



Pest e-alerts



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Bird Cherry Oat Aphids in Wheat: Showing Up in Large Numbers

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I have received several reports and photos of bird cherry oat aphid (BCOA) numbers in winter wheat that will require treatment with an insecticide



Bird cherry oat aphids are small (2mm) olive-green aphids with a red-orange patch surrounding the base of each cornicle. Old, wingless, overwintering adult aphids are darker, almost black. At this time, you may also find winged aphids that have moved in to the field.

What are my suggestions regarding control of bird cherry oat aphid in winter wheat?

Unpublished research provided by Dr. Kris Giles (OSU) and Dr. Norm Elliott (USDA-ARS) along with studies conducted in South Dakota, Minnesota, and North Dakota on spring wheat indicated that BCOA causes yield loss before wheat reaches the boot stage. Approximately 5-9% yield loss occurs when there are 20-40 BCOA per tiller (average 7%).



Visible damage from bird cherry-oat aphid is not very noticeable so infestations may go unnoticed. It is very important to check fields for infestations and make treatment decisions only after a field has been checked.

My suggestion for making a treatment decision is as follows:

If greenbugs and bird cherry oat aphids are both present, use Glance n' Go to scout, which can be accessed at <http://entopl.okstate.edu/gbweb/index3.htm>. Published research from Giles and Elliott showed that Glance n' Go sampling will work with both aphids if they are both present.

If bird cherry-oat aphid is present alone, count the number of aphids present on each of 25 randomly-selected tillers across a zigzag transect of the field. The reason that you can't use Glance n' Go is that the most available research suggests that the threshold is too high to effectively use Glance n' Go.

Look for evidence of parasite activity in the form of mummies (right, bottom). A rule of thumb is that if 5-10% of the aphids are mummies, more than 90% are already parasitized. If mummies are not present, use the guidelines below to make a treatment decision.

If, after thoroughly scouting your field, you can identify that infestations are spotty, consider spot spraying with a ground rig.

Use the YIELD LOSS TABLE to determine a potential YIELD LOSS from the aphids. Then estimate your CROP VALUE and calculate your CONTROL COSTS. Use those numbers to estimate PREVENTABLE LOSS. If estimated PREVENTABLE LOSS is greater than CONTROL COSTS, **Treat**; otherwise, **Don't Treat**.



Photo credit - Bob Hunger



Here is an Example:

Step 1: Estimate YIELD LOSS:

- Total # aphids 525 /25 tillers = average # aphids/tiller 21

Step 2: Estimate CROP VALUE: (Crop Value = Yield potential X Price per bushel)

- Yield potential 40 bushels/acre X price per bushel \$ 4.50 per bushel

CROP VALUE = \$ 180

Step 3: Estimate CONTROL COSTS: (Control Cost = Insecticide Cost + Application Cost)

- Insecticide cost \$ 6 /acre + Application Cost \$ 3 /acre

CONTROL COSTS \$ 9 /acre

Step 4: Estimate PREVENTABLE LOSS (Crop Value X Yield Loss from Aphid)

- Crop value/acre \$ 180 x Yield Loss from aphid 0.07

PREVENTABLE LOSS \$ 12.60 /acre

IF PREVENTABLE LOSS \$ 12.60 is greater than CONTROL COSTS \$ 9.00 TREAT

IF PREVENTABLE LOSS \$ _____ is less than CONTROL COSTS \$ _____ DON'T TREAT

Check CR-7194, "Management of Insect and Mite Pests in Small Grains" for registered insecticides, application rates, and grazing/harvest waiting periods.

It can be obtained from any County Extension Office, or found at the OSU Extra Website at <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2601/CR-7194web2008.pdf>

Dr. Richard Grantham - Director, Plant Disease and Insect Diagnostic Laboratory

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