

INVASIVE SPECIES & EXOTIC PESTS

Egyptian Cottonworm

Spodoptera littoralis

Juliet Carroll and Nicole Mattoon, New York State Integrated Pest Management Program, Cornell University

Native to Africa, Europe, and the Middle East, the Egyptian cottonworm is a high risk invasive moth. Egyptian cottonworm has well over 87 plant hosts in 40 plant families. This pest has been intercepted multiple times at US ports but has not been able to establish populations before successfully being eradicated.

Concern

Because of its large host range, this moth could damage many vegetable, fruit, and ornamental crops, including alfalfa, apple, beet, bell pepper, cabbage, carrot, cauliflower, cereal grains, clover, corn, cucurbits, eggplant, geranium, grape, lettuce, oak, onion, pea, pear, pine, poplar, potato, radish, rose, soybean, spinach, sunflower, and tomato. Plant and plant product imports may introduce this pest from native areas via planting materials, cut flowers, or fruits and vegetables. Egyptian cottonworm larvae mainly feed on leaves, but can also eat stems, buds, flowers and fruit. These moths can have between two and seven generations per year, depending on the climate, so the time of year that infestations may occur and be noticed varies by geographic region. Most of the continental US has suitable climatic habitat for this insect.

Description

Adult moths are grayish brown with white bands and line patterns throughout the forewings, which are around 1½ inches long. Hindwings are cream colored with brown accents and paler lines along wing veins. Adults emerge at night after pupating and have a lifespan of 5-10 days. Most moths can be spotted between 8:00 pm and midnight,



Egyptian cottonworm adult. Photo: O. Heikinheimo, Bugwood.org.



Egyptian cottonworm adult at rest. Photo: O. Heikinheimo, Bugwood.org.

which is when mating is most likely to occur. Females will often mate and lay eggs in the same night.

Females lay eggs in one to three layers mainly on the underside of young leaves or on upper parts of a plant. Eggs are whitish yellow and are covered in hairy scales produced by the female. The spherical, somewhat flattened egg masses appear felt-like. Egg hatch occurs optimally between 82° and 86° F, but eggs can hatch at temperatures as low as 59°F.

Larvae are hairless, emerging white and progressively turning from grayish green to a reddish brown as they grow. They have white bands on the sides of their bodies and two black spots on their upper segments. Like adults, the larvae are nocturnal and during the day can be found resting at the base of a plant or under pots. Larvae cause the most extensive damage to host plants by stripping and skeletonizing leaves.

The larvae burrow into soil to a depth of one to two inches and pupate within six hours in a clay cocoon. Initially green with a red underside, over time pupae turn a dark reddish brown as the adults ready to emerge.



Egyptian cottonworm egg cluster covered in hair scales on underside of leaf. Photo: O. Heikinheimo, Bugwood.org.

Damage

Egyptian cottonworm larvae can feed on many different crops, as well as various plant parts including leaves, stems, buds, flowers, and fruits. Grape, apple, corn, and other major crop industries could be affected if this moth was introduced and became established in the US. Extensive skeletonizing of leaves would reduce photosynthesis, weakening plants directly. Loss of foliage may expose other plant parts to intense sunlight potentially leading to sunscald. Infestations in orchards, vineyards and fields of young plants could significantly set back plant establishment and yield if leaves and terminal growing points are damaged.

For More Information

Spodoptera littoralis. 2009. Espinosa, A. and Hodges, A.C. Bugwood Wiki, Center for Invasive Species and Ecosystem Health. http://wiki.bugwood.org/Spodoptera_littoralis

Egyptian cottonworm, *Spodoptera littoralis*. 2010. Noma, T., Colunga-Garcia, M., Brewer, M., Landis, J., and Gooch, A. Michigan State University's invasive species factsheets. http://www.ipm.msu.edu/uploads/files/Forecasting_invasion_risks/egyptianCottonworm.pdf



Egyptian cottonworm larva on leaf. Biologische Bundesanstalt für Land- und Forstwirtschaft, Bugwood.org.



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