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Soybean Insect Scouting

After seeing a soybean field nearly stripped clean from garden webworms, it's obvious that the crop pests are building up their numbers this summer. We have a number of pests to watch out for and each has their own methods and habits. The later corn crop could have some issues with earworms, but the soybeans are more at risk being planted later and vulnerable at this young stage. It takes a fair quantity of any pests to warrant a pesticide application and often by the time there is a problem recognized, either the beneficial insects or patristic fungus are taking care of it. Or the insect is already at the end of the feeding stage of their growth cycle. However, any producer knows that at times an entire area of a field can be stripped clean in the matter of a few days if an infestation is heavy enough. This is why it's important to catch them in the act and to know what to be looking out for. Insects are often much heavier in certain parts of field. Scouting needs to be in multiple places throughout the field as some insects tend to collect at the field's edge.

The Garden Webworm gets about 1-inch-long, so are smaller than most of the other webworms or armyworms, but yet are surprising quick when disturbed. They can be different shades of green but will have three dots in a triangle on each body segment (Photo 1). The adult is a brown inconspicuous moth. Garden webworms tend to hang out on the undersides of leaves in a thin webbing as they skeletonize them. Webworms will tend to have higher populations at the edges of fields and multiple generations per year. They can be seen from late May to September and will likely have another generation this year. Treatment thresholds are similar to thistle caterpillar and green cloverworms at around 10 per row foot or 25 percent defoliation.

Thistle Caterpillars look very different but have a similar lifecycle as garden webworms. They vary in color of yellow and green to very light almost white, however, they all have branching spines on each body segment that makes them easy to identify (Photo 2). The adult is the commonly recognized painted lady butterfly. Webworms and caterpillars grow very quickly. The thistle caterpillar for instance hatches from a laid egg in 7 days, feeds as a caterpillar for 2 to 4 weeks, and pupates for 7 to 17 days. An entire life cycle can happen in one to two months. The thistle caterpillar skeletonize leaves like the webworms do, but also fold up the leaves in a webbing to form a protective cup while they feed. They have multiple generations per year and can be seen most of the growing season.

Green Cloverworms are usually the most problematic defoliators. These worms get a little bigger than the other two and are identified by their two yellow stripes down their sides (Photo 3). Another big difference for cloverworms is that don't skeletonize leaves but instead chew holes within the leaf. They also don't create a webbing. Treatment threshold is around the same as thistle caterpillars or webworms at 10 per row foot or 25 percent defoliation. Cloverworms sometimes explode in populations but then a parasitic fungus takes off and kills many of them. The fungus will turn the cloverworms white and kills them in just a couple of days.

Bean Leaf Beetle; so far we've discussed soft bodied leaf defoliators but bean leaf beetles can be a problem for every part of the soybean. Bean leaf beetles overwinter as adults under residue or on field edges. The adult beetle will be anywhere from dark red to light gold but all will have a triangle and 6 black spots (Photo 4). After feeding on soybeans or other plants the adult will lay eggs near a soybean stem. After a week the eggs hatch and the wireworm larvae feed on soybean roots for a month before pupating and emerging as an adult beetle. There are two generations per year. The first generation can become a problem because the soybean can't take as much feeding pressure and the beetle will feed on the cotyledon, threatening the whole plant. However, some years the first generation acts as a springboard for a huge second generation that occurs around the beginning of September. Treatment threshold for first generation is 7 beetle per row foot. The second generation treatment threshold is much higher at 50 per row feet but in this case the beetle can directly reduce yield when they feed on young green beans. Seed treatments can help with early season injury.

This article only covered a few of the many insects that can infect a soybean field but these are some of the common offenders. K-State Research and Extension has many publications to help identify crop pests, discuss treatment thresholds, and give pesticide recommendations. Photo credit and much of the information comes from K-State Research and Extension Entomologists Holly Davis, Jeff Whitworth, and Raymond Cloyd.

If you need help inspecting a crop or identifying an insect, please give me a call. There is a good chance we are going to have some heavy insect pressure this year so also please let me know what you are seeing out in your fields.

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Photo 3: Green Cloverworm

Photo 4: Bean Leaf Beetle

