



News Release

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Foxtail barley integrated management in no-till cereal fields

Summary: Difficulties in controlling foxtail barley in no-till cereals mean that producers need an integrated approach, using a wide range of practices, such as crop rotation, row spacing and seeding rates.

A moderate resolution photo of foxtail barley is available on the MSU Web at:

CAPTION: Foxtail barley photo by Mike Haddock of Kansas State University.

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To: News-weeklies, AgMedia, News-local, News-tv, News-radio, MSU-All-News, News-internal, NatResourcesNonmedia, Producers, Web. From Carol Flaherty, 994-5136 or carolf@montana.edu. Filename: **foxtailcontrol**

Web: Ag, Weeds, Programs

Database: Extension, College of Agriculture, Land Resources and Environmental Sciences

By Fabian Menalled

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BOZEMAN -- Foxtail barley is becoming an increasing problem as it colonizes no-till fields and reduces hay and pasture quality.

Foxtail barley is also known as foxtail, wild barley or "Hordeum jubatum," is a shallow rooted and short-lived perennial grass that reproduces by seeds, grows on a variety of soil and tolerates saline and poorly drained soil conditions. It grows 1 to 2 feet tall and has a pale green, bushy spike. The spike of 1 to 2.5 inches long awns have seeds that are easily dispersed by the wind, animals or harvest equipment. These rough awns cause mouth, eye and skin irritation to livestock. Leaf blades are one-eighth to one-quarter inch wide with sheaths that may vary from smooth to densely hairy. Ligules, which are the outgrowth at the junction of leaf and stalk, are short, membranous and collar-shaped.

Foxtail mainly propagates by seeds that germinate at or near the soil surface in the lower temperatures of fall and spring. Over-wintered seedlings and adults usually resume their growth in late April to May, giving them a competitive advantage over many crops. Although foxtail barley is not a very competitive species, infestations can develop quickly, particularly in fall-seeded cereals where the crop and weed develop simultaneously.

Because of its shallow and fibrous root, tillage has been an appropriate management option to control the spread of foxtail barley. Unfortunately, foxtail barley has become a problem in conservation tillage systems where soil disturbance is reduced.

Moreover, chemical management of foxtail barley in cereal fields is difficult due to the reduced amount of effective in-crop herbicides and their high cost. Olympus (propoxy-carbazon) and Olympus flex (propoxy-carbazon plus mesosulfuron-methyl) are viable options to control foxtail barley in wheat. However, this product cannot be applied in barley, and it has very long residual activity. Although Roundup (glyphosate) does kill foxtail barley seedlings, repeated applications may be needed to control established plants. Thus, producers planting barley should carefully develop an integrated weed management approach that takes advantage of a wide range of agronomic practices such as crop rotation, row spacing, and seeding rates to reduce the risk of foxtail barley in conservation tillage systems.

An integrated approach to foxtail barley management should start by considering whether the ground is saline, seasonally wet or overgrazed, since these factors lead to infestations. If this is the case, efficient irrigation and grazing management should be stressed to keep the preferred species strongly competitive. As with many other weed species, research has shown that cultural practices that promote the competitive crops help reduce yield losses due to foxtail barley. For example, increasing seeding rate significantly reduced foxtail barley biomass and seed production. However, narrowing wheat planting from 12 to 8 inches had little effect on foxtail barley abundance. Banding instead of broadcasting fertilizer is another approach to manage foxtail barley, because it gives crops a competitive advantage over the weed.

Although foxtail barley is not a highly competitive species, management choices or unfavorable environmental conditions can trigger its spread, particularly in reduced tillage systems. Establishing and maintaining healthy and vigorous crop stands are effective long-term practices to manage this species.

Disclosure: Common chemical and trade names are used in this publication for clarity by the reader. Inclusion of a common chemical or trade name does not imply endorsement of that particular product or brand of herbicide and exclusion does not imply non-approval.