



Codling Moth

Pest Fact Sheet 2

Dr. Alan T. Eaton, Extension Specialist, Entomology

Introduction

Once thought of as the most destructive insect pest on apples, this European native now exists wherever apples are grown in the U.S. Since the introduction of chemical control, the codling moth (*Cydia pomonella*) has been well controlled, but if left unchecked, can claim up to 95% of a season's apple crop. In New Hampshire, this insect is of minor importance in commercial orchards. Chemicals that are applied to control other insects (e.g., curculio and apple maggot) also control codling moth.

Description

The adult codling moth is a gray colored moth with a brownish black area at the tip of the front wings and faint, wavy, brown cross-bands on the rest of the wings. Its wing span ranges from $\frac{1}{4}$ " to $\frac{5}{16}$ ". The larva ranges in color from cream to pink, with a brown head capsule and a speckled shield behind the head. Eggs are colorless to white flat discs, slightly oval in shape.

Life Cycle

The codling moth overwinters as a full-grown larva in a silken cocoon on trees or on the ground. Pupation occurs in early spring (late April) and has a duration of about one month. The first adult flight starts approximately when apple trees are in full bloom, but peak flight does not occur until after petal fall. Eggs are laid singly on leaves near fruits. Incubation takes 7-8 days. Early hatching larvae can be seen at about the same time as the second cover spray. The larvae may feed on the leaves but soon enter into fruits, usually by the calyx (blossom) end. By mid-July, the larvae leave the fruits and pupate either on trees or in the soil. The second adult flight period then begins in late July to early August. The second period of larval feeding is during August and September. This second generation usually takes a higher toll on fruits than does the first

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Adult codling moth. Credits: Whitney Cranshaw, Colorado State University, Bugwood.org.

Codling moths can be found in all areas where apples are grown and, if left unchecked, can claim up to 95% of a season's crop.



Codling moth larva in apple. Credit: Whitney Cranshaw, Colorado State University, Bugwood.org.

Did You Know?

Guidelines for control of the codling moth are in the annually revised **New England Apple Pest Management Guide** and other publications of UNH Cooperative Extension.



Codling moth pupa. Credit: Whitney Cranshaw, Colorado State University, Bugwood.org.

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generation. From the middle of September to early October, depending upon weather conditions, the fully grown larvae form silken cocoons (hibernacula) and overwinter in this stage.

Management

IPM Strategies:

- **Sanitation** — Maintain superior sanitation in the orchard. Throughout the growing season and after harvest, pick up and discard any fallen apples and plant debris. Destroying nearby unmanaged apple and crabapple trees may reduce the “pressure” from this pest.
- **Monitoring** — Pheromone traps can be used to monitor flying codling moths. There are between two and three codling moth flights per season, but the number of moths caught in the traps do not relate to the level of fruit damage caused by the larvae. However, if more than five codling moths caught per trap per week (using standard lures), there can be problems in fruit from the next generation.
- **Biological Control** — There are a number of predators and parasites that feed on codling moth, but these natural enemies cannot keep this pest from reaching damaging levels in commercial orchards.
- **Chemical Control** — Careful use of chemical sprays is the method most commonly used, and two sprays are usually required.

Guidelines for control of the codling moth are in the annually revised [New England Tree Fruit Management Guide](#) and other publications of UNH Cooperative Extension. For a more personalized recommendation consult your county Agricultural Field Specialist.



Damage to apple by codling moth. Credits: Alan T. Eaton.

Summary

Table 1 summarizes key information on the codling moth.

Table 1: Summary

Summary Table	
Damaging Stage	Larva
Part of Plant Attacked	Developing and Mature Fruits
Overwintering Stage	Full Grown Larva
Number of Generations per Year	Two
Time of Year When Damage Is Done	Principally July & August
Number of Pesticide Applications per Year	Usually Two

Notes: Refer to the text for more information on this insect.

Stop! Read the label on every pesticide container each time before using the material. Pesticides must be applied only as directed on the label to be in compliance with the law. All pesticides listed in this publication are contingent upon continued registration. Contact the Division of Pesticide Control at (603) 271-3550 to check registration status. Dispose of empty containers safely, according to New Hampshire regulations.

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About the Author

Dr. Alan T. Eaton is an Extension Specialist in Entomology and a professor at the University of New Hampshire. Much of his work is on management of fruit pests and ticks.

For More Information

State Office

Taylor Hall
59 College Rd.
Durham, NH 03824
<http://extension.unh.edu>

Education Center and Information Line

answers@unh.edu
1-877-EXT-GROW
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