KANSAS STATE UNIVERSITY | Extension
Meadowlark District

July 2, 2026

David Hallauer
District Extension Agent, Crops & Soils

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.

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Ross Mosteller
District Extension Agent, Livestock & Natural Resources

Manage to Minimize Early Pregnancy Loss

Recently I had a conversation with some good friends on timing of hauling cattle after AI. There is an early window where stress can result in embryonic losses. Let's look today at what these stresses can be and give thought to management approaches which may minimize this loss. Dr. Rick Rasby, Nebraska Extension, discussed this topic in an article, and it serves as the basis for this discussion today.

Stress during early pregnancy is well documented to cause embryonic death and loss of pregnancy. However, making strategic management decisions during the fragile 2 months after breeding can help minimize those losses. Key management practices to review to minimize early pregnancy loss are transportation, temperature while worked or transported, pregnancy diagnosis, and nutrition.

It is important to plan transportation, or other stressors, strategically to prevent early pregnancy loss and reducing overall pregnancy rates. Research conducted at Colorado State University has found that transporting cattle between days 5 and 42 post insemination can result in a 10% reduction in pregnancy. When loaded and transported, cattle may become stressed and release a cascade of hormones that can alter the uterine environment making it less ideal for supporting pregnancy.

Prior to day 5, the embryo is still in the oviduct and protected from changes in the uterine environment. After day 42, the embryo has implanted into the uterine wall and is less susceptible to changes in environment. Transporting on days 5 to 42 pose the greatest risk, waiting to haul cows and heifers until a week or two after day 42 may help prevent late embryonic loss.

Another key to minimizing pregnancy loss when transportation is necessary is to avoid hauling cows on excessively hot days (approximately 90° - 110°and 40% humidity or more). Research conducted at Oklahoma State University found that cows exposed to heat stress 8 – 16 days after breeding, had decreased progesterone concentration, increased prostaglandin concentrations, and reduced embryonic weights. Planning to haul cows on days with more moderate temperatures can help reduce stress and ultimately prevent early pregnancy loss.

Research conducted at Colorado State University found that transrectal palpation to diagnose pregnancy between days 42 - 74 had greater fetal losses (2.68 vs 1.38%) than transrectal ultrasound. It was also found that heifers evaluated prior to 53 days had nearly a 3 fold increase in pregnancy loss than those evaluated after 53 days of pregnancy (3.46 vs 1.26%). Pregnancy diagnosis prior to 40-50 days of pregnancy carries an increased risk of disturbing those fragile early stages of development, especially with inexperienced technicians.

It is well established that deficiencies in protein and energy at breeding time have detrimental effects on fertility. It is recommended that cows should be at a minimum BCS of 5 and first calf heifers should be at a BCS of 6 at calving for optimal reproductive performance. Managing cows and heifers to be on a positive plane of nutrition at the time of breeding is essential to establish pregnancy. Having a sound nutritional program is key to optimizing reproductive function during the breeding season.

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Laura Phillips
District Extension Agent, Horticulture

No news article this week.

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Teresa Hatfield
District Extension Agent, Family and Community Wellness

No news article this week.

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Cindy Williams
District Extension Agent, Food, Nutrition, Health and Safety

Salmonella Outbreak Linked to Cooler at County Fair

As the weather starts to warm up, more outdoor activities are being planned. They typically involve food stands or picnics where portable coolers or ice chests are used to keep food and beverages cold.

In 2024, a Salmonella outbreak happened at a county fair in Illinois that was linked to a cooler that was reused multiple days without proper cleaning which led to contaminated ice. The beverage cans in the cooler were then contaminated. No other foods or other environmental factors were linked to this outbreak.

Clean ice chests after every use, even if it only contains beverages. Wash and scrub the interior with warm water and soap to remove any residue. Rinse well. Then sanitize with a solution of one tablespoon bleach per gallon of water. Drain and let air dry completely.

This is just a good reminder as we are only a few weeks away from our 4-H Fair. This also applies to other events like family reunions, ball games, vacations or anytime you use a cooler and food/beverages are involved. Please be safe rather than sorry as salmonella is easy to kill with proper temperature controls and cleaning practices.