



Soybean Aphid

Where Did the Soybean Aphid Come From?

The soybean aphid is a native of China and Japan.

What Does the Soybean Aphid Look Like and Where Can I Find It?

It is a small yellow insect with distinct black protrusions or “tailpipes” on the tip of its abdomen. Some generations will have wings. The aphid can be found on soybean stems, young leaves of growing soybeans and on the undersides of mature soybean leaves. No other aphid species colonizes on soybean plants so it is probably safe to assume if you find colonies of tiny yellow aphids on your soybean plants, you probably have soybean aphids.

What is the Life Cycle of the Soybean Aphid?

The life cycle of the soybean aphid is complex and can be as many as 15 to 18 generations per growing season. The aphid survives on two host plants during the year. Winter survival for over-wintering eggs is on the buckthorn plant. On the buckthorn, two generations of wingless females and one generation of winged females are produced. The winged females migrate from the buckthorn in search of soybean. The soybean aphid stays on the soybean for the rest of the summer in a repeated series of wingless generations followed by a winged generation. The winged generation is capable of leaving the crowded colony in search of other soybean plants where a new colony is started. In the fall, the winged soybean aphid migrates back to the buckthorn and produces a generation of wingless egg-laying females. The males develop on soybean and also migrate back to buckthorn where they mate with the wingless females which are responsible for laying the eggs that will over-winter on buckthorn twigs.

Are There Other Summer Hosts for the Soybean Aphid?

To date in North America, soybean is the only confirmed summer host for the soybean aphid.

When Do Soybean Aphids Migrate to Soybean Plants?

It is not known exactly when aphids will migrate to soybean plants. Monitoring for aphids at specific growth stages rather than calendar date has been more successful. Populations build and peak starting at the late seedling stage known as V2 (two expanded trifoliolate leaves) through the blooming stage known as R1 – R2. Colonies concentrate on new trifoliolate leaves and new leaves on side branches. In late July, when the top growing point of the soybean stops growing, the aphids move from the top of the plant to middle or lower areas of the canopy and usually can be found on the undersides of leaves, petioles and pods.

What Symptoms Should I See on Plants Affected By Soybean Aphids?

Aphid infestations that peak at the R1 – R2 growth stage can cause stunted plants and reduced pod and seed counts. Leaves on these plants may be distorted and under very heavy infestations they may be yellowed. Charcoal colored residue can be seen on stems,



leaves and pods. This residue is sooty mold which grows on the honeydew excreted by the feeding aphids.

Can the Soybean Aphid Cause Other Problems?

Soybean aphids are capable of transmitting a number of viruses that naturally infect soybean plants. The viruses include alfalfa mosaic, soybean mosaic, bean yellow mosaic, peanut mottle, peanut stunt, and peanut stripe. (Note: It is not possible to prevent these viruses by controlling aphids with insecticides.) The sooty mold residue indirectly can also rob yield by reducing the photosynthetic capacity of the plant.

Does the Soybean Aphid Have Any Natural Predators / Diseases?

Some natural enemies of the soybean aphid identified so far include lacewings, lady beetles, minute pirate bug, parasitic wasps and some fungal pathogens which turn dead aphids a reddish brown color.

When Should a Soybean Grower Control Soybean Aphids?

Marlin Rice, Professor of Entomology at Iowa State University, thinks it is critical to scout soybeans for aphids starting in early July. A first field check in early to mid August is probably too late. Rice says, "The beginning to second week of August is when growers will get the most benefit out of spraying, because they will have caught the population before it starts to build up. At the end of August is when you get less benefit." Rice notes that The University of Wisconsin has established thresholds of when spray. The per plant spray thresholds are 200 or more aphids for plants at the R1 or R2 stages and 1000 to 1500 aphids at the R3 and R4 stages respectively.



Wingless and winged soybean aphids

Small eggs
on the stem



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