

News Column

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November 30, 2020

**World of Weeds: Downy brome**

Fall is a good time to control weedy brome species, such as downy brome, Japanese brome and Cheat. This article will discuss some identifying characteristics of downy brome, as well as control measures.

**Ecology of downy brome**

Downy brome (*Bromus tectorum*) is native to the Mediterranean area and was introduced to New York and Pennsylvania during the late 1800's. It can be found throughout Kansas in upland settings, often in over-grazed pastures. Downy brome is a winter annual grass that typically emerges in the fall, but can also emerge in early spring (Figure 1). It produces seeds in late spring and is typically the first of the common weedy bromes to flower in spring.

**Identification**

Key identifying features of downy brome and other weedy brome species are shown in Table 1. Seedling leaves have a clockwise twist and are covered with soft hairs. The closed sheath is also covered with soft hairs. The ligule is a fringed membrane. Mature plants can reach up to 2 feet tall with leaves up to 5 inches long. Mature leaves also have long short hairs on both surfaces. Downy brome produces an extensive root system that reaches up to 4 feet deep and is very efficient at withdrawing water from the soil.

**Table 1. Identifying features that distinguish among downy brome, Japanese brome, and cheat.**

	<b>Downy Brome</b>	<b>Japanese Brome</b>	<b>Cheat</b>
<b>Leaf surface</b>	Soft, short hairs on both surfaces	Soft hairs on both surfaces	Occasional hairs
<b>Sheath</b>	Hairy	Hairy	Hairless to occasional hairs
<b>Ligule</b>	Fringed membrane	Fringed membrane, slightly pointed	Fringed membrane
<b>Spikelet</b>	Long awns (0.75 inches)	Awns slightly bent	Short awns (.4 inches)

The inflorescence or seed head is in an open, droopy, loose branching clusters of seed heads about 7 inches long. Each spikelet contains 4-8 seeds. Spikelets are tipped with an awn approximately 0.75 inches long. The awns facilitate seed dispersal by attaching to animals' coats and may cause injury to the mouths and eyes of grazing animals.

## **Management**

There is some evidence that once established in a native area, downy brome cannot be dislodged. However, it is possible to control downy brome in winter annual crops such as wheat or canola. Control in wheat is critical, as data suggest that downy brome infestations of approximately 9 plants per square foot can reduce wheat yields 20 to 40%.

Few herbicides labeled for winter wheat will provide excellent control of downy brome and cheat grass. However, fall applications of herbicides such as Olympus, Outrider, or PowerFlex generally provide greater suppression than spring applications. Acceptable control of downy brome and cheat can be achieved by planting Clearfield or CoAxiom varieties and applying Beyond or Aggressor herbicides, respectively.

Controlling downy brome in rotational crops is an excellent integrated management strategy. For example, grass weeds are more easily controlled in roundup ready winter canola or with fall or early spring applications of glyphosate before planting a summer crop.

Information provided by Sarah Lancaster, K-State Extension Weed Specialist.

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