

# ***Extension Responds: Soybean aphid***

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## **Soybean Aphid Scouting Tips and Management Recommendations**

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Wisconsin soybean fields are just emerging or still in the seedling stage, but it's not too early to start thinking about soybean aphid. In the four years since this pest first burst onto the scene in Wisconsin, winged soybean aphids typically arrive in soybean fields by early July,

sometimes by late June. Remember, just because soybean aphids have arrived in a soybean field, does not mean it's time to treat with insecticide or even that the population will reach economic threshold. Temperature, humidity, heavy rainfall events, and natural controls such as lady beetle predators, parasitic wasps and fungal pathogens causing diseased



aphids all play a role in regulating soybean aphid populations. The key is to scout regularly and be prepared to evaluate your scouting information in support of a economic treatment decision, whether that is a treat or no-treat call.

Wingless Soybean Aphid

Beginning in mid-June, on weekly visits to soybean fields, start spot-checking seedling soybean and continue checking through pod set. Aphids are usually found on the undersides of new growth at the top and side branches. The insects are small (1/16 inch), soft-bodied, with wings or wingless. They are yellow in color early in the season. Winged adults have a black head and thorax. Aphids tend to build up more heavily on late-planted fields, so check late-planted fields closely. Moisture stress also favors aphid population growth and adds to yield risk.



Winged Soybean Aphid

Scout more intensively in late June and early July and estimate population density on 20-30 plants per field, covering at least 80% of the field. Identify heavily-infested fields. Late vegetative and early reproductive stages are when soybean aphid populations tend to increase most.

This is also the stage where yield return on treatment is the highest, if populations are at threshold and actively increasing. Check the entire plant; at this stage aphids move from the top of the plant to the middle or lower areas of

the canopy. Check the undersides of leaves, petioles and pods. Insecticide treatment decisions should be based on an economic threshold of 250 aphids per plant. This action threshold should be based on an *average* number of aphids per plant over 20-30 plants sampled *throughout the field*. Regular field visits are required to determine if aphid populations are increasing.

While foliar insecticide carrier volumes are typically applied between 10 and 20 gallons per acre for many insects, a higher volume range between 15 and 20 gallons per acre is recommended for soybean aphid. Spray volume and pressure, along with proper nozzle selection to obtain desired droplet size, are critical to optimize soybean canopy penetration and coverage of soybean aphid as it feeds on the underside of leaves and moves to inner and lower canopy locations mid-season.

We now have an economic threshold (250 aphids/plant), and farmers are now well aware of the damage potential of the soybean aphid. Unlike in 2003 when farmers did not realize the impact the aphids were having on their plants (thus allowing their populations to grow), it is unlikely that growers will tolerate a similar build up of aphids this year. The local control of aphids may, therefore, limit the production of large numbers of winged aphids that would fuel a widespread outbreak. However, on the flip-side, chemical control measures against populations reaching the threshold level can wipe out the local predators so that any winged aphid arriving in one of these sprayed fields will experience less resistance to successful colonization. Likewise the aphids surviving an application would have few natural enemies left to prevent aphid population build-up and the field may experience a "rebound" effect leading to faster aphid population growth and pest damage (Voegtlin and O'Neil 2005).

Regular field scouting, use of economic threshold information and awareness of natural control factors should form the foundation of your soybean aphid management plan this summer.

### **Reference**

Voegtlin, D. and R. O'Neil. 2005. Planning for the 2005 Soybean Aphid Population. The New Agriculture Network. *Vol. 2, No. 2 – May 12*. <http://www.ipm.msu.edu/new-ag.htm>

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