

CHEATGRASS

Bromus tectorum



WHAT IS IT?

Cheatgrass (CG) is one of the most problematic invasive plants in North America. It was introduced from Eurasia in the 1800s and was planted in some areas as livestock forage. Its winter annual life cycle allows it to outcompete native plants and crops for water and nutrients. It promotes frequent wildfires that eventually replace native perennial plants with CG. It is now found in every state in the U.S.

HOW TO IDENTIFY CHEATGRASS



STEM AND LEAVES

CG has a short stature, growing only 6-24 inches tall, depending on conditions. Leaf sheaths and blades are covered with soft hairs. Short ligules are visible where the blade attaches to the sheath. Plants are green in the spring, purplish at maturity, and tan once they have died.

FLOWERS, FRUITS, SEEDS

CG produces flower/seed heads in open "panicles" with several "spikelets" drooping to one side from long, slender branches. Each spikelet contains up to 8 tiny flowers that each produce a fruit and seed. Attached to the seeds are long, needle-like "awns" that can injure grazing animals and make the plant unpalatable once flowering heads are produced. Flowers turn from green to purple once seeds have matured.



REPRODUCTION AND SPREAD

SEEDS	CG spreads only from seed, and each plant can produce up to 5,000 seeds. The needle-like awns attached to each seed help it stick to fur and clothing and aid in seed dispersal. Seeds may be viable in the soil for up to 3 years.
ROOTS	CG roots are shallow and fibrous, with many root hairs that allow them to extract soil water very efficiently. CG cannot spread from its roots.
LIFE CYCLE	The key to CG's ability to invade is its winter annual life cycle and its association with fire. Seeds germinate in early fall and roots continue to develop throughout winter. Once snow has melted in the spring, CG grows quickly from these roots and outcompetes other plants for water and nutrients. Flowers, fruits and seeds form early in the summer and seeds are dispersed by July. Then the plant dies, leaving flammable fuel on the landscape, ready to be ignited by the next late-summer thunderstorm. CG benefits from fire, as it clears the landscape of competing vegetation without killing its seeds. The CG life cycle promotes more frequent fires, which eventually replaces native vegetation with a monoculture of CG.

HOW TO CONTROL IT

PREVENTION	CG has an annual life cycle, so it only grows and disperses from seed. Preventing seed production for multiple years is the key to eradicating it.
MECHANICAL	Mechanical methods like hand pulling or tilling can be an effective way to kill CG, however any seeds that are present should be bagged and disposed of. Mowing is generally not effective due to the short stature of the plant.
CHEMICAL	<i>Glyphosate</i> (Round Up) can kill CG, but must be used BEFORE flowerheads are produced to prevent seed production. The most effective herbicides on CG have pre-emergent activity that prevents seeds from germinating. Herbicides with <i>Indaziflam</i> as an active ingredient will prevent CG seed germination for 3 years.
BIOLOGICAL	There are no Biocontrol Agents for cheatgrass yet, but researchers continue to investigate soil fungi and bacteria as potential agents. Targeted grazing can be effective once the plant is tall enough for livestock to reach, but only BEFORE flowerheads are produced, as the needle-like awns are unpalatable to livestock.
CULTURAL	Due to its winter annual life cycle, CG is very competitive with native grasses for water and nutrients. Anything that increases the vigor of these native grasses will help them stand up to cheatgrass. Irrigation and fertilization, minimizing disturbance and fire, targeted grazing on cheatgrass, and chemical treatment with a pre-emergent herbicide can all work together to retake land infested with CG.

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