

## New York State Integrated Pest Management (IPM) Program

We encourage people to adopt a sustainable approach to managing pests, combining methods that minimize economic, health, and environmental risks.

The IPM strategy integrates the use of several pest-suppression technologies, including

- Biological control: beneficial organisms, such as insect predators
- Cultural techniques: practices such as crop rotation, sanitation
- Mechanical and physical methods: screens, traps, cultivation, and temperature modification
- Chemical control: judicious use of pesticides and other chemicals
- Genetic control: traditional selective breeding and new biotechnology practices that produce pest-resistant varieties
- Regulatory control: state and federal regulations that prevent the spread of pest organisms.

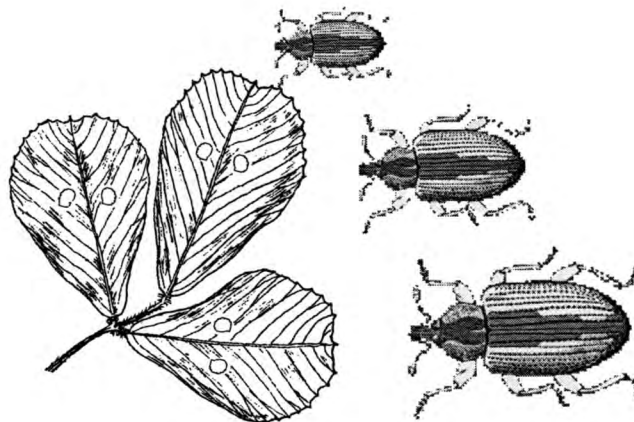
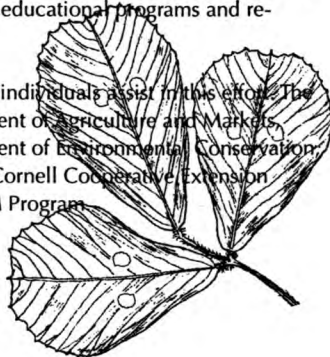
The New York State IPM Program funds projects to improve IPM strategies and offers educational programs and resources.

Many organizations and individuals assist in this effort. The New York State Department of Agriculture and Markets, New York State Department of Environmental Conservation, Cornell University, and Cornell Cooperative Extension jointly fund the NYS IPM Program.



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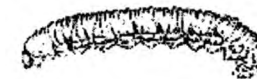


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program and employment opportunities.*

# Alfalfa Weevil



## Management Guide



## Identification

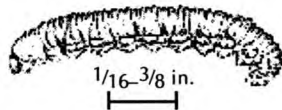
**Adults** are light brown beetles with a long snout and a band of darker brown down the center of their back.



**Females** lay eggs in alfalfa stems or in henbit early in the spring.

**Larvae** are light green with white stripes down their back and a dark brown head. There are **four larval instars** (or molts).

Larvae are the **chief cause** of damage.



**Early feeding symptoms** appear as small pinholes in the leaves.

**Excess feeding** causes dry matter yield loss and protein reduction.

Growers can **predict larval development** by monitoring **growing degree-days (GDDs)**. The warmer the temperatures, the faster the larvae development (see table).



**Pupae** are the dormant life stage of the weevil that occurs just before the adult stage. **Presence of**

**numerous pupae** indicates larval feeding is declining.



## Sampling

- Start **sampling the field** in early May (about 350 heat units; base 48F°). Repeat scouting every 7 days.
- Pick **50 stems randomly** throughout the field. Record the percentage of stems showing feeding in the top 3 inches.
- Determine **predominant weevil stage**.
- Check for signs of **parasitoids**.

### Degree days for peak occurrence (50%) of alfalfa weevil life stages

stage or event	degree days
eggs hatch	280
first instar	315
second instar	395
third instar	470
fourth instar	550
cocooning	600
pupa	725
adult emergence	815

48 degree base temperature

## Analysis

**1<sup>st</sup> Cutting:** Treatment (harvest or spray) is recommended when **40% of the tips** show signs of feeding and live larvae are present and actively feeding.

**2<sup>nd</sup> Cutting:** Sprays may be necessary if the larvae are present and limiting the regrowth of at least **50% of the new buds**.

## Management Alternatives

**Early harvest of alfalfa** can provide effective control. Clean harvest the entire field.

Chemical control is sometimes necessary when you exceed threshold **and harvest is delayed** or when larvae attack **early in the second cutting**. For selection of an insecticide consult the *Cornell Guide for Integrated Field Crop Management*.

### Always...

Read the insecticide label for harvest and feeding restriction intervals. Don't lock yourself out of a timely harvest.

## Implementation

Avoid leaving stubble or uncut alfalfa that may serve as **harborage sites**.

**Document** all actions taken.

## Reevaluation

**Recheck fields** to evaluate how well your management plan worked.

Weevils are generally not a problem beyond the first few weeks after first harvest (early June).

For additional help contact your local Cornell Cooperative Extension Educator.