

## Soybean Aphid Update

By Todd Vagts, ISU Extension Crop Field Specialist

(08/25/03) How much longer will we have to fight the aphids; is probably your biggest question. I am not sure how long the aphids will be here, but they could be here until frost or at least until soybean maturity. There are indications though that some field populations have stabilized or are on the decline. In my observations, I would say the extended warm temperature has limited aphid population growth to the mid-canopy area where temperatures are milder. I have not been finding many aphids on the upper ¼ of the plant. Some key criteria to evaluate when making treatment decisions at this time include:

- 1) how many aphids are on the plant (1000 – 1500 is a heavy load)
- 2) is the population increasing, decreasing or stabilized, and
- 3) how much yield does the plant have yet to set (how much yield needs protecting)? To estimate how much yield is already in the pod, reference these charts:

[http://www.extension.iastate.edu/carroll/crops/soybean\\_aphid\\_yield\\_set.htm](http://www.extension.iastate.edu/carroll/crops/soybean_aphid_yield_set.htm)

In most situations, soybean maturity and insecticide pre-harvest intervals will most likely stop any treatments made after late this week (August 30). Remember, be sure to include all aphids (including the small, pearly white aphids) in your counts.

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**How much yield is still at Risk? Use the charts found at the listed URL to get an estimate on the percent of the potential yield that has been set and how much still may be at risk to Soybean Aphid feeding.**

[http://www.extension.iastate.edu/carroll/crops/soybean\\_aphid\\_yield\\_set.htm](http://www.extension.iastate.edu/carroll/crops/soybean_aphid_yield_set.htm)

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Following are a few more key points and suggestions to consider when making treatment decisions. (08/13/03)

It is important to understand that these are only observations of a few individuals and these suggestions may change as more data is collected.

- Check New Trifoliolate When evaluating the aphid population size, check the newest trifoliolate leaves first. If the aphids fill the underside of the leaves and have moved onto the leaf petiole, the aphid population is most likely over treatment threshold.
- Protect Yield through Pod Fill Insecticide treatment to control aphid populations over threshold yield may be beneficial up to R6 (full seed; pod containing a green seed that fills the pod cavity at one of the four uppermost nodes on the main stem). Particularly under drought stress conditions.
- Pay close attention to Preharvest Intervals (PHI) of insecticides being used. As of August 13, I would recommend using products with PHI of 28 days or less. Otherwise you may have to delay harvest until the PHI has elapsed.

- Soybean aphids appear to not proliferate equally on all soybean varieties, possibly due to the degree of leaf and stem pubescence. You may have one of these varieties, therefore be sure to check each variety separately.
  - In past years, aphid populations in northeast IA tended last for 10 weeks before the population crashed. We are not sure if this will hold true with these late arriving populations. How long have the aphids been present in your fields?
  - Small white aphids should be counted equally to the large, green aphids.
  - Attempt to determine whether the population on the increase, will stay the same or decline.
  - Aphids found on the lower canopy may not pose as much stress to the plant as aphids on the upper leaves and stems.
  - Presence of excessive honeydew and sooty mold on the canopy may decrease photosynthesis and yield. This poses more of a problem with little precipitation.
  - Soybean Aphids may transmit diseases. Saving seed for replanting next year may be at high risk for seed-transmitted viruses.
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### ***Information Sources***

#### **University of Minnesota:**

<http://www.soybeans.umn.edu/crop/insects/aphid/aphid.htm>

Insecticide and application performance trials:

[http://www.soybeans.umn.edu/crop/insects/aphid/aphid\\_management.htm](http://www.soybeans.umn.edu/crop/insects/aphid/aphid_management.htm)

#### **University of Wisconsin:**

Discussion on Present Situation (read last paragraph for final statement on threshold):

<http://ipcm.wisc.edu/wcm/pdfs/2003/wcm03-20.pdf>

Aphid Biology: <http://www.plantpath.wisc.edu/soyhealth/aglycine.htm>

Aphid Publication: <http://www.plantpath.wisc.edu/soyhealth/virus/aphid2003.pdf>

#### **Iowa State University:**

ICM Newsletter: <http://www.ipm.iastate.edu/ipm/icm/2003/7-14-2003/scoutforaphids.html>

ISU Field Crop Specialists: <http://www.extension.iastate.edu/ag/fsnews.html>

#### **North Dakota State University:**

<http://www.ext.nodak.edu/extpubs/plantsci/pests/e1232w.htm>

#### **South Dakota State University**

[http://plantsci.sdstate.edu/ent/entpubs/FS914\\_Soy\\_Aphid2.pdf](http://plantsci.sdstate.edu/ent/entpubs/FS914_Soy_Aphid2.pdf)

#### **Soybean Aphid Watch:**

<http://www.pmcenters.org/Northcentral/Saphid/Aphidindex.htm>

This document and more detailed information on the soybean aphid can be found at this URL:

<http://www.extension.iastate.edu/carroll/crops/soybean-aphid.htm>