

## Aphids!

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October 21, 2010

## APHIDS!

Our recent cool, wet spring that is now being followed by a dry, warm fall, has resulted in all kinds of “unusual” insect activity in northern Utah for 2010. The buzz around town now is aphids. It is normal for aphids to take flight in late summer and early fall for egg-laying, but the numbers that are occurring now are far beyond “normal” populations. Starting about a month ago, they started swarming, from the mid-section of Utah to Brigham City and parts north. Winged aphids are covering people’s clothes, cars, and falling like rain. Wingless aphids are feeding on tomatoes, peppers, fruit trees, and ornamentals.

A variety of species have been identified, including witch-hazel gall aphid, bird cherry-oat aphid and related species, leafcurl plum aphid, mealy plum aphid, and green peach aphid, all of which are migratory, multi-host insects with an interesting life cycle. They MUST overwinter as eggs; adults do not survive the winter in northern Utah:

- Eggs that hatch in spring on the primary host (usually a woody plant) are all females.
- Once fully grown, those female adults give birth to live female nymphs, parthogenetically. Mothers and daughters are genetically identical.
- This process continues for several generations on the primary host until overcrowding, causing adult females to give birth to female offspring that form wings.
- These winged females leave the primary host for herbaceous plants for the summer, such as weeds, a field crop, perennials, or vegetables.
- There, they spend the summer, continually expanding their population through parthogenetic, live birth to wingless females.
- As the daylength shortens in the fall, adult females are once again triggered to produce large numbers of winged offspring, which this time, are both male and female.
- These winged aphids then migrate back to their preferred primary host for feeding and egg-laying. The winged females give birth to sexual female nymphs, that, when mature, are able to mate with the winged males that migrated from the herbaceous hosts. These females then lay eggs for overwintering.

Flying aphids find their preferred hosts in the fall through what is called “trivial flight,” where they fly at canopy levels and move just a few feet at a time. Once an aphid has landed, it samples the sap to see if it is the proper host. If not, it will continue on its trivial flight, land a few feet away, and sample another host plant until the proper host is found.

***OK, this happens every year... why is this year different?***

**Two factors:** Unseasonably warm temperatures and southerly winds. I spoke with a research climatologist at the Utah Climate Center about the weather patterns for September and October. Both months have been warmer than average, with near-record highs. September was about 2.5°F warmer, and only once did the nights drop below 50°F in Salt Lake City. Aphids stay active, feeding and moving in the fall, as long as temperatures stay at 50°F or above. Much of the Wasatch Front

has not yet had a killing freeze. A heavy frost will kill adult aphids and feeding and flight will drop off dramatically.

Winged aphids can travel hundreds of miles with assistance from low level jet winds. In September, there were 9 days that brought in warm winds from southern Utah and Arizona, probably carrying thousands of insects. In addition, the Southwest Monsoon, which typically dies down in late September, is still active, keeping temperatures high and winds strong. (It is predicted to end in the next week or so.)

## **Treatment**

**We are not recommending any treatments at this time of year.** Even though there are large numbers of winged aphids, research has shown that this does not necessarily correlate to the number of eggs laid. As mentioned, the aphids that are flying around and feeding now will soon be dead with the first hard frost. Because most of these aphids are winged, they will not be exposed to a contact insecticide, anyway. In addition, natural enemies such as lady beetles, lacewings, and syrphid flies are still active.

Aphid feeding at this time of year isn't affecting tree health. It is best to wait until the spring and apply a dormant spray which will be a requirement anyway, whether or not a treatment is made this fall. So save your money for now, and wait it out until we get a hard frost.