

Canola: You Might Have Winterkill, OR You Might Have Aphids!

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Heath Sanders and Josh Loftin provided me with some pictures of a canola field that appeared to have significant winterkill (Figure 1) but it turned out that it had a severe aphid infestation. It looked like they were a mixture of green peach and turnip aphids (Figure 2). Canola fields need to be scouted regularly starting NOW.

Figure 1



Figure 2



Green peach aphids are pale green to yellow (and sometimes pink) with long cornicles and antennae and measure 0.08 inch. They occur in winter and spring on leaves and cause stunting and defoliation as they feed and build numbers. They can also transmit plant disease-causing viruses such as cauliflower mosaic and turnip mosaic viruses.

Turnip aphids are small, pale gray-green aphids that measure 0.06 inches with dark bars along the top of their abdomen, and very shortened cornicles with black tips.

Green peach aphid



Turnip aphid



Green peach aphids



Turnip aphids on raceme



Look for aphids on the underside of the leaves. Later, when plants have bolted, they will be on leaves and racemes.

Research at OSU found that an average of one green peach aphid per plant can reduce seed yield by about 0.5 lb. per acre. Latest quote for June Futures for canola at Fargo, ND USDA is canola can be contracted for about \$0.18 per lb. https://www.ams.usda.gov/mnreports/ms_gr111.txt. Dr. Sholar says that a more realistic price is \$0.14 per lb. Let's assume application costs are \$10.00 per acre. A simple calculation shows that an infestation of 143 aphids per plant X 0.5 lb. loss per aphid (71.5 lb.), x \$0.14 per lb. would result in a loss of about \$10.00 per acre, equal to the cost of the application. This is the ECONOMIC INJURY LEVEL (EIL). We typically set the ECONOMIC THRESHOLD (ET) below the EIL, in this case at 80% of the EIL (143 aphids x 0.8) = 114 aphids per plant) to give time to schedule an application before the EIL is reached. Table 1 is a set of suggested ECONOMIC THRESHOLDS, based on the cost of the application and a price of \$0.14 per pound of canola.

Table 1: Suggested Treatment Thresholds for Green peach aphid

Application Cost	Economic Injury Level	Economic (Treatment) Threshold
\$6.00/acre	86 aphids/plant	<u>69 aphids/plant</u>
\$8.00/acre	114 aphids/plant	<u>91 aphids/plant</u>
\$10.00/acre	143 aphids/plant	<u>114 aphids/plant</u>
\$12.00/acre	171 aphids/plant	<u>137 aphids/plant</u>
\$14.00/acre	200 aphids/plant	<u>160 aphids/plant</u>

Australian research suggests that a treatment threshold for turnip and cabbage aphids on racemes is **20% infested racemes.**

CR-7667, *Management of Insect and Mite Pests in Canola*, contains current aphid control recommendations and is available online at <http://pods.dasnr.okstate.edu/docushare/dsweb/HomePage>. Remember, green peach aphid is known to develop resistance to pyrethroids, which are the primary registered insecticides for use in canola. Consider rotating with another non-pyrethroid (Carbine before or after petal fall, or Transform after petal fall) if another application is required. Thorough coverage of an insecticide application is necessary to obtain optimal control.

In 2015, Transform[®] insecticide registrations were canceled due to concerns about honeybee exposure. Transform was re-registered for use in canola on October 14, 2016, but can be applied only AFTER petal fall. With all pesticides, review label restrictions for applications during bloom, to avoid exposure to foraging honeybees. The Oklahoma Department of Agriculture Food and Forestry has a Managed Pollinator Protection Plan and a website that can assist growers and beekeepers to keep in good communication with each other if pesticide applications are required <http://www.ag.ok.gov/>

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The pesticide information presented in this publication was current with federal and state regulations at the time of printing. The user is responsible for determining that the intended use is consistent with the label of the product being used. Use pesticides safely. Read and follow label directions. The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Cooperative Extension Service is implied.

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