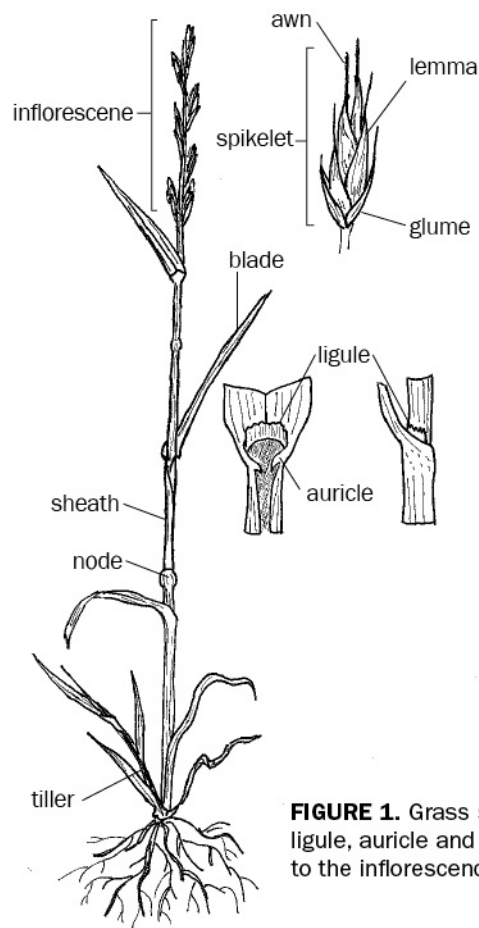


## Grass Identification

Grasses are a ubiquitous feature of the western landscape. In fact, over two thirds of Montana is dominated by grasses, and over 236 grass species have been documented in Montana. World-wide there are about 10,000 grass species. Differentiating one species of grass from another is difficult because they tend to all look very similar. However, grass identification is critical for assessing when and where certain weed management tools should be applied. For example, some grass species are more susceptible to broad-leaf herbicide injury than others. Accurate identification of the grasses on a site is essential to help select an herbicide that will be most effective on the weed while being least harmful to remnant, desirable grasses.

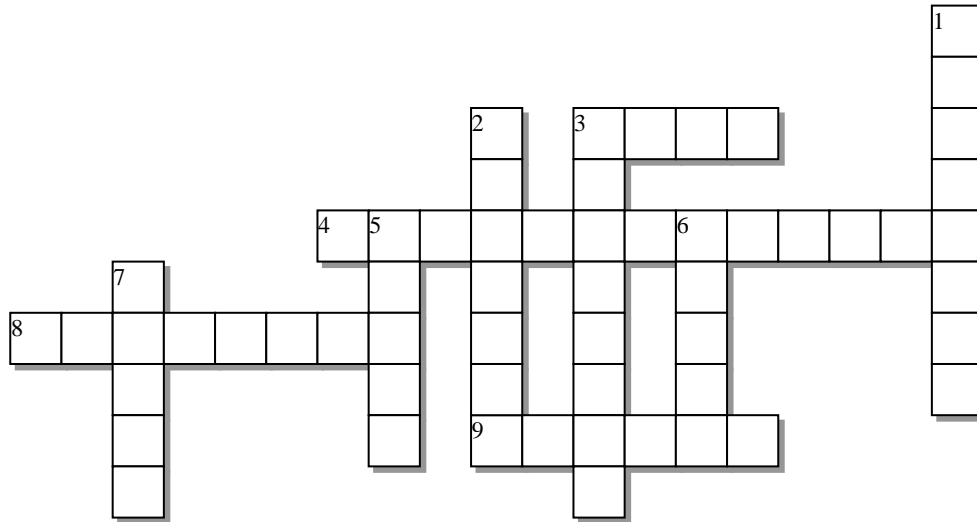
Grass identification requires looking at vegetative characteristics along with flowering or seed head features. Look at Figure 1 which features some important characteristics to investigate when encountering an unknown grass. First, what is the growth form? Based on the root structure, this is a bunchgrass, meaning the plant will not spread vegetatively by rhizomes, but new shoots or tillers will emerge around the base of the grass. Next, check out the inflorescence or seed head. In this case, the spikelets are attached directly to the flowering stem, making this a spike, in contrast to a grass with stalks on each spikelet, forming a tightly or loosely branched panicle. Investigate the glumes, lemmas and awns. Presence of awns on the glumes and/or lemmas and their length can be an important diagnostic feature. Prior to flowering, vegetative characteristics like blade texture or whether the sheath is open or closed must be used for identification. Presence of auricles, or the earlobe-like structures at the top of the sheath, can be quite helpful too. They may be prominent and overlapping, small and rounded, or absent. Lastly, what are the ligules like? In this example the ligule is membranous, but in other cases ligules are hairy, and in rare cases, absent.



**FIGURE 1.** Grass sheath, node, ligule, auricle and parts relating to the inflorescence.

Grass identification is too challenging to explain in one page, so check out the new MontGuide "Grass Identification Basics" <http://msuextension.org/publications/AgandNaturalResources/MT201402AG.pdf>. This publication is designed to be used in conjunction with your favorite field guide or dichotomous key. Grass identification takes practice, practice, practice. If you need assistance, please contact the Schutter Diagnostic Lab, 406-994-5150 or go to <http://diagnostics.montana.edu/> and click on the link for Plant ID.

**Test your knowledge of grass identification**



**Across:**

3 - Some spikelets have these long, needlelike appendages (many of which love to burrow into your socks)

4 - The flowering stem, consisting of all the spikelets collectively is called the \_\_\_\_\_

8 - The ligule is conspicuously absent in \_\_\_\_\_ grass\*

9 - From this protective outer layer, new grass shoots emerge

**Down:**

1 - An individual flower consisting of the glume, lemma and reproductive structure is a \_\_\_\_\_

2 - Bunchgrasses produce new shoots from the base of the plant called \_\_\_\_\_

3 - Some grass species have these ear-like appendages

5 - These knobby structures on the stem are called \_\_\_\_\_

6 - Sheaths that are open or overlapping are analogous to a button down \_\_\_\_\_\*

7 - Blue \_\_\_\_\_ is an example of a sodgrass\*

\*Refer to the MontGuide for answers to these questions.

Solutions are posted to the MSU Extension Invasive Rangeland Weed website:  
<http://www.msuextension.org/invasiveplantsMangold/extensionsub.html>

