

# Poa compressa & pratensis

CANADA & KENTUCKY BLUEGRASS

**ENGLISH NAMES** Canada bluegrass<sup>1</sup>, Kentucky bluegrass<sup>2</sup>, junegrass<sup>2</sup>  
**SCIENTIFIC NAME** *Poa compressa*<sup>1</sup>, *Poa pratensis*<sup>2</sup>  
**FAMILY** Poaceae or Gramineae (Grass)



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Canada and Kentucky bluegrass are tufted perennial winter grasses with narrow, distinctly keeled leaves.

## RANGE/KNOWN DISTRIBUTION

Six subspecies of Kentucky bluegrass occur in British Columbia; three were introduced from Eurasia and the other three are thought to be native to Canada and the western United States. Canada bluegrass was also introduced from Eurasia and has become naturalized in BC. Kentucky bluegrass commonly occurs throughout BC and Canada, while Canada bluegrass occurs only in the south. Their global range includes Europe, Asia, Africa, Australia and New Zealand, North and South America and the sub-Antarctic islands.

## IMPACTS ON GARRY OAK AND ASSOCIATED ECOSYSTEMS

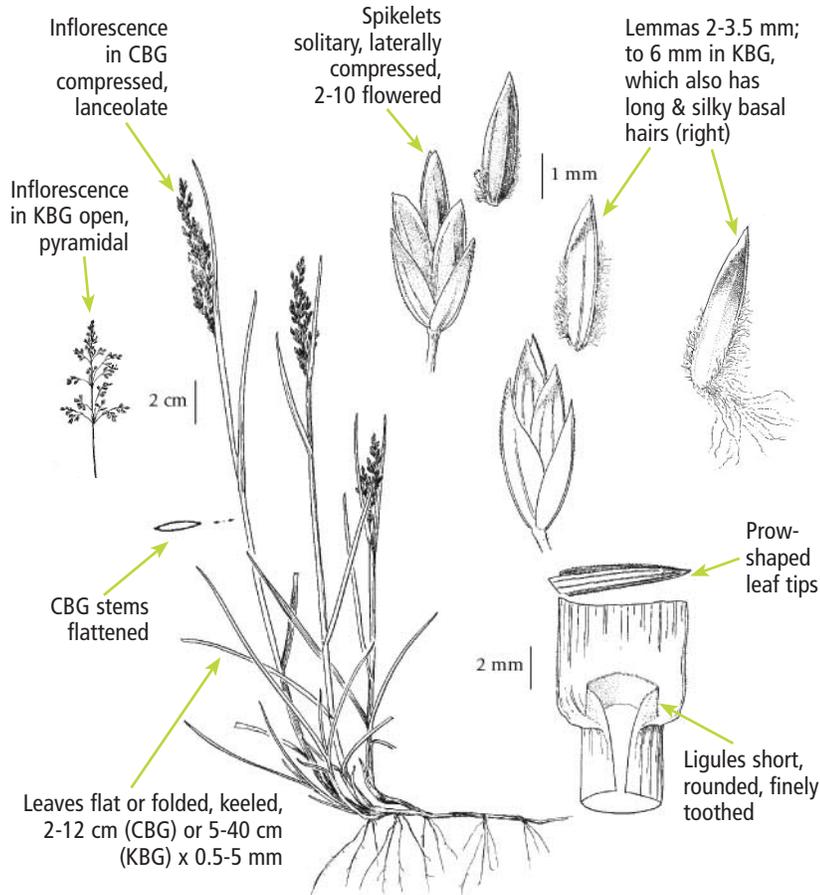
Non-native grasses are present in most Garry oak ecosystems and may cover a combined total of 50-80 percent of the landscape. Non-native winter grasses such as Canada and Kentucky bluegrass develop early in the season, aggressively out-competing native species for light. Competition for water continues throughout the year, becoming critical during the dry summer months. As the grasses die off, they form a dense litter layer that blocks light and thus suppresses the regeneration and establishment of native species. The litter also provides fuel and creates conditions for detrimental high-intensity fires. As it decomposes, nitrogen is added to the soil, favouring the growth of the non-native species. These grasses can also be a medium for the introduction of harmful fungi, viruses and nematodes. Combined, these effects can significantly change the plant composition, reducing available habitats and food sources for some rare plant and animal species.

## FIELD DESCRIPTION

Canada (CBG) and Kentucky (KBG) bluegrass are solitary or tufted perennial grasses growing from fibrous roots and long rhizomes. The

INVASIVE SPECIES IN GARRY OAK AND ASSOCIATED ECOSYSTEMS IN BRITISH COLUMBIA

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Vascular Plants of the Pacific Northwest, Leo C. Hitchcock; Arthur Cronquist, and Mario Ownbey, illustrations by Jeanne R. Janish. Published by the University of Washington Press (1969).

erect to decumbent stems grow up to 100 cm tall. The leaf sheaths are compressed, keeled and usually hairless. Leaves are mostly basal in KBG. Inflorescences (flowerheads) are erect panicles. The glumes are oblong and nearly equal in length.

Canada bluegrass can be distinguished from Kentucky bluegrass by its bluish green or glaucous (greyish) leaves and its flattened stems and nodes. Identification of KBG to the subspecies level is difficult. Expert consultation may be required as grass identification can be difficult.

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### LIFE HISTORY

Canada and Kentucky bluegrass are perennial winter grasses, growing primarily in the spring. KBC matures more quickly and flowers from April to July while CBG flowers from June to August. Shoots will not flower in the first year. Reproduction is primarily vegetative from the quickly-spreading rhizomes, except on disturbed sites where seeds will readily establish. The flowers are bisexual and one flowerhead can produce up to 200 seeds. CBG seeds are adapted for long-distance dispersal by fauna such as cattle and deer. Seed germination occurs in the fall and requires light, although has been known to occur at depths up to one metre.

### HABITAT

In British Columbia, Kentucky bluegrass is more widespread than Canada bluegrass. CBG is less competitive and, though it will occur in similar conditions, it will only dominate on sites unable to support KBC (ie. those with low fertility, poor drainage or dry soils). KBC prefers rich, loamy and mesic soils and is flood tolerant. Typical habitats include meadows, grasslands, open woods, river banks and disturbed sites. Both species tend to occur in mixed stands with other grass species.

### MANAGEMENT

Management of non-native grasses should focus on the removal of the grasses as well as the accumulated litter layer, while minimizing soil disturbance. Carefully identify native and non-native species before starting any treatment. If the infestation is already large, priority should be given to areas having highest conservation values, such as those with rare species. Management of Canada and Kentucky bluegrass is complicated by the fact that they occur in mixed stands with native grasses and treatment practices may harm co-occurring species.

**Develop a long-term, realistic program for invasive species removal before undertaking any work. Before taking action, obtain expert advice. Please refer to the introductory section of this manual.**

**PHYSICAL CONTROL:** Manual removal by hand pulling or careful hoeing can be effective in spring or early summer before the seed sets.

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However, this is very labour intensive and is feasible only when patches are small. Soil disturbance should be minimal.

**BIOLOGICAL CONTROL:** No known biological agents are available.

**CHEMICAL CONTROL:** Use of herbicides is not typically recommended for control of bluegrasses as they occur in mixed stands together with native species. However, glyphosate or atrazine can be used to remove these bluegrasses from severely degraded sites or sites dominated by warm-season grasses if application is timed when native species are dormant. *Herbicides should only be used with extreme caution, and under expert advice, in sensitive Garry oak ecosystems.*

**OTHER TECHNIQUES:** Burning of these bluegrasses is most effective in late spring when the plants are 1-2 months old. Prescribed burning should only be undertaken with expert advice as the effect can be highly variable depending on timing, species composition and fire intensity, among other factors. Grazing or cutting is ineffective for managing these bluegrasses, which can withstand and even increase with frequent defoliation.

**PREVENTATIVE MEASURES:** Soil disturbance and the use of fertilizers should be avoided in natural areas. Encourage plant nurseries, gardeners and farmers to stock and use native or non-invasive species, and to avoid using non-native grasses. Clothing, equipment and animals should be checked and cleared for seeds when leaving an infested area.

**PERSISTENCE:** Seeds persist in the seed bank for up to 4 years.

### SELECT REFERENCES

Sather, N. 1996. Element stewardship abstract for *Poa pratensis*, *Poa compressa*. The Nature Conservancy. Arlington, VA.

Wisconsin Department of Natural Resources. 2004. Invasive species: plants. <http://dnr.wi.gov/invasives/plants.asp>. Wisconsin Department of Natural Resources. Madison, WN.

A comprehensive annotated bibliography of literature specific to Canada and Kentucky bluegrass is available at [www.goert.ca](http://www.goert.ca).

For more information contact the Garry Oak Ecosystems Recovery Team, or see the website at [www.goert.ca](http://www.goert.ca)