



June 25, 2004

CHECK SOYBEANS BEGINNING IN JULY

The soybean aphid (*Aphis Glycines*) is Nebraska's newest soybean insect pest, arriving in the United States in 2000 and in Northeast Nebraska last year. An area extension agronomist in Northwest Iowa told me this winter you can't believe how fast the population built up on them. At first they did not know what they were dealing with. Then, after scouting bean fields, his jeans would litterly stand up against the wall because of all the honeydew or sap from the aphids.

Dr. Dale Flowerday shared pictures of the new soybean pest at the Crop Clinic held at Saline Center this winter. A picture of the insect is on our new soybean aphid NebFact at: <http://ianrpubs.unl.edu/insects/nf599.htm> The aphid is soft-bodied, light green to pale yellow, less than 1/16 inch long, and has two black-tipped cornicles (cornicles look like tailpipes) on the rear of the abdomen. It has piercing-sucking mouthparts and typically feeds on new tissue near the top of soybean plants on the undersides of leaves. Later in the season, the aphids can be found on all parts of the plant. Currently, the soybean aphid is the only aphid in North America that forms colonies on soybeans. Thus, if aphids are colonizing soybeans, they can be expected to be soybean aphids.

The pattern in Nebraska has been similar the past two years. Very few aphids were found until mid-July, with Northeast Nebraska having the most fields per county infested. Mid-July colonization coincided with summer storm patterns that had high northeast winds. In 2002, there were only two reports of fields being treated for soybean aphid. Population levels were much higher in 2003. In 2003, many fields in Northeast Nebraska were treated, although it is likely that many did not require treatment or were treated after economic damage had been done. A possible explanation for higher numbers in 2003 may be that temperatures in the second half of July through the first week of August were rather mild, which favors soybean aphid reproduction. In 2002, temperatures were high during this period. Aphid populations naturally declined in late August through early September.

In general, during 2003, if aphid populations reached the economic threshold (250 aphids per plant) and farmers treated in late July or early August, they benefitted from treatment. If treatment occurred in mid-August, benefit was variable and depended on aphid population size, population dynamics, and predator levels (primarily lady beetles). Late August treatments likely resulted in no benefit, as aphid populations naturally declined.

The seasonal life cycle of the soybean aphid is complex with up to 18 generations a year. It requires two species of host plant to complete its life cycle -- common buckthorn (*Rhamnus Cathartica*) and soybean. Common buckthorn is a woody shrub or small tree and is the aphid's overwintering host plant. It remains to be seen how successful the aphid will be at overwintering and colonizing soybean in Nebraska.

Soybean aphid populations can grow to extremely high levels under favorable environmental conditions. Reproduction and development is fastest when temperatures are 70-80 degrees. Aphid numbers can change rapidly, with populations sometimes doubling in two to three days.



Several insecticides are labeled for the soybean aphid ("Chinese Aphid" on some labels). Additional sources of information can be accessed through the UNL Department of Entomology web site at www.entomology.unl.edu. If you find any aphids on soybeans this summer, please report this by calling the UNL Cooperative Extension office in Wilber at 821-2151.

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