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Insect Feeding on Soybean

Japanese beetles are hard at it. You'll find them in almost any corn field and hear them hitting your windshield as you drive down the road. Soybeans are not immune and the injury can look severe: clusters of insects causing skeletonized leaves at a time when we need less stress on our photosynthetic factory (plant leaves) than more.

There's no denying loss of leaf area in our commodity crops is an issue. It's why we care about corn diseases. Soybeans are a different plant, however, and no matter what foliage feeding insects we're seeing, soybean plants might be able to handle more than you think..

Defoliation thresholds vary by pest, growth stage, and growing conditions. In vegetative stages, defoliation levels can reach almost 40 percent with little concern. In pod forming/filling stages, damage levels above 20 percent might be concerning. Thin canopies tolerate less loss than robust stands and stressed plants may have less ability to recover from defoliation than plants with adequate soil moisture and moderate temperatures. Even species level thresholds can differ, so the first step is always a positive identification to get a specific pest threshold.

Once you've determined a threshold – or if you're scouting general leaf feeding – getting an accurate assessment of the defoliation level is important for making good decisions. Remove some of the guesswork with this scouting method from the University of Nebraska:

1. Remove a trifoliolate leaf from the top, middle, and lower third of 10 random plants.
2. Discard the most and least damaged leaflet from each trifoliolate leaf, leaving 30 leaflets.
3. Compare the 30 leaflets against a standard. The diagram on page 2 here is a good reference for comparison: <https://bookstore.ksre.ksu.edu/download/soybean-insect-pest-management-2026-MF743>
4. Repeat steps 1-3 at four or more randomly selected locations in the field.

Soybean defoliation evaluations are difficult. Injury can vary from dramatic to nonexistent. Avoid picking the best – or worst – areas for assessments. Insects feed in different parts of the canopy and even physical injury issues can affect different plant parts variably. When estimating defoliation, consider the entire canopy, not just the injured portion.

Keep in mind: injury is almost always overestimated. There are lots of variables involved in a defoliating pest evaluation, so sample multiple areas and consider not only the entirety of the plant, but the entire field as well. Soybeans are a resilient crop and can recover from a lot – if we'll let them. Soybean pod feeding is an entirely different topic for a different day.

For more information on damage assessments, feel free to drop me a line.