

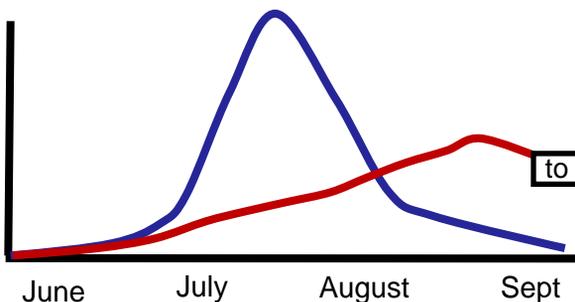
# Soybean Aphid in Fall 2009: A Buckthorn Bonanza!

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**Picture credits::**  
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Soybean aphid populations moving from soybean to buckthorn are extremely high this fall. This is possibly the result of an unusually cool summer. Although an aphid outbreak was initially predicted based on populations in last fall (2008), aphid numbers were slow to increase during the cool weather in July and early August. However, populations persisted and steadily rose into late August in soybean fields that were late-planted or slow to mature. While aphid numbers were generally not over threshold, they were higher than normal given the time of the year (not a true outbreak, but perhaps we can call it an 'outburst'). Cool temps have now switched the population over to males and gynoparae (winged females) that are leaving soybean to find buckthorn, and the winged numbers are huge this fall in comparison to previous years.



- Populations in a typical outbreak year usually peak in July and early August.
- Populations in 2009 increased slowly but steadily into late August – more of an 'outburst' than an outbreak.



*Top: Massive numbers of winged aphids on buckthorn in Illinois (Picture taken by D. Voegtlin, Univ of IL).  
Below: Fewer aphids on buckthorn in central Michigan, but still the highest fall population observed to date.*

*Below: Close up of winged moms (gynoparae) and babies (oviparae). The oviparae will mate with male aphids and lay the overwintering eggs in October.*



What is the prognosis for the heavy fall population? Every buckthorn shrub I've examined so far in central Michigan is infested with winged SBA and oviparae. This is a potential aphid time bomb. The population may survive intact and produce a huge number of eggs, increasing the chance for an outbreak next season. On the other hand, death is already stalking the aphids on buckthorn. The pictures below show four potential mortality factors. Ladybugs were observed in previous years eating aphids on trees, although thus far I haven't seen any. But I did find syrphid eggs, wasps, and fungus this fall on buckthorn shrubs at MSU. It remains to be seen if these can kill enough aphids to make a difference next spring.



*Top left: ladybugs on buckthorn in spring 2007. Ladybugs were observed in the past feeding on aphids on buckthorn, however I haven't found any yet on buckthorn this fall.*

*Top right: Eggs of a syrphid fly in an aphid colony. Syrphid larvae are aphid predators.*

*Bottom left: Aphid mom and babies being harassed by a tiny wasp parasitoid. I watched the mother aphids kick and twist until the wasp went away.*

*Bottom right: Dead winged aphids killed by fungus. The aphids probably were infected on soybean, but lived long enough to fly to buckthorn. They will shed spores to infect neighboring aphids.*

