Extension

Bringing information and education into the communities of the Granite State

Redbanded Leafroller

Pest Fact Sheet 3

Dr. Alan T. Eaton, Extension Specialist, Entomology

UNH Cooperative Extension Programs	
	Community and Economic Development
	Food and Agriculture ✓
	Natural Resources
	Youth and Family

Introduction

The redbanded leafroller (*Argyrotaenia velutinana*) became an important apple pest after the introduction of DDT to control codling moths in the late 1940's. Scientists believe this was due to the decrease in the abundance of its natural enemies. This pest is widely distributed throughout the Northeast, and fed on a wide range of woody and herbaceous plants. Now it is a minor pest (of apple) that rarely causes problems.

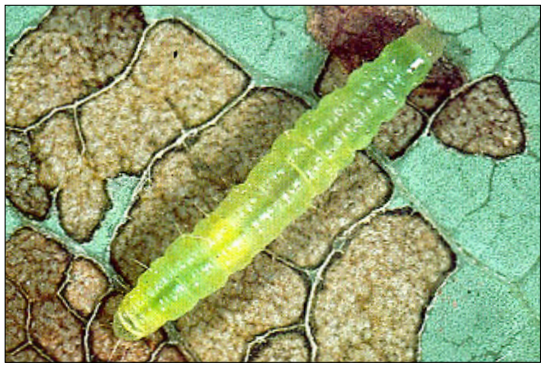
Adult redbanded leafroller. Credit: M. Dreiling, Bugwood.org.

This pest is widely distributed throughout the Northeast, and feeds on a wide range of woody and herbaceous plants.

Description

The adult males and females are similar in shape, but differ in color pattern. The wing span of the adult ranges from ½" to 7/10", with a color pattern ranging from cream, brownish-yellow to reddish-brown and black. The most striking feature is the reddish-brown band in the center of the forewings. When the wings are folded, there is a diamond-shaped marking on the back.

Eggs are found in oval-shaped masses colored a dull yellowish-orange. The immature form (larva) of the redbanded leafroller is a small, green, unmarked caterpillar. Its color varies from ivory to green, depending on what it feeds on. The overall length of the caterpillar ranges from about ½" to 7/10". The pupa is light green when first developed, but gradually darkens to a brown color. It is ¼" to ⅓" long.



Immature form (larva) of the redbanded leafroller. Credit: G. C. Brown, University of Maine.

Life Cycle

The redbanded leafroller overwinters as a pupa within folded leaves on the ground. Spring emergence of the adults begins at the early green tip stage of bud development and peaks at the tight cluster and pink stages. Adults are considered to be weak fliers, therefore most egg laying will be on the trunks and scaffold limbs of apple trees.

Egg laying starts soon after emergence and continues into bloom. An average egg mass contains 40-45 eggs. Incubation lasts from

Did You Know?

Redbanded leafroller is primarily controlled by sprays directed at other insects, such as leafminers, plum curculios, and apple maggots.

14-21 days. Hatching begins as early as trees start to bloom, but usually peaks at petal fall.

Upon hatching, the larva immediately starts feeding, usually on water sprouts. As time passes, it feeds on developing apples. Larva development is completed in late June to mid-July, at which time the insect pupates. Adults begin to emerge 10-12 days after pupation. In New Hampshire, most fruit injury comes from this second generation, which lasts through August. The maturing larva spins a silken case using a leaf as a cover. The silk acts as an adhesive between the leaf and fruit. The larval feeding on the fruit is seldom very deep. By late September to early October, the larva falls to the ground and pupates in the leaf litter, where it spends winter.

Management

IPM Strategies:

- Monitoring — Pheromone traps can be used to catch the adult redbanded leafrollers. Use traps to determine when to monitor carefully for the larvae.
- Chemical Control — Redbanded leafrollers are primarily controlled by sprays directed at other insects, such as leafminers, plum curculios, and apple maggots.
- Biologocal control — A number of egg parasites have been found very effective, however they are eliminated when pesticides are applied in orchards.

Pheromone trap. Credit: Alan T. Eaton.

Guidelines for control of the redbanded leafroller are in the annually revised New England Tree Fruit Management Guide. Consult your county Agricultural Field Specialist for specific recommendations.

Apple damaged by the redbanded leafroller. Credit: Alan T. Eaton.

Summary

Table 1 summarizes key information on the redbanded leafroller.

Table 1: Summary

Summary Table	
Damaging Stage	**Larva**
Part of Plant Attacked	**Leaves and Fruits**
Overwintering Stage	**Pupa in Leaves on Ground**
Number of Generations per Year	**Two**
Time of Year of Greatest Damage	**June and August**
Number of Pesticide Applications for Control	**0-2**

Notes: Refer to the text for more information on the redbanded leafroller.

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.*

Updated: June 2016 (Dr. Alan T. Eaton and Rachel Maccini)
Reformatted: July 2016 (Marie-Eve Jacques)

Visit our website:
extension.unh.edu

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
(1-877-398-4769)
9 am–2 pm M–F
Search key words:
"UNH Education Center"