

*Bromus tectorum* [简体中文](#) [正體中文](#)

**System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Liliopsida	Cyperales	Poaceae

**Common name** cheat grass (English), Mormon oats (English), downy brome (English), thatch brome (English), military grass (English), early chess (English), downy chess (English), drooping brome (English), cheatgrass brome (English), slender chess (English), broncograss (English)

**Synonym** *Anisantha tectorum* , (L.)  
*Bromus tectorum* , L. var. *glabratus*  
*Bromus tectorum* , L. var. *hirsutus*  
*Bromus tectorum* , L. var. *nudus*

## Similar species

**Summary** The invasive grass *Bromus tectorum* is troublesome to farmers and many ecosystems. It usually thrives in disturbed areas preventing natives from returning to the area. Disturbance such as overgrazing, cultivation, and frequent fires encourage invasion. Once established the natives cannot compete and the whole ecosystem is altered.



[view this species on IUCN Red List](#)

## Species Description

*Bromus tectorum* is a winter annual. The seedlings are bright green and have hairy leaves. Stems are erect and slender and may also be slightly hairy. The stem tips, where the seeds are located, droop slightly. The grass has an overall fine, soft appearance and typically grows 50-60cm tall. As it dries out it begins to turn purplish in colour. *B. tectorum* is a straw-like colour when completely dry, which is when it is most flammable.

## Lifecycle Stages

High temperatures and light intensities inhibit germination, however, seeds have been known to germinate following 11 years of storage under dry conditions. Once germination occurs, the roots develop quickly and are usually well developed by spring.

## Uses

*Bromus tectorum* is used as feed for many kinds of livestock, and it is also eaten by mule deer, pronghorn, elk, small mammals, upland game birds, and small non-game birds. It provides habitat to many small mammals and birds. *B. tectorum* is sometimes planted to decrease erosion.

## Habitat Description

*Bromus tectorum* is predominately found in disturbed sagebrush grassland ecosystems but is also found in undisturbed shrub-steppe and intermountain ranges. It spreads into areas that are overgrazed, cultivated, frequently burned or otherwise disturbed. *B. tectorum* prefers full sunlight and does not grow well under the forest canopy.

## Reproduction

*Bromus tectorum* is self-pollinating. Seeds are dispersed by wind and animals.

## Nutrition

*Bromus tectorum* prefers potassium rich soil.

## General Impacts

As *Bromus tectorum* is such a dry plant, it increases the frequency of fires in an area. This causes declines in natives that are accustomed to less frequent fires while *B. tectorum* flourishes. The more frequent fires cause a loss of topsoil and nutrients, which alters the make up of the soil and therefore the ecosystem. On the other hand, *B. tectorum* may stabilise the soil from wind and water erosion (Carpenter et. al, 1999). In Russia the impacts of *B. tectorum* are less serious, even in regions with similar precipitation to the Great Basin of the United States. While it will rapidly and completely dominate disturbed sites in Russia, these will often revert to more diverse, stable communities within three to five years of the invasion. It has been suggested that this is due to the more diverse natural communities present in these affected regions of Russia, and the greater proportion of summer rainfall that benefits perennials rather than winter annuals such as *B. tectorum* (Clark, 2001). North American *B. tectorum* invasions cost wheat farmers in the western United States and Canada US\$350-375 million in control and loss yields each year. Although used by some farmers as feed, it can cause serious damage to livestock's mouth, intestines, nostrils, and eyes. In North America it competes with native shrubs and perennial grasses and totally alters the ecosystem.

## Management Info

Preventative measures: It is important to avoid disturbance caused by overgrazing, cultivation and frequent fires as they encourage invasion.

Physical: Where infestation is light, burning is not recommended, however, hand pulling can be effective in these areas. Care must be taken to remove most of the root, or it will grow back. Treatment should be followed by re-seeding of perennials, or else *B. tectorum* and other weeds will re-establish in the newly disturbed area. Follow-up treatment is required.

Biological: In North America, grasses, such as Crested Wheatgrass, have been planted to compete with *B. tectorum*. This has been successful in some cases.

Integrated management: Mowing or cutting is not recommended. Burning and herbicide application are effective control measures, but to ensure selective control, they should be performed in early spring when non-target species are dormant. However *B. tectorum* fires can burn very hot and move very quickly so care should be taken (Beck pers. comm., in Carpenter et. al, 1999).

## Pathway

Used for livestock forage.

## Principal source:

**Compiler:** National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG)

**Review:** Dr. Petra Lowe. Department of Forest Sciences, Colorado State University, Fort Collins. USA

**Publication date:** 2005-12-30

## ALIEN RANGE

**[1]** AUSTRALIA

**[1]** CUBA

**[1]** GREENLAND

**[2]** CANADA

**[1]** GEORGIA

**[1]** ICELAND

[1] JAPAN  
[1] RUSSIAN FEDERATION  
[50] UNITED STATES

[1] NEW ZEALAND  
[1] SOUTH AFRICA

**Red List assessed species 2: EN = 1; LC = 1;**

[Brachylagus idahoensis](#) LC

[Spermophilus brunneus](#) EN

## BIBLIOGRAPHY

13 references found for *Bromus tectorum*

### Management information

[Carpenter, A.T., and Murray, T.A., 1999. Element Stewardship Abstract for \*Bromus tectorum\*.](#)

**Summary:** A report on the biology, distribution, description, and detailed information on management and control. Available from: <http://tncweeds.ucdavis.edu/esadocs/documents/bromtec.rtf> [Accessed December 2002].

[European and Mediterranean Plant Protection Organization \(EPPO\), 2006. Guidelines for the management of invasive alien plants or potentially invasive alien plants which are intended for import or have been intentionally imported. EPPO Bulletin 36 \(3\), 417-418.](#)

[Mack, R. N and W. M. Lonsdale., 2002. Eradicating invasive plants: Hard-won lessons for islands. In \*Turning the tide: the eradication of invasive species\*: 311-318. Veitch, C.R. and Clout, M.N.\(eds\). IUCN SSC Invasive Species Specialist Group. IUCN. Gland, Switzerland and Cambridge, UK.](#)

**Summary:** Uses *Clidemia hirta* in Hawaii as an eradication case study. *Clidemia* is in the Melastomataceae and somewhat similar ecologically to miconia.

Eradication case study in *Turning the tide: the eradication of invasive species*.

[The Garry Oak Ecosystems Recovery Team \(GOERT\), 2007. Exotic plant species in Garry oak and associated ecosystems in British Columbia](#)

**Summary:** Available from: [http://www.goert.ca/pubs\\_invasive.php#plant\\_species](http://www.goert.ca/pubs_invasive.php#plant_species) [Accessed 13 February 2008]

### General information

[Clark, B. 2001. Russian Cheatgrass Study - Visit to the Great Basin by Four Russian Scientists. Trip Report Bureau of Land Management - Office of Fire and Aviation.](#)

**Summary:** Comparison between impacts of *Bromus tectorum* in the Mediterranean and in the Great Basin of the United States.

Available from [www.fire.blm.gov/Intntl/trip\\_reports/cheatgrass.pdf](http://www.fire.blm.gov/Intntl/trip_reports/cheatgrass.pdf) [accessed 26 August 2003].

[Commonwealth Scientific and Industrial Research Organisation \(CSIRO\), 2001. Biotic invasions: lessons from Australia. CSIRO Media Release 24th May 2001.](#)

**Summary:** Available from <http://www.ento.csiro.au/publicity/pressrel/2001/23may01.html> [Accessed 26 August 2003].

[CONABIO. 2008. Sistema de información sobre especies invasoras en México. Especies invasoras - Plantas. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad. Fecha de acceso.](#)

**Summary:** English:

The species list sheet for the Mexican information system on invasive species currently provides information related to Scientific names, family, group and common names, as well as habitat, status of invasion in Mexico, pathways of introduction and links to other specialised websites. Some of the higher risk species already have a direct link to the alert page. It is important to notice that these lists are constantly being updated, please refer to the main page (<http://www.conabio.gob.mx/invasoras/index.php/Portada>), under the section Novedades for information on updates.

Invasive species - Plants is available from: [http://www.conabio.gob.mx/invasoras/index.php/Especies\\_invasoras\\_-\\_Plantas](http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_-_Plantas) [Accessed 30 July 2008]

Spanish:

La lista de especies del Sistema de información sobre especies invasoras de México cuenta actualmente con información acerca de nombre científico, familia, grupo y nombre común, así como hábitat, estado de la invasión en México, rutas de introducción y ligas a otros sitios especializados. Algunas de las especies de mayor riesgo ya tienen una liga directa a la página de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualización, por favor consulte la portada (<http://www.conabio.gob.mx/invasoras/index.php/Portada>), en la sección novedades, para conocer los cambios.

Especies invasoras - Plantas is available from: [http://www.conabio.gob.mx/invasoras/index.php/Especies\\_invasoras\\_-\\_Plantas](http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_-_Plantas) [Accessed 30 July 2008]

[Invaders Databases System. 2002.](#)

**Summary:** Report on distribution.

Available from: <http://invader.dbs.umd.edu/queryplant1.asp>.

[ITIS \(Integrated Taxonomic Information System\), 2004. Online Database \*Bromus tectorum\*](#)

**Summary:** An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.

Available from: [http://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=40524](http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=40524) [Accessed December 31 2004]

[Kaczmarek, J. 2000. Restoration Implications of \*Bromus tectorum\*- Infested Grasslands of the Great Basin. Restoration Review Vol. 6. University of Minnesota.](#)

[USDA Natural Resources Conservation Services 2002. Plant Profiles \*Bromus tectorum\* L. cheatgrass.](#)

**Summary:** Report on distribution and scientific synonyms.

Available from: [http://plants.usda.gov/cgi\\_bin/plant\\_profile.cgi?symbol=BRTE](http://plants.usda.gov/cgi_bin/plant_profile.cgi?symbol=BRTE)



# GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Bromus tectorum*

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[Virginia Tech Department of Plant Pathology, Physiology, and Weed Science. UNDATED. Virginia Tech Weed Identification Guide: Downy Brome: \*Bromus tectorum\*.](#)

**Summary:** Report and pictures of detailed description.

[Weeds British Columbia, 2002. Cheatgrass Province of British Columbia](#)

**Summary:** Report on description, affects, habitat, and dispersal.

Available from: [http://www.weedsbc.ca/weed\\_desc/cheatgrass.html](http://www.weedsbc.ca/weed_desc/cheatgrass.html)