

**Cheatgrass; Friend or Foe**  
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Cheatgrass (*Bromus tectorum*) was introduced in western United States in the 1890's and is now found across the country. By 1930 scientists had begun to research the plant and by the 1950's were beginning to discuss how to control the invasion of cheatgrass into native rangelands. Cheatgrass is described as an aggressive annual and a prolific seed producer. Cheatgrass seeds have high viability and are easily spread by wind, water and animals (either on haircoat or in fecal matter). The success of the plant is attributed its vast seed production (under almost any environmental condition) and its ability to store seed in the soil from year to year until there is favorable conditions for germination. Cheatgrass is a winter annual, germinating after late summer or early autumn rains, however, it can also germinate in the spring.

Cheatgrass invades sites where perennials have been lost or weakened through ground disturbance caused by improper grazing, fire, cultivation or road construction. It is opportunistic in regards to becoming established in the interspaces between native plants. While cheatgrass dominance may be an indication of overgrazing, cheatgrass has been shown to invade native perennial grass communities that have never been grazed.

The impact of cheatgrass on our rangelands depends on its degree of dominance. At low densities, it may be just a part of the understory and does not mean that the site is in poor condition nor does it indicate improper grazing. At high densities, cheatgrass can lead to conversion of perennial bunchgrass, sagebrush and salt-desert shrub communities to cheatgrass monoculture. While the presence of cheatgrass may be a reflection of improper grazing methods in the *past*, it does not always indicate improper grazing is currently taking place. Inappropriate grazing strategies that weaken plant communities such as high utilization rates and/or improper timing of grazing may increase the rate at which cheatgrass will invade and become dominant.

Cheatgrass is drought tolerant and is very competitive in its ability to utilize soil moisture. This characteristic gives it an advantage over perennial seedlings. The ability to efficiently utilize soil moisture and produce vast numbers of cheatgrass seed keeps cheatgrass in these sites for years. As cheatgrass matures and dries, the risk of wildfire increases. With cheatgrass dominance, the intensity and the frequency of these fires is greater than the frequency of fires for in similar native plant communities. The nature of the fire and the characteristics of the forage species within the burn dictates the impact of fire on cheatgrass seed. If the fire burns hot enough, cheatgrass seed may be destroyed, however in a cheatgrass dominated site with few shrubs, the fire most likely will not affect the seedbank. This type of fire behavior favors cheatgrass dominance by adding nitrogen to the soil. Cheatgrass is able to utilize this nitrogen better than the native grasses, thus again its hold on the site.

### **Cheatgrass A Valuable Forage**

Cheatgrass is an excellent source of nutrition when it is green. Bohnert and Ganskopp (2001) found crude protein of cheatgrass near Burns, Oregon peaked at 15-22% in April and declined rapidly from April to late June, and was the lowest in the fall and winter at around 2%. During its green stage it is highly palatable to cattle and wildlife. Cheatgrass can tolerate repeated grazing and heavy trampling as long as it is able to set seed. In years where precipitation is abundant, productivity exceeds what would otherwise be available in non-invaded sites. During drought years, cheatgrass may not germinate at all. This variability in production makes it necessary for cattleman to be flexible in grazing rotations. As cheatgrass sets seed and goes dormant, nutritive value and palatability decreases. A common myth is that livestock will not graze dormant cheatgrass,

however, cheatgrass can be very important for winter grazing. It has been documented that cattle will actually lick the seeds from the grass. In the era where draft horses were still common, non-working draft horses were pastured on dormant cheatgrass during the summer months. Cheatgrass is non-poisonous to livestock but may cause mechanical damage to the animal. Lump jaw as an example, may be caused by the awn of the seed “burrowing” into the skin of the animal.

The method of grazing cheatgrass is important to the success of native perennial plants, continued cheatgrass presence and for decreasing the risk of wildfire. Cheatgrass is of greatest value in spring prior to formation of seed in regards to quality and quantity of forage. Cheatgrass often begins growth in the spring, prior to the more desirable perennial grasses starting. This allows the landowner to schedule grazing to take advantage of the highly palatable cheatgrass without affecting the perennial grasses. If grazed properly, grazing can increase cheatgrass production by encouraging tillering, and can therefore require a second grazing period in summer or late spring to limit the amount of fuel for potential wildfires (Young and Clements, 2007). Grazing cheatgrass early in the spring may also reduce seed production, reduce competition for nutrients and water and provide an opportunity for desirable grasses to become established and productive.

Grazing can be an effective tool in the control of cheatgrass and the conversion of cheatgrass dominated rangelands back to perennial grass and shrublands. Timing of grazing is the key. The critical time for grazing is the period of time between the maturity of cheatgrass and the maturity of the native perennial grasses. Once cheatgrass becomes mature and quality drops off, livestock will switch to the native perennial grasses. This switch in preference may come at a time when the perennial grasses are most palatable and susceptible to the effects of overgrazing. Unmanaged grazing during this time may lead to further degradation of the perennial grasses. Native perennial grasses can be grazed in the spring, but not repeatedly every year, or excessively in any one year. Perennial grasses must be given the opportunity to recover from grazing when there is still adequate soil moisture. This recovery period allows the perennial grasses to complete their cycle of restoring root reserves and producing seed.

Cattle allowed to graze cheatgrass without allowing it to set seed, may result in the increased opportunity to other noxious weeds to invade the site. Invasion of other noxious weed that are much less desirable and of little to no value to livestock. Such species include medusa head, russian thistle, filaree, tansy mustard and a whole host of other noxious weeds. Grazing strategies designed to reduce cheatgrass need to include the possibility of reseeding desirable grasses to compete with this new threat. Each site will need to be evaluated for its existing plant community structure (what’s there and in what abundance) and its potential for conversion.

Bottom line is cheatgrass is both friend and foe. It is a valuable nutritional resource for livestock and wildlife. Although it is a non-native species that may dominate sites that may have been disturbed or been improperly grazed, it is much preferred over other noxious weeds. Proper management of rangelands will not only control cheatgrass presence, but may also benefit cattleman and cattle alike. No single grazing management or control strategy for cheatgrass works everywhere. Both must be planned with site potential, ranch goals and a host of other environmental concerns in consideration. Work with a range specialist to help you design a strategy that fits your operation.

#### **References:**

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