

Cheatgrass

Bromus tectorum L.

Synonyms: *Anisantha tectorum* (L) Nevski

Other common names: downy brome, downy cheat, downy chess, early chess, drooping brome, cheatgrass brome, wild oats, military grass

Family: Poaceae

Description

Cheatgrass is an annual or winter annual. The plant grows from 5 to 23 inches tall. Stems are smooth, slender, and erect, protruding from a much branched base. Leaf blades are flat and 2 to 6 inches long, covered with soft, white hairs. As the plant and seed reach maturity, leaves turn purplish-tan. The panicle is often purple 2 to 6 inches long with several branches drooping to one side. Seeds are narrow about ½ inch long, light and fluffy (Hultén 1968). Seedlings are tall, first leaves are narrow, soft-haired and twisted, with a prominent midrib (Royer and Dickinson 1999).



A number of native and introduced species of *Bromus* are found in Alaska. Cheatgrass is distinct in having very long awns (> 1 inch) on the lemmas, drooping heads, and the lower glume with a single, keel nerve.



Ecological Impact

Impact on community composition, structure, and interactions: Cheatgrass forms dominant stands in sagebrush rangelands, juniper, and pine woodlands, displacing native vegetation. It outcompetes native species for soil moisture. The sharp spikelets and rough awns damage the mouth and eyes of native wildlife species. Over twenty diseases of cheatgrass have been reported (Carpenter and Murray 2005, Royer and Dickinson 1999).

Impact on ecosystem process: Cheatgrass closes communities to the establishment of seedlings of perennial herbaceous species. Additionally, it increases the frequency and timing of wildfires (Carpenter and Murray 2005).

Biology and Invasive Potential

Reproductive potential: This species is an annual which grows rapidly, establishes by seeds only with seed production capacity of 300 seeds per plant. Seeds remain viable in the soil for two to five years (Butterfield et al. 1996, Rutledge and McLendon 1996, Warner et al. 2003).

Role of disturbance in establishment: Open ground created by fires or anthropogenic disturbances is readily colonized by cheatgrass (Carpenter and Murray 2005, Warner et al. 2003).

Potential for long-distance dispersal: Cheatgrass is spread by wind, attachment to animal fur or human clothing (Warner et al. 2003).

Potential to be spread by human activity: It spreads along transportation corridors such as highways and railroads. It also contaminates grain seed, hay, straw, and soil (Warner et al. 2003).

Germination requirement: Cheatgrass requires fall, winter, or early spring moisture (Mack and Pyke 1983). It germinates best in the dark or in diffuse light, and readily germinates under a wide range of temperatures. Litter promotes germination and establishment of seedlings (Anderson 1996).

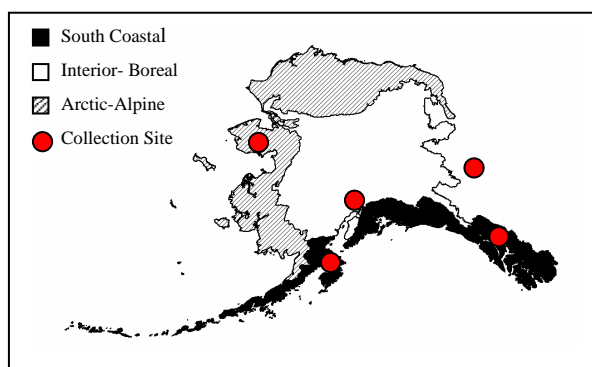
Growth requirements: This grass grows in many climatic areas, in almost any type of soil. It is most often found on coarse-textured soils and does not grow well on heavy, dry, or saline soils.

Congeneric weeds: *Bromus commutatus* Schrad., *B. hordeaceus* L., *B. inermis* Leyss., *B. secalinus* L. (Hultén 1968, USDA 2002).

Listing: Listed as a noxious weed in Colorado, Alberta, Manitoba, and Saskatchewan (Invaders Database System 2003, USDA 2002).

Distribution and Abundance

Cheatgrass is largely a weed of grazed areas and croplands, especially winter wheat and alfalfa; it was first identified in the United States in 1861 in New York and Pennsylvania. It now occurs throughout the United States (including Hawaii and Alaska).



Distribution in Alaska

Native and current distribution: Originally from the Mediterranean region and Eurasia, it has spread throughout Europe, Southern Russia, west central Asia, North America, Japan, South Africa, Australia, New Zealand, Iceland, and Greenland. Populations have established in northern Scandinavia as well (Carpenter and Murray 2005, Warner et al. 2003).

Management

Mechanical methods (fallows, tillage, mowing) are effective in reducing seed production, but does not eliminate plants. Cheatgrass can be controlled with the herbicides atrazine and glyphosate. No biological control methods have been approved by the USDA for use on cheatgrass (Carpenter and Murray 2005).

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