



Q: Should I be concerned about soybean aphid? If so, what should I look for?

A: If you grow soybeans in Missouri you should be aware of the yield-robbing potential of the soybean aphid. Wayne Bailey, Ben Puttler, and Tom Clark, MU entomologists, have been monitoring soybean aphids in Missouri since 2000.

Soybean aphid is a small (1/16 inch long), lime green to yellow insect with black coloration on its cornicles (upright protrusions from back of abdomen that resemble “tailpipes”) and antennae tips. It is not uncommon to see nymphs (young aphids) of various sizes grouped together on a soybean leaf or stem. Because of their small size aphids are difficult to detect and identify without a magnifying glass (at least 10X). Carefully examining stems and the underside of leaves is the only successful scouting technique. Plant symptoms include crinkled or wilted, yellow leaves and stunting. Heavy infestations result in abundant production of honeydew, a sticky liquid that coats the soybean plants. Dark fungal growth (sooty mold) in the honeydew gives a characteristic gray or black tint to such fields. But, plant symptoms appear well after yield loss has occurred, so scouting early is highly recommended.

Soybean aphid uses two separate hosts to complete its life cycle. Eggs overwinter on several species of buckhorn (*Rhamnus spp.*). Buckhorn is found in Missouri, often as an ornamental shrub. After hatching in early spring, the aphid goes through several wingless generations feeding on buckhorn. Once soybean plants are present, winged adults are produced which fly to feed and reproduce in soybean fields. As many as 15 wingless generations may develop on soybean plants during one growing season. As autumn approaches, winged adults are produced which fly to buckhorn to lay eggs.

Soybean aphid damages soybean plants by sucking sap, and thus, reducing the energy and nutrient supply. Although feeding damage can occur at any stage of plant development, the most critical period is from late flowering through pod development. Heavy feeding causes increased flower and pod abscission resulting in fewer seeds. Soybean aphid can also vector several viruses including soybean mosaic.

Unfortunately, the number of aphids and the distribution of this pest have dramatically increased in Missouri. First discovered in northeast Missouri, soybean aphid has been sighted throughout Missouri’s soybean growing area. In 2003, the soybean aphid population in some fields increased dramatically, but then decreased rapidly. It is unclear why the number of aphids decreased, but hot dry weather may have been involved. Also, several natural predators of soybean aphid including minute pirate bug, lacewing and assassin bugs occur in Missouri. When aphids are plentiful, predator populations increase, and this may keep the aphid in check.

Detection does not mean yield loss, but consensus on recommended thresholds for spraying has been difficult to reach. Wayne Bailey and other MU entomologists are gathering information and modifying recommendations for the 2004 growing season. Timing for insecticide application is complicated because spraying too early can result in an aphid population rebound that requires multiple applications to control. Spraying too

late may result in unacceptable yield loss. In addition, insecticides may harm beneficial predators. Contact your local extension office or a Certified Crop Adviser for the latest threshold information other control recommendations.

Missouri has been fortunate that this new pest has only rarely become an economic pest. But, vigilance and careful scouting is in order. Please report any suspected aphid sightings to your local extension office so that we can alert other growers to increase scouting activities.