Pest e-alerts

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Bird Cherry-Oat Aphids and Armyworms in Wheat: Decisions…….?

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It's that time of year! Several wheat pest problems are showing up as the crop progresses. Dr. Bob Hunger has already discussed the current wheat disease situation throughout Oklahoma (Wheat Disease Update-27 April 2019). I have received reports of the presence of two other wheat pests in some areas of Oklahoma.

Heath Sanders and Josh Bushong, Area Agronomists shared reports of some wheat fields infested with bird cherry-oat aphids. While greenbug infestations results in visible injury to the plants, bird cherry-oat aphid infestations do not produce visible damage and may go unnoticed unless they have transmitted the Barley Yellow Dwarf virus. This might be an opportune time to check your field for these pests!

Bird cherry-oat aphids and a mummy

My suggestion is to scout the field beforehand to determine if there are GROWING numbers of bird cherry oat aphids that could be of concern. Count bird cherry oat aphids on each of 25 randomly selected tillers across a zigzag transect of the field and note mummy activity. If 10-20% of bird-cherry oat aphids are mummies, and there are numerous lady beetle larvae in the wheat, control may not be warranted.

Unpublished research provided by Dr. Kris Giles (OSU) and Dr. Norm Elliott (USDA-ARS) combined with studies on spring wheat from the Dakotas and Minnesota indicate that 20-40 BCOA per tiller causes 5-9% yield loss before wheat reaches the boot stage. My suggestions: if BCOA numbers average 10-20 per tiller, figure on a 5% loss, if 20-40 per tiller, figure a 7% loss, and if BCOA aphids are more than 40 per tiller, figure a 9% loss.

Estimate APHIDS PER TILLER_____ /tiller = Total # aphids _____/25 tillers
Estimate CROP VALUE $_____/acre = Expected yield _____bushels/acre X $ _____/bushel
Calculate CONTROL COSTS $_____/acre = Insecticide $_____/acre + Application $____/Acre

PREVENTABLE LOSS $_____/acre = Crop value $_____ X_____loss from aphids/tiller .

If PREVENTABLE LOSS IS **GREATER THAN** CONTROL COSTS **TREAT**
IF PREVENTABLE LOSS IS **LESS THAN** CONTROL COSTS **DON'T TREAT**

Here is a Table of Preventable Loss estimates for bird cherry-oat aphids for expected yields of 30 to 50 bushels per acre, expected wheat prices of $3.50, $4.00, and $4.25 per bushel, and bird cherry-oat aphid numbers of 10-20, 20 to 40, and over 40 per tiller.

Expected Yield (Bushels/Acre)	Expected Price ($ per bushel)	Crop Value ($ per acre)	Preventable Loss from BCO Aphids ($ per acre)		
			10-20 aphids/tiller	20-40 aphids/tiller	More than 40/tiller
30	$3.50	$105.00	$5.25	$7.35	$9.45
35	$3.50	$122.50	$6.13	$8.58	$11.03
40	$3.50	$140.00	$7.00	$9.80	$12.60
45	$3.50	$157.50	$7.88	$11.30	$14.18
50	$3.50	$175.00	$8.75	$12.25	$15.75
30	$4.00	$120.00	$6.00	$8.40	$10.80
35	$4.00	$140.00	$7.00	$9.80	$12.60
40	$4.00	$160.00	$8.00	$11.20	$14.40
45	$4.00	$180.00	$9.00	$12.60	$16.20
50	$4.00	$200.00	$10.00	$14.00	$18.00
30	$4.25	$127.50	$6.38	$8.93	$11.48
35	$4.25	$148.75	$7.43	$10.40	$13.37
40	$4.25	$170.00	$8.50	$11.90	$15.30
45	$4.25	$191.25	$9.56	$13.38	$17.20
50	$4.25	$212.50	$10.62	$14.87	$19.12

I have also received scattered reports of armyworms in wheat. This cool, rainy spring weather, while providing good growing conditions for wheat, is also good for "growing" armyworms. Armyworm infestations typically occur in late April through the first two weeks of May. They damage wheat by feeding on leaves, the awns, and occasionally by clipping the head from developing plants. The head clipping I have noticed over the years is usually restricted to secondary tillers with very small, green heads that contribute very little to yield.

Armyworm and "head clipping"

Since armyworm infestations occur more frequently around waterways, areas of lush growth, or areas with lodged plants, check them first to determine the size of the infestation. Early signs of an infestation include leaves with ragged margins that have been chewed. You may find "frass" i.e. the excrement from armyworm caterpillars, around the base of wheat stems and clipped heads.

Armyworms: feeding on head, and scouting

Scout for armyworms, at 5 or more locations looking for "curled up worms". Armyworm caterpillars tend to feed at night, so a good strategy is to bring a flashlight and look at fields after dusk when they are feeding up on the plant stems.

The suggested treatment threshold for armyworms is 4-5 caterpillars per linear foot of row. Generally if wheat is **past** the soft dough stage, control is not warranted unless obvious head clipping can be seen, and caterpillars are still present and feeding.

Armyworms: “threshold” numbers of 4-5 per linear foot

If a producer is considering a fungicide application, this might be an opportune time to evaluate your field for bird cherry oat aphid and or armyworms, and IF NEEDED, combine an insecticide with any fungicide application that is needed to control multiple pests. 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 Oklahoma County Extension Office, or found at the OSU Extra Website at http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2601/CR-7194web2008.pdf

I have received reports of armyworms infesting milo. At this stage, consider control if 10 percent or more of seedling milo plants are injured, and caterpillars that are ¾ inches or less are still present.

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