



Pest e-alerts



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Fall Wheat Pests: Winter Grain Mite in Wheat

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I have lived in Oklahoma for nearly 13 years, and I am ever amazed at the different weather conditions we encounter from year to year. While it seems cliché, there really is no “normal” growing season weather that we can reliably use to predict what pests might occur, and when they will rear their ugly heads. The fall of 2009 is no exception. Cool, wet weather has caused delays in planting the wheat crop. Now that it is in the ground, this weather may be helping

some fall wheat pests thrive. I have received a few reports of winter grain mites (WGM) which is also called the blue oat mite. Let’s take a closer look at what this potential pest may have in store for this year’s wheat crop.

Description: This mite is small (about the 1 mm long) with a dark blue to black body and 4 pair of orange-red legs. It also has a small reddish spot on the top of its abdomen that can be seen under magnification. The eggs of WGM are kidney-shaped, and change from clear, to yellow to reddish-orange after several days. They are laid on leaf blades and stems or the roots near the crown. Besides wheat, many grasses serve as host plants, including barley, oats, ryegrass and fescue.

Life Cycle: The mite lifecycle includes an egg, larva, nymph and adult. The larva hatches from the egg and has 3 pairs of legs; it molts into a nymph that has 4 pairs of legs. The nymph will molt two more times in becoming an adult. In all cases adult mites are females, all of which are capable of laying eggs. Winter grain mites complete two generations per year, the first beginning in fall from overwintering eggs and the second from eggs laid in January/February.

The first generation will peak in December/January and the second peaks in March/April. The immature mites go through 3 molts before becoming adults, and may take nearly 60 days to mature. Adults can live for up to 40 days. Winter grain mites overwinter as eggs. They get their name because they like grains and grasses, and they really don't like warm weather. They are most active when temperatures are between 40 and 70 F. Freezing conditions and/or snow cover don't really affect them.

Nature of Damage and Scouting: Winter grain mites feed by piercing plant cells in the leaf, which results in "stippling". As injury continues, the leaves take on a characteristic grayish or silverish cast. Winter grain mites are more likely to cause injury in wheat if it is already stressed due to lack of moisture or nutrients. Winter grain mites are light sensitive and tend to avoid bright, sunny days and windy days, so adjust your scouting accordingly. On still, cloudy days or early morning/evening, they will be active on the plants and can easily be counted. On sunny or windy days, they will be found under the soil surface (up to a couple of inches) or massed under dirt clods.

Control: Winter grain mites are more common in fields of continuous wheat, so crop rotation will help break the cycle. In addition, they are reported to do better in fields that have a minimum amount of tillage applied to them. Winter grain mites do not typically cause excessive injury unless present in excessive numbers and plant growing conditions do not sustain rapid growth of wheat foliage, such as when an infestation is coupled with nitrogen deficiency. While WGM pests can damage wheat even under normal growing conditions, it takes large numbers to justify an insecticide application for their control. There is no established threshold for WGM; my best "guestimation" is to treat when injury symptoms are visible and mite numbers exceed 10 per plant.

There are few insecticides that include WGM on the label, but they can probably be controlled with other products registered for use in wheat. 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: <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2601/CR-7194web2008.pdf>

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