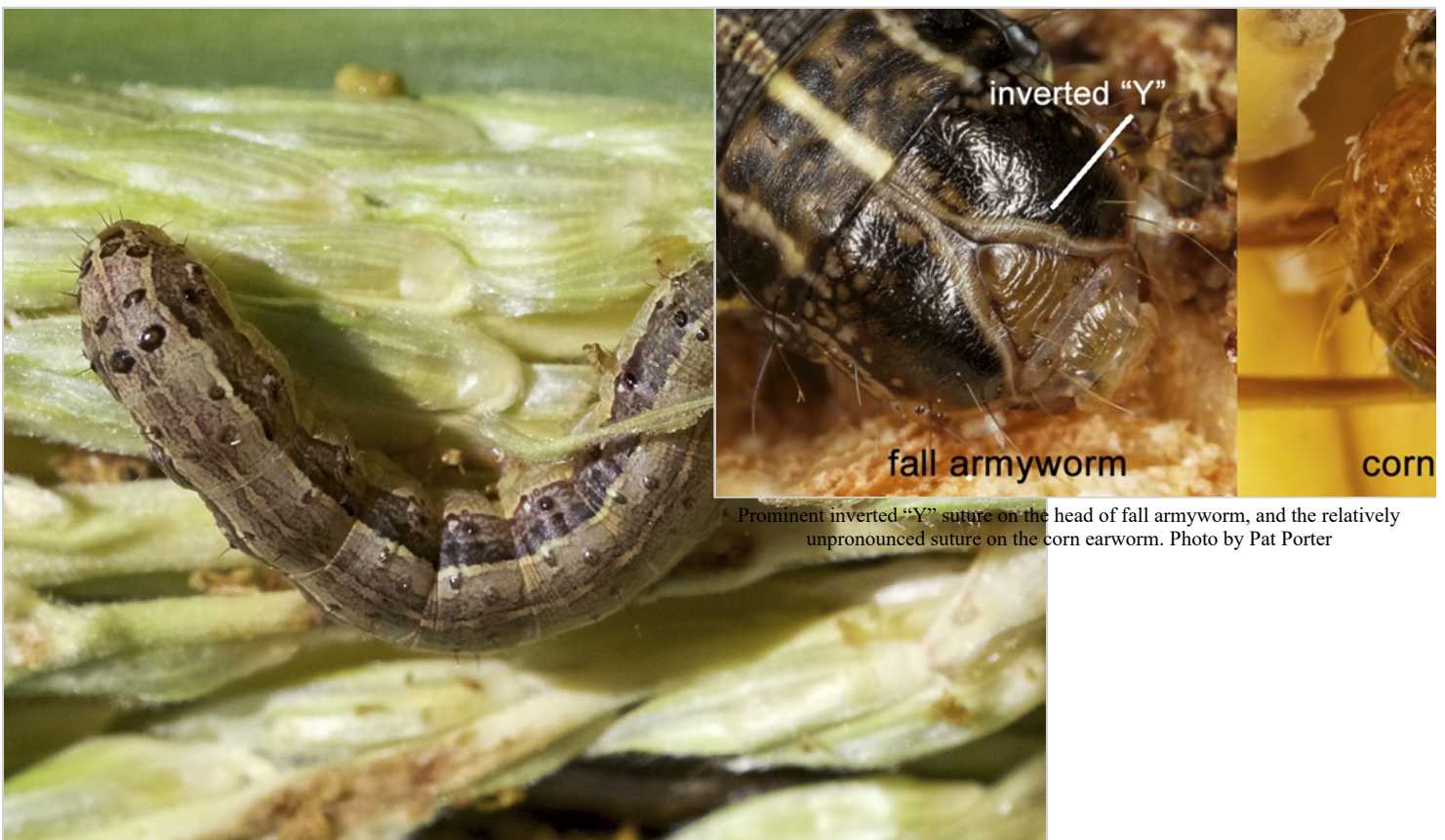
Fall armyworm female (top) and male (bottom)

Small larvae range in color from a light cream when newly hatched to greenish after feeding, while medium-sized larvae range from light green to olive-green or brown. As with most larvae, identification in the first growth stage is difficult. To distinguish young fall armyworm larvae from those of the corn earworm and southwestern corn borer, look for a small black spot on the side of the first abdominal segment, just behind the last pair of true legs on the thorax. Fall armyworm has such a spot and the other two species do not.

Color characters are not very reliable for fall armyworm larval identification. Older larvae vary in color from light tan or green to blackish, and can change color as they mature. They have three fairly narrow stripes down the body as viewed from above; one down the centerline and two widely separated by darker areas. These may be variously colored, from whitish to yellow-white to reddish. There is a wider dark stripe down the side of the body and a wavy yellow-red blotched stripe just below this.

The best field identification characters do not involve color. Larvae have four pairs of abdominal prolegs and a pair of anal prolegs at the tip of the abdomen. They also have four dark spots arranged in a rectangle on the top of the eighth abdominal segment near the end of the abdomen.

Older fall armyworm can be distinguished from true armyworm, corn earworm, and the corn borer species by the presence of a white inverted “Y” mark on the front of the dark reddish-brown, mottled, head capsule. This character may be absent on younger larvae.



Prominent inverted “Y” suture on the head of fall armyworm, and the relatively unpronounced suture on the corn earworm. Photo by Pat Porter

Fall armyworm larva showing the four dark spots at the end of the abdomen (left) and striping on the upper half. Photo by Pat Porter

Origin and Distribution

Fall armyworm is native to the Western Hemisphere and overwinters in areas of mild climate.

Life Cycle

Fall armyworm adults migrate north from overwintering sites in south Texas and northern Mexico and become established in corn and other crops in the spring. Fall armyworm does not overwinter in the northern part of Texas and does not undergo winter diapause. This species has a very broad host plant range that includes wheat, alfalfa, sorghum, corn, and other crop and non-crop plants.

Fall armyworm larvae feed 2 to 3 weeks. Mature larvae burrow an inch or two in the soil to pupate. Pupation lasts for about 2 weeks. Pupae are smooth and reddish brown to dark brown in color and look much like the pupae of other lepidopterous pests of corn. Adults then emerge to mate and females can lay up to 1,100 eggs. Adults live about two weeks. There are several generations each year, and migratory moths may continue to arrive throughout the season.

There are two host strains of fall armyworm, one of which feeds predominately on corn, sorghum and cotton (known as the corn strain), and the other, the rice strain, feeds on rice, Bermudagrass and Johnsongrass.

The fall armyworm and true armyworm get their names from the behavioral trait that causes larvae to move from one field to another when they have consumed all available food. In essence, they are said to move like an army.

Management

If you live in the State of Texas, contact your [local county agent](#) or [entomologist](#) for management information. If you live outside of Texas, contact your local extension for management options.

Home garden control options include:

- Spinosad (Rate varies by brand name)
- Permethrin (small larvae only)
- Synthetic pyrethroids (small larvae only)
- *Bacillus thuringiensis* (Bt. subspecies *Aizawai*)

Related Publications

- Managing Insect and Mite Pests of Texas Corn
- Managing Cotton Insects in Texas
- [Managing Insect and Mite Pests of Texas Sorghum](#)
- [Managing Soybean Insects in Texas](#)

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