

SWEEP AWAY MID-SEASON SOYBEAN SCOUTING *Stresses*

A weekly walkthrough ensures infestations don't go unseen

When a soybean canopy closes, weed worries begin to subside, and it's tempting to focus energy and attention elsewhere. But insect infestations can tremendously impact yield if pests aren't kept below economic thresholds. That's why we at Southern States recommend continuing to scout bean fields into mid-season.

Best practice is to use sweep nets weekly and scout for a variety of worms, beetles and bugs. While there no doubt will be some feeding, the soybean is able to overcome it without yield loss. In

general, Southern States advises not to treat unless more than 30% of foliage is lost before blooming or more than 15% is lost from two weeks before blooming through pod fill. Threshold tables and calculators can help determine when treatment is needed.

Soybean pests of concern in mid-season include Mexican bean beetles, Japanese beetles, soybean loopers, beet and fall armyworms, soybean aphids, stink bugs, corn earworms and kudzu bugs.

Mexican Bean Beetles:

Watch out for both larvae and adults



Whitney Cranshaw, Colorado State University, Bugwood.org |
Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org

While related to the beneficial ladybird beetle, Mexican bean beetles are not so friendly and can severely defoliate soybeans. Larvae strip away only the top layer of leaf tissue between veins, while adults consume all tissue, leaving behind a distinctive lacy appearance. Treatment is typically warranted when defoliation exceeds 40% in pre-bloom stages (V(n)), 15% from blooming to pod fill (R1-R4) and 25% from full pod to maturity (R4-R8). Pod feeding may occur later in the season. If 5% or more marketable pods are damaged and 10 or more beetles are present per foot of row, treatment is advised.

Japanese Beetles: Be careful not to overestimate feeding



Whitney Cranshaw, Colorado State University, Bugwood.org

Known to feed on roughly 300 plant species, Japanese beetles occasionally cause damage in soybeans that surpasses economic thresholds. Damage resembles that caused by Mexican bean beetles; however, the Japanese beetle skeletonizes more of the leaf, destroying the smaller veins. Feeding is typically concentrated in the upper portion of the canopy, so care must be taken not to let it skew defoliation estimates. Treatment thresholds are the same as for Mexican bean beetles.

Soybean Loopers: Don't take loopers lightly



Mississippi State University Extension

When crawling, these light-green caterpillars form a characteristic hump or “loop,” hence their name. The voracious insect can eat large holes in leaves and strip entire fields when populations are heavy. A threshold of 15% defoliation post-bloom (R3-R5) requires treatment. As the beans mature, they become more tolerant to foliage loss. Plants at full seed (R6) can handle as much as 50% to 60% defoliation. Beans that reach beginning maturity (R7) are safe from yield loss to loopers.

Beet & Fall Armyworms: Watch for them marching in late-planted beans



Whitney Cranshaw, Colorado State University, Bugwood.org

These moth larvae can be serious pests and most often affect late-planted seedling soybeans. While small larvae skeletonize lower leaves, large ones feed over the entire plant. For these pests, the threshold for treatment is 30% defoliation throughout the canopy two weeks prior to bloom (R1) and 15% until pods have begun maturing (R7).

Soybean Aphids: Threshold of 250 is the key



Ward Upham, Kansas State University, Bugwood.org

Native to Asia, the soybean aphid's needle-like mouthparts extract plant juices. If present in large numbers, the pest can cause leaf-puckering, reduced pod and seed counts and eventually lost yield — 10% to 15% reduction is not uncommon. An average of 250 aphids or more per plant on a sample count on 20-30 whole plants per field is the threshold for treatment from bloom (R1) through seed fill (R5). Treatment at full seed (R6) is warranted if aphids are still present above thresholds and plants are under drought stress.

Stink Bugs: Their odor isn't the only thing that's offensive



Ward Upham, Kansas State University, Bugwood.org

Several species can cause mid-season damage to soybeans — including green, brown and brown marmorated stink bugs. Like aphids, they suck plant juices, but stink bugs concentrate on immature soybean seeds, resulting in reduced yield from pod loss or seed shriveling. Seed quality also is impacted. Chemical control is advised when sweep-net scouting yields 40 stink bugs per 100 sweeps.

Corn Earworms: Appetite for pod destruction



John C. French Sr., retired, Auburn University, Clemson University, University of Missouri

While corn earworms will feed on foliage, it's their appetite for pods that can be most destructive to yield. This is why these pests are often called "podworms." Soybeans that bloom early usually escape infestation, but fields that bloom during moth flight are most likely to be infested above the economic threshold. To determine if treatment is economically advantageous, growers can use a threshold calculator that accounts for sampling method, cost of control, row width and soybean price.

Kudzu Bugs: Wait for the migration



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Both kudzu bug adults and nymphs feed on soybean stems, causing nutrient and moisture loss. If left untreated, yield losses can reach 60%. Adults typically overwinter near kudzu patches before migrating into soybean fields. While densities of these migrating adults can be large, treatment is not recommended until nymphs are observed. When sweep-net sampling reaches a threshold of one nymph-stage bug per sweep, treatment is recommended.



Support from the Ground Up

Create a plan for scouting success

A robust scouting program is essential to ensuring soybeans reach their yield potential. If estimating defoliation, identifying insects and determining whether economic thresholds have been reached seems complex, contact your nearest Southern States agronomy team member for help at www.southernstates.com/agronomy/meet-our-team/.