

High grasshopper populations require precautions for fall and winter crops

September 8 2011, By Evelyn Boswell

Grasshopper populations increased dramatically in Montana from 2007 to 2010, from one million acres with more than 15 grasshoppers per square yard in 2007, to 17 million acres with more than 15 grasshoppers per square yard in 2010. However, crop and rangeland damage has been somewhat moderated by the cool and wet spring weather of 2010 and 2011.

The recent warm [dry weather](#) has favored grasshopper development and based on the August 2011 adult grasshopper rangeland survey conducted by the U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA APHIS, Helena), grasshopper populations remain high across the state. Continuing [warm weather](#) will favor egg-laying behavior by female grasshoppers and the rangeland hazard will remain high in 2012. [Winter wheat](#) will be at risk of attack this fall season.

Planting winter wheat later in the season is one strategy to mitigate damage caused by grasshoppers. Adult grasshoppers will remain active during the fall season as long as daytime temperatures remain warm. Later planting dates reduce the window of time that the crop is exposed to grasshopper activity. Later planting also reduces the risk of damage by aphids and the wheat curl mite, both of which can vector [viral diseases](#).

Vigilant scouting is recommended. Adult grasshoppers can fly and are very mobile, so localized densities can change quickly. The migratory and two-striped grasshoppers are prevalent species in the current

outbreak. Damage thresholds for emerging winter wheat are 3-7 per square yard within the field, or 11-20 per square yard around the field margin. Typically grasshoppers move into crops from surrounding grassland. In some cases, weeds may attract grasshoppers into fallow fields. Treatment strategies are based on protecting crop edges from invading grasshoppers.

Border treatments applied as insecticidal sprays or seed treatments are the main recommendation for protecting emerging winter wheat. Typically, spraying insecticide 150 feet beyond the edge of the crop is a sufficient border. If [grasshopper](#) populations are very high, they are difficult to control, and continued scouting is required as they can invade the protected border. At very high densities, borders up to 0.25 mile beyond the crop and repeated applications may need to be considered. One or two passes with insecticide treated seed (active ingredients imidacloprid and thiamethoxam) around the perimeter of the field is also typically effective. Adult grasshoppers are more difficult to control, and the higher end of the label rate is recommended.

When applying border sprays, timing is important. Border sprays beyond the edge of the crop need to be applied just before the wheat emerges; if it is applied too early there may not be enough residual, if it is applied too late, the damage may have already occurred. Systemic seed treatments eliminate the timing concern. Systemic insecticides require feeding to be active, but crop damage should be slowed considerably.

Provided by Montana State University

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