

## IMPLICATIONS OF THE SOYBEAN APHID TO PROCESSING BEANS

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The soybean aphid, *Aphis glycines*, previously unknown in North America, literally burst on the scene in August 2000, with outbreak populations in soybeans in southern Wisconsin, northern Illinois, southeastern Minnesota, and southwestern Michigan. During the 2001 growing season the aphid outbreak spread to include northeast Iowa, most of eastern Minnesota, all of Wisconsin, eastern Michigan, northern Indiana and Ohio, and southern Ontario, Canada, plus the aphid has now been found to occur in 13 U.S. states ranging from North Dakota to Virginia.

Soybean aphid can be devastating to soybean production. Aphids can quickly build up to tremendous numbers on soybean plants and can cause considerable stress by their feeding. In addition, soybean aphid transmits a number of viruses pathogenic to soybean.

An unanticipated byproduct of the invasion of soybean aphid was the widespread infestation of snap beans by the aphid during 2001. We had previously conducted host range experiments with the aphid and found that, contrary to reports in the Chinese literature that this aphid feeds only on soybean and closely related plants as its secondary host, the soybean aphid is able to colonize and reproduce on a number of other legumes. Most notable among these host plants are red clover and crimson clover. However, we found that soybean aphid will also colonize snap bean plants and reproduce on these plants, but that the nymphs produced on snap beans are generally unable to survive past two molts and thus are not able to reach maturity. This is essentially what we observed also in the field – many nymphs produced on snap beans but no survivors. Thus, the soybean aphid does not appear to be a threat to damage snap beans by producing the large populations seen on soybean. However, virus transmission to snap beans by colonizing soybean aphids can still occur. In 2001, this apparently happened with devastating consequences to the snap bean crop.

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