



# Agronomic Spotlight

## Identifying and Managing Green Cloverworm

- Green cloverworm is a commonly found foliar feeding pest in soybean fields across the Great Plains to the Eastern Coast of the United States.
- Larvae can be identified by their four sets of prolegs and erratic movement when disturbed.
- Use of insecticides to control green cloverworm is not generally necessary, as natural predators help control populations.

There are several insects that damage soybean leaves. Green cloverworm (*Hypena scabra* Fabricius) feeds on soybean leaves as well as alfalfa, clover, vetch, strawberry, and various other legume and weed species.<sup>1</sup>

### Identification

**Adults.** Green cloverworm moths are dark brown to black in color with speckled wings and a wingspan of around 31.5 mm (1.25 inches) wide (Figure 1). Female moths usually have more brown and silver coloring than male moths.<sup>2,3</sup>



Figure 1. Green cloverworm adult moth. Natasha Wright, Cook's Pest Control, Bugwood.org

**Eggs.** Once temperatures rise in the spring, female moths lay eggs on the undersides of leaves. Eggs are hemispherical in shape, light-green in color, and about 0.5 mm in diameter.<sup>2</sup>



Figure 2. Green cloverworm larva with a white stripe running the length of the body and four sets of prolegs. Adam Sisson, Iowa State University, Bugwood.org.

**Larvae.** Larvae begin as pale yellow, 0.5 mm long caterpillars (first instar) and grow into light green, 30.5 mm (around 1 inch) long caterpillars (sixth instar). They usually have two white stripes that run the length of their body, and may move erratically when touched. Larvae may sometimes be confused with soybean looper, but green cloverworm can be distinguished by having four sets of prolegs, three sets in the middle of their body and one set at the end of their abdomen (Figure 2).<sup>2,3</sup>

### Injury Assessment

Young larvae begin feeding on the underside of soybean leaves, leaving the leaf tissue above untouched. As the larvae mature, feeding will progress to include all interveinal leaf tissue, leaving a skeleton-like appearance. Damage is typically found on the upper half of the plant, and in severe cases, can lead to complete defoliation.<sup>3,4</sup>

To assess possible green cloverworm injury of a soybean crop, begin by randomly selecting a minimum of 20 to 25 plants throughout the field.

Green cloverworm prefers to feed on the upper half of the plant, so defoliation may be concentrated in the top. Percent defoliation should take the whole plant into consideration.<sup>3</sup> To sample for green cloverworm, take a minimum of 20 sweeps with a sweep net in five separate locations of the field. Record any larvae that appear to be diseased or parasitized, and if any other leaf feeders, are present.<sup>4</sup>

### Management

The use of insecticides to control green cloverworm is generally not required due to green cloverworm having several natural predators. Parasitized green cloverworms may be cigar-shaped and look mummified. Diseased green cloverworms may be sluggish and light in color, or covered with powder with half of their body in the air.<sup>3</sup>

Insecticides are recommended if defoliation is 40% prior to bloom, 15% during bloom and pod fill (R1-R6), or 35% after pod fill to beginning maturity. Treatment is not recommended once the crop reaches maturity (R8). Green cloverworm is one of many insects that feed on soybean leaves. Application decisions should be based on a complete analysis of insect populations and damage.<sup>3</sup>

### Sources

<sup>1</sup> Institute of Agriculture and Natural Resources. Green cloverworm identification. University of Nebraska-Lincoln. <http://cropwatch.unl.edu/>.

<sup>2</sup> Green cloverworm. North Carolina State University. <http://ipm.ncsu.edu/>.

<sup>3</sup> Hooks, C.R. and Hunt, L.G. 2014. The green cloverworm: a serial defoliator. University of Maryland Extension. *Agronomy News*. Vol. 5, Issue 2.

<sup>4</sup> Green cloverworm. Purdue University. <https://extension.entm.purdue.edu/>. Web sources verified 07/21/16. 160720131224

For additional agronomic information, please contact your local seed representative. **Individual results may vary**, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

**ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** All other trademarks are the property of their respective owners. ©2016 Monsanto Company. 160720131224 072716MEC