

False Codling Moth

Background – Invasive species are organisms that are moved by nature, people, or animals into an ecosystem where they have not been previously found. Some of these organisms are spread naturally or accidentally by people, while others are spread intentionally, without understanding the harm they might cause. Although most of the organisms brought into our state cause no harm, a few are able to thrive in California to the detriment of native ecosystems, recreation, agriculture, including specialty crops, infrastructure, and public or animal health. These invasive species include plants and animals, insects and other arthropods, and pathogens.

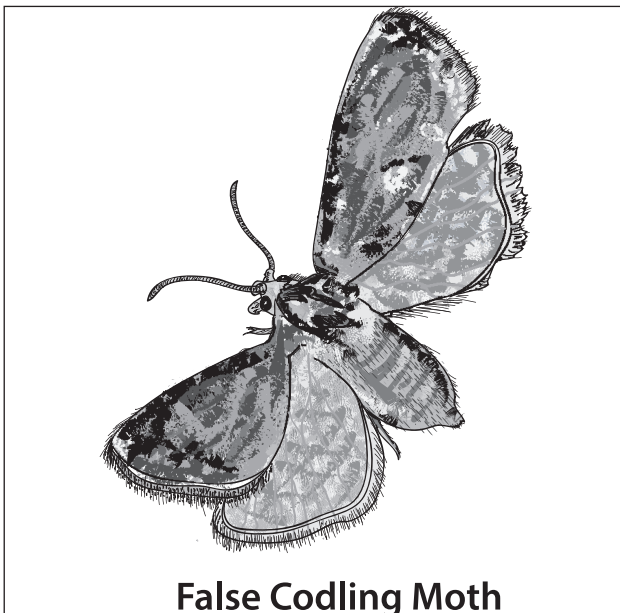
Description: The False codling moth is a danger to fruits and vegetables because its caterpillars burrow into fruit and eat it. Each adult is tiny – its wings are only about $\frac{1}{2}$ inch across and the body is only about $\frac{1}{4}$ in long. They are a variety of browns and grays, and are only active at night. The female has slightly longer bottom wings than the male, and they have slightly different markings from each other. The moth's eggs are white and as small as a pencil dot. Its caterpillars are yellow and white with dark spots at first, then turn pink or red with a yellow-brown head as they get older.

Habitat: The False codling moth is originally from Africa. It has been stopped at international borders to the United States over 1500 times since 1984. Live caterpillars were found at border stations in 2005, and a single moth was captured in Ventura County in 2008.

A female moth can lay up to 400 dot-sized eggs on growing fruit. After about two weeks the eggs grow into yellow and white caterpillars with dark spots. They eat their way into fruit they are laid on. As they grow they turn red or pink with a yellow-brown head. After about a month when the caterpillars have grown, they drop down on a silken thread and make a brown cocoon in the dirt or in tree bark. They will develop into a moth and start the cycle again.

How they spread: The main way these moths travel is inside fruits and vegetables moving from place to place.

They can't fly very far so it's not really a danger for them to travel to a new place on their own.



False Codling Moth

Why it is a problem: This moth is not a local problem right now. But it could become one. Their caterpillars need fruit to grow, and the caterpillars destroy the fruit as they eat it. Because of the destruction, farmers will have to pay for ways to get rid of the pests. Higher costs and damaged fruit to the farmer means shoppers will pay more for fruits, nuts, and vegetables.

How it affects California specialty crops: Many of the affected crops are California specialty crops. Specialty crops are fruits and vegetables, tree nuts, dried fruits, and horticulture and nursery crops (including floriculture). Many of the fruits,

nuts, and vegetables eaten in the United States are grown right here in California. The False codling moth could destroy these California crops: grapes, peach, plum, cherry, beans, tomato, pepper, persimmon, apricot, olive, pomegranate, English walnut, and corn.

How you can help: The best way you can help is to not bring in fruits, vegetables, and plants from out of the state or out of the country. If you find fruit with worms in it, place them in a sealed container and take it to your county agriculture commissioner's office. Infected fruit usually has ugly scars on the outside.

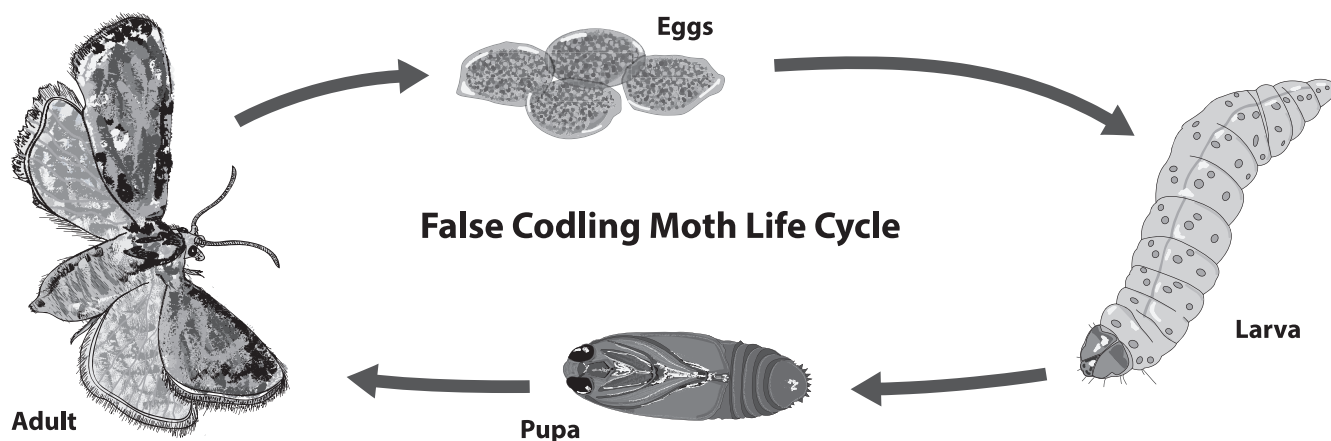
Experts use a variety of ways to keep the False codling moth out of the United States. Keeping the moths out is the best plan. Other ways experts take care of the moths can include: "male attractant technique" (traps using light or smell) and closing a farm area that has infested fruit.

For more information contact:
California Department of Food and Agriculture
1220 N Street
Sacramento, CA 95814
Pest Hotline: (800) 491-1899
www.cdfa.ca.gov



False Codling Moth Activity Sheet

Life Cycle of False Codling Moth



Fantastic Facts

1. How big is the False codling moth?
2. How many years passed before this moth made it into California?
3. Where do these moths make their cocoons?
4. What is the main way these insects travel?
5. What are two California crops that are in danger from the False codling moth?

1) ½" across by ¼" long 2) 24 years 3) In the dirt or the bark of trees 4) Inside fruits and vegetables 5) Examples include: grapes, peach, plum, cherry, beans, tomato, pepper, persimmon, apricot, olive, pomegranate, English walnut, and corn.

Lesson Ideas

- With 1" graph paper try to draw an actual size False codling moth. Then draw a larger copy using the scale ½" = ½'.
- Create a Venn Diagram comparing and contrasting the False codling moth and European grapevine moth.
- Write a pretend letter to your friend in Africa about the False codling moth. Kindly explain why he/she shouldn't mail you any fruits or vegetables.

Lesson Plan: Smuggler Bugs

Introduction: Students will write and perform a play around the central theme of pests trying to sneak into the state. Students will gain a deeper understanding of the False codling moth as they become more familiar with story elements and each other.

Materials:

Paper, pencils, poster-sized paper, examples of play scripts

Procedure:

1. Have the students read a few fact sheets to become familiar with key points concerning invasive species.
2. Explain to them that they will be writing and performing a play. The False codling moth will be the villain. Have examples of other plays available for students to see.
3. Student scripts should include story elements such as:
 - Characters
 - Setting
 - Dialogue
 - Conflict
 - Resolution

4. To set the mood, students can create Wanted posters of the villains to display around the classroom. They can include key information on the posters.
5. Over two or three days students will perform their plays to the class. If possible they can perform to other classes as well.

