

Are You Eating My Crops? 10: False codling moth

The false codling moth (*Thaumatotibia leucotreta*) has been recorded feeding on over 50 different plant species, and if established in the US, it would be a significant production and quarantine issue for numerous agricultural commodities. We are reaching the end of our 12-month series called 'Are you eating my crops?'. Individual pests highlighted in this series have not yet been reported in Texas, but are on the 'Watch List' due to their high level of pest importance or risk due to host availability.

Thaumatotibia leucotreta is an internal fruit-feeding moth that does not undergo diapause (a period of suspended development) and may be found all year round in warm climates where suitable hosts are present. These moths have been recorded on many different host plants, including commonly grown agricultural crops like apricot, avocado, beans, cherry, citrus, corn, English walnut, grapes, olive, peach, pepper, persimmon, plum, pomegranate, and tomato.

Females lay eggs at random along the host fruit. They prefer prematurely ripened fruit or wounded fruit. Females can lay up to 800 eggs in one lifetime, and a population can go through 4-10 generations per year. Once hatched, the larvae will penetrate the fruit, where they stay until pupation, when they will leave the fruit and spin cocoons near the soil or bark crevices. The boring hole is small (1mm diameter) and is conspicuous due to the presence of frass and discoloration around the rind. Entry wounds can provide an entrance for infections by bacteria and other organisms. Younger larvae feed near the surface of the fruit, while older larvae bore closer to the center. Larval feeding and development can affect fruit development at any stage, causing premature ripening and fruit drop. Infested fruit typically drops before harvest. Larval entries can take a few days to become visible. Infestations that occur near fruit harvest are often not detected by the packing house fruit graders, resulting in the inadvertent packaging and export of infested fruit.

Eggs are flat, oval discs (< 1mm in length and width) with a granulated surface. They are initially white to cream, but change to a reddish color prior to hatching. Eggs can be distributed in small groups or individually on the host. First instar larvae (1 to 1.2 long) have a spotted appearance, while fifth instar larvae (12 to 18 mm long) are orangey-pink with a brown head capsule and prothoracic shield. An important larval identifier is the anal comb found on the last abdominal segment (see USDA fact sheet linked below for more details). Adults are grayish brown to dark brown with an average forewing length of 7 to 10 mm and a body length of 6 to 20 mm (size is variable by sex). Males have a

semicircular pocket of opalescent scales on the distal end of the hindwing that form a distinct circular mark. This character can be used to separate *T. leucotreta* males from all other North American moths in this family (Tortricidae).

If you have question or concerns regarding the headliners, OR you believe you have identified a false codling moth infestation, contact invasives@shsu.edu for further instructions.



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False codling moth (*Thaumatotibia leucotreta*), adult male. Note the semicircular pocket of opalescent scales on the distal end of the hindwing. Credit: Todd M. Gilligan and Marc E. Epstein, CSU.



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False codling moth, larvae. Credit: Marja van der Straten.



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False codling moth damage. Note larval frass in fruit. Credit: J.H. Hofmeyr.