



# Pest e-alerts



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## Managing Pod-feeding Insects in Soybean

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Bob Woods, retired OSU Area Agronomy Extension Specialist in NE Oklahoma shared some information about pod-feeding caterpillar infestations that are occurring in soybean in NE Oklahoma. That part of the state still has some healthy soybean fields, and they definitely need protection at this time from pod-feeding insects. We have received additional information about pod-feeders in North central Oklahoma in double-crop soybeans as well.



Pod feeding by insects can cause serious losses of soybean yield. The most common pod-feeding caterpillar is the corn earworm, alias the soybean podworm or the cotton bollworm (left). Larvae develop through 6 instars. Newly hatched caterpillars are 1.5 mm long, with a translucent, yellowish white body. As they grow, they vary considerably in color, but are commonly green, yellowish or black with noticeable longitudinal cream bands and they possess an orange head capsule. They reach more than 1 ½ inches when fully grown. Small

worms will often be found in flower clusters, and they move to leaves and pods as they get larger.

Another pod-feeder is the stink bug. Several species will attack soybean. The most common are the green and brown stink bugs. Adult stinkbugs are shield-shaped with a large triangular scutellum near the shoulder region. They are brown or green and are about 3/8 to 5/8 inches long. Nymphs vary in color, depending on their instar and species. Some stages are quite colorful, with black, white and pink markings on their body. They damage pods with piercing-sucking mouthparts, sucking the juices out of the pods, and cause pod drop, yield loss and reduced seed quality. Damage from stinkbug can be similar to damage from drought, so make sure to sample and confirm the presence of stinkbug in the field.



**Green stink bug and damage. Stink bug damage (L) can be similar to drought damage (R).**

Grasshoppers will also feed on soybean pods, often chewing right through the pod into the seed. They are full-grown adults at this time and will cause maximum damage as they feed. The most common species are the differential, red-legged, and two-striped grasshoppers.



**Common soybean grasshoppers: differential (L), red-legged (C), and two-striped (R).**

Soybean fields can be scouted by shaking plants over a drop cloth or shake sheet. The plant-shaking method is a useful tool for weekly surveys in soybeans after the beans obtain one foot in height. The equipment needed for this method consists of a piece of white or off-white cloth

measuring 24" x 42". Each end of the cloth is stapled to a thin strip of wood, approximately 1/2" to 1" wide and 24" long.

To begin the survey, select a site at random in the field, kneel between the two rows, and unroll the cloth from one row over to the opposite row. Extend each arm forward parallel with the row on either side and vigorously shake the vines over the cloth. Your arms, from your elbows to your fingertips, will allow you to sample approximately 1 1/2 row-feet of plants on each side of the row. Thus, a total of three row-feet may be sampled at each site. Count the insects that fall to the cloth. This process should be repeated until approximately 10 sites have been sampled per field (up to 50 acres in size). Infestations are then evaluated as to the number of various species per 30 row-feet.

Another method for scouting that is particularly useful for seedling and broadcast beans is the sweep net method. A standard 15-inch diameter sweep net is used to make 10 consecutive sweeps (180 degrees or simply one arc across the body) while walking through the field. The net is swung from side to side with each step. After 10 successive sweeps, the insects should be identified and counted as they are removed from the net. Repeat this procedure 5 times for a total of 50 sweeps and compare counts with economic thresholds established for individual pests. This method is particularly useful on seedling and broadcast beans.



Scout using sweep net in bean field  
[ Picture by Purdue University ]

The thresholds for each of these pests are as follows:

<b>Pest</b>	<b>Threshold</b>
<u>Corn earworm</u> :	2 per foot of row
<u>Stink bugs</u> :	1 per foot of row
<u>Grasshoppers</u> :	5-10% of pods are damaged and grasshoppers are present

Treatment guidelines for soybean insects sampled with a sweep net:

<b>Pest</b>	<b>Number per sweep</b>
<u>Stink bug</u>	1 - 2
<u>Corn earworm</u>	3 - 4

For other foliage feeders use a threshold of 30% defoliation before first bloom, 15% after first bloom.

There are numerous insecticides registered for pod-feeding insect control. Check E-832, 2011 OSU Extension Agents' Handbook of Insect, Plant Disease and Weed Control, pages 323-328 for specific recommendations.

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