



ENTFACT-142

GREEN CLOVERWORM IN KENTUCKY SOYBEAN

Plathypena scabra (Lepidoptera: Noctuidae)

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Green cloverworm (GCW) is one of the most common leaf feeding insects in Kentucky soybeans. However, it is generally of minor importance because of the soybean plant's ability to compensate for foliage losses. Outbreaks have been observed to occur at approximately ten to fifteen year intervals.



The slender, light green caterpillars have three pairs of white stripes that run the length of the body. There are three pairs of legs near the head, **three pairs** of fleshy legs near the middle of the body, and a pair of fleshy legs

at the tail end. Most soybean caterpillars have four pairs of legs near the middle of the body, a few loopers will have two pairs. GCW larvae wiggle violently when disturbed.

Adults are dark brown moths that are not easy to identify without training. They can be captured using pheromone baited traps and this may give early warning of their presence. Entfact-112, "*Using Pheromone Traps in Field Crops*", gives information on how to use these traps.

This insect spends the winter as a pupa or adult in leaf litter or just under the soil surface. In the spring, adults lay single eggs on soybean leaves. Caterpillars hatch and feed on leaves for about four weeks and are about 1 ½" long when full grown. At this time they crawl to the ground, burrow under litter, spin a cocoon and pupate. The adults emerge in two to three weeks. There are usually three generations of GCW in Kentucky each season. Soybeans are attacked by GCW in late July or August, earlier generations may also be found on alfalfa or clover.

Parasitoids, predators and disease can devastate

GCW populations before they reach economic levels. The presence of these "natural control" agents is one of the reasons that GCW populations generally do not reach economic importance. Diseased worms are limp, greenish white and sluggish (virus disease) or may appear to be covered in green or white powder (fungus disease). They may be found hanging from plants by their hind legs, or they may be seen on the ground underneath plants. If you look closely at GCW, you may see what looks like a small egg usually just behind the head. This is the egg of a fly and it will hatch and eat the GCW larvae.

Green cloverworms feed extensively on soybean leaves. Young larvae skeletonize the underside of the leaf. Older larvae eat all of the leaf except large veins. Generally, they first feed on the top 1/3 of the plant. This often gives the plants a badly damaged appearance long before economic damage has occurred.

If you find GCW in your field, use a shake cloth to sample. At several locations in the field, place the shake cloth on the ground between two rows and shake the soybean plants over the cloth. Shake two feet of row on each side of the cloth. Record number of (healthy) worms at each site. Once you have visited several locations, average the numbers you collected at each site. An average of several sites will provide you with a better estimate of what is happening in the whole field. You may also want to estimate the percent defoliation on the plants. This can also be used as a measure of damage.

Treatment decisions are based on a variable threshold scheme that can be found in ENT-13 or IPM-3. Control is not needed if there are fewer

than 12-13 worms **per row foot**. When the population size reaches this level you will still need to consult the threshold tables because usually it takes a great many more worms than this to be of economic value.

In most years, planting on time and natural controls will keep GCW from becoming a problem. In the few cases where economic populations arise, insecticides for control of GCW can be found in ENT-13.

For immediate access to more information visit our family of web sites at:

<http://www.uky.edu/Agriculture/IPM/ipm.htm>
<http://www.uky.edu/Agriculture/PAT/welcome.htm>
<http://www.uky.edu/Agriculture/Entomology/enthp.htm>

Other Sources of Kentucky Information on this Insect.

<http://www.uky.edu/Agriculture/IPM/scoutinfo/soybean/insects/gcw/gcw1.htm>

IPM-3 Kentucky Integrated Crop Management Manual for Soybeans.

ENT-13 Insecticide Recommendations for Soybeans.

Additional Print References

- Davidson, R. H., Lyon, W. F. Insect Pests of Farm, Garden, and Orchard. New York: John Wiley & Sons. 1979.
- Higley, L. G., Boethel, D. J., editors. Handbook of Soybean Insect Pests. Lanham, MD: Entomological Society of America, 1994.
- Metcalf, R. L., Metcalf, R. A. Destructive and Useful Insects. New York: McGraw-Hill, Inc., 1993.
- Pedigo, L. P. Entomology and Pest Management. New York: Macmillan Publishing Co., 1989.