

Smooth Brome *Bromus inermis*

Poaceae—Grass family

by Tom Reaume © 2011 Nature Manitoba

Grant: **Manitoba** 

A perennial grass 20–150 cm tall, usually in loose clumps and spreading by underground **rhizomes** 2–12 cm long by 2–4 mm wide; in subalpine meadows, open woods, prairies, pastures, cities, roadsides, railways and bottomlands.

● **FLOWERS** green to purplish, blooming May–October; **inflorescence** a panicle, one per stem, terminal, ascending, open, 9–28 cm long by 5–24 cm wide at anthesis; **main branches** 2–8 per node of panicle, spreading to ascending, 0.3–15 cm long, reduced above, the longer branches often rebranching; **pedicels** usually 2–40 mm long by c. 0.3 mm wide, green, round, with short ascending white hairs on all sides; **spikelets** 4- to 13-flowered, each 14–38 mm long by 2–5 mm wide (closed), to c. 1.3 cm wide when the florets are open and the lemmas ascending, 11–126 per panicle, 1–12 per branch, the number of spikelets per rachis node decreases above, florets of top spikelets often with a sterile lemma c. 5 mm long, palea absent or reduced, stamens vestigial; **rachilla** green, convex and hairy on outside, internodal lengths up to c. 3.5 mm; **glumes** 2, unequal; **1st glume** 4–9 mm long by 1–1.5 mm wide, 1-nerved, the midnerve slightly hairy, awnless; **2nd glume** 6–10 mm long by 1.7–2.3 mm wide, 3-nerved, all nerves ciliate; **lemmas** 7–15 mm long by c. 3 mm wide (flat), 3- to 9-nerved, hairy dorsally along the midnerve and upper body, the apical awn 1–5 mm long, attached c. 0.5 mm below the hyaline bidentate tip on the back (dorsal side) of the lemma's body, or awnless; **paleae** body 7–10 mm long by 1–1.2 mm wide, hyaline with 2 dark green nerves, both minutely hairy, the 2 marginal wide folds along the nerves face the lemma's interior and fit tightly inside it; **pistil** 4.5–5.3 mm wide by c. 2.5 mm tall; **lodicules** are paired membranous scales 0.7–0.9 mm long by c. 0.4 mm wide which cover the base of the ovary and bases of the filaments; **stigmas** 2, each plume 2–2.5 mm long by 1.5–1.8 mm wide, spreading, exserted; **stamens** 3; **filaments** 4–5 mm long by c. 0.1 mm wide, attached to a short basal stalk below ovary; **anthers** 4–7 mm long by c. 0.6 mm wide, bright yellow, exserted and hanging below the spikelets, attached c. 0.7 mm above their bases to the filaments.

● **FRUIT** a grain, 1-seeded, dark brown, slightly shiny at the apex, 6.5–8.2 mm long by 1.4–1.9 mm wide by 0.5–0.8 mm thick, margins rounded, with a ridge on the side facing the lemma, fruit walls c. 0.1 mm thick; **seed** filling the grain.

● **LEAVES** ascending, appear alternate, 6–9 per stem, flat, arched, ending well below the base of the inflorescence; **blades** 5–38 cm long by 3–16 mm wide, scabrous along the edges and below, glabrous above; **ligules** 1–3 mm long, membranous, the tip blunt and ragged; **auricles** absent or inconspicuous; **sheaths** glabrous.

● **STEM** a culm, erect to nodding above, round, hollow, glabrous, 2–5 mm wide at the brown base; **nodes** glabrous or hairy, 2–5 mm wide, some with a black band.

● **RANGE:** (CAN) 13 provinces; (USA) 48 states; **naturalized.**



Clump of Smooth Brome, a week before blooming, in an alley in Winnipeg, Manitoba



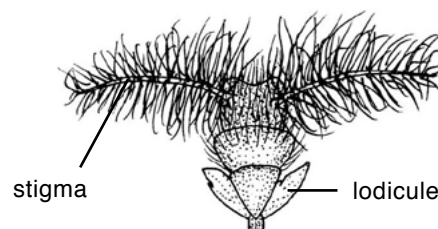
Inflorescence in bloom with 7 nodes, spikelets with white stigmas and yellow anthers



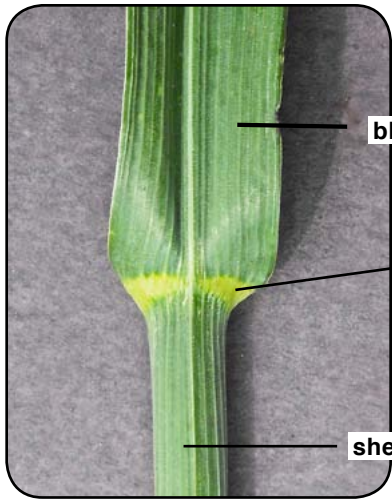
Spikelet 22 mm long; lower florets open



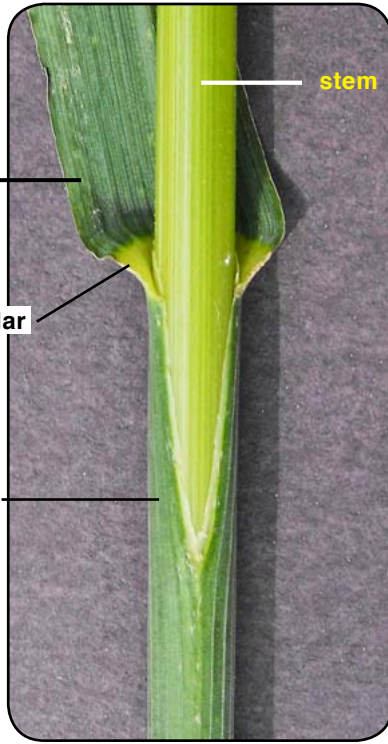
Spikelet with white stigmas exserted



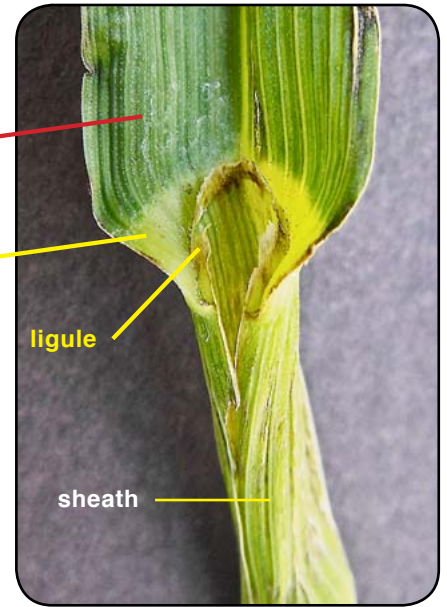
Pistil x10, dorsal (lemma) side; 4.7 mm wide



Collar junction of leaf blade and sheath, dorsal (outer) side



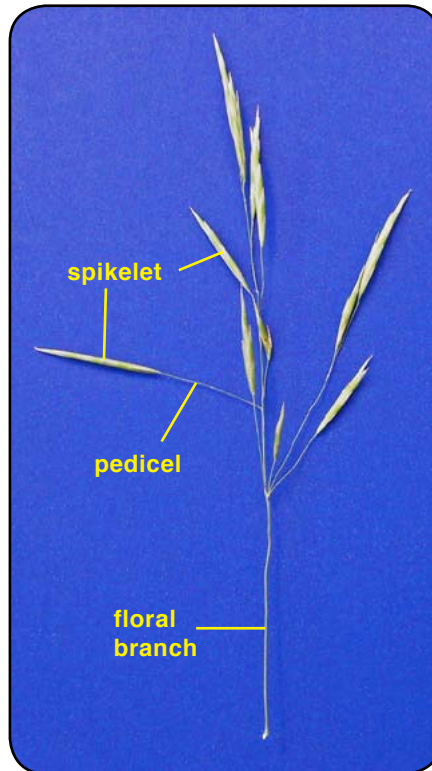
Collar with open sheath, ventral or inner side



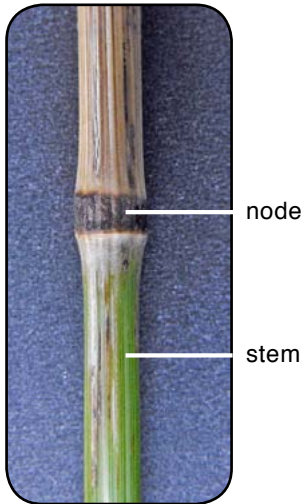
Ventral side of collar showing membranous ligule that was wrapped around the stem



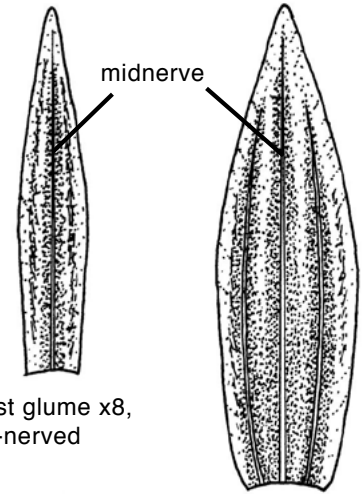
5 branches from lowest node of inflorescence of Smooth Brome



A 14 cm long lower branch with 12 spikelets in Winnipeg, Manitoba

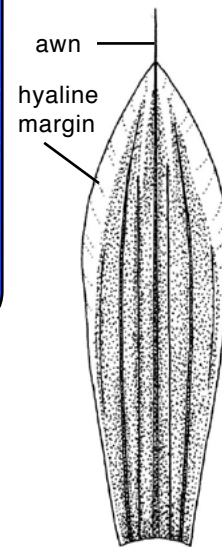


Node with dark band 2 mm high

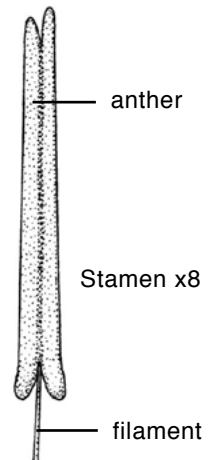


1st glume x8, 1-nerved

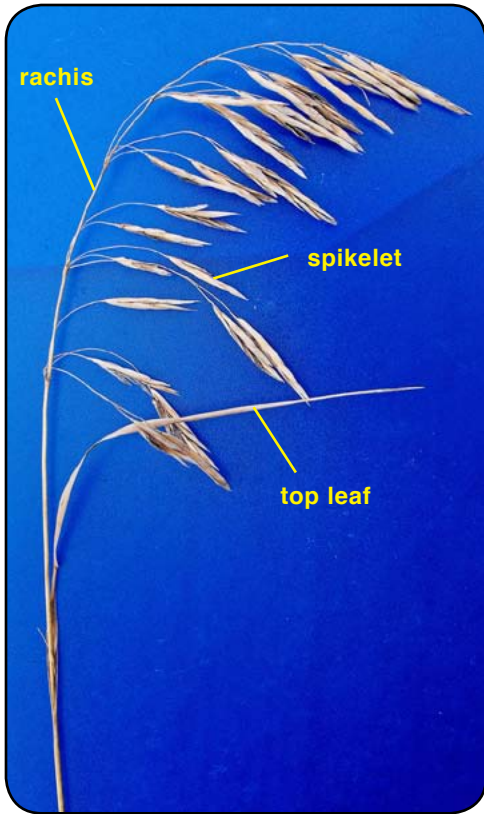
2nd glume x8, 3-nerved



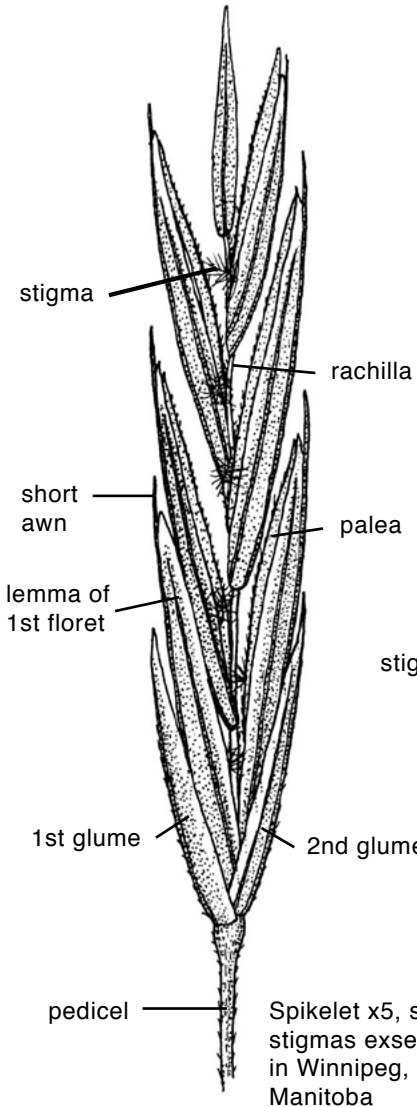
Awned lemma x6, 7-nerved



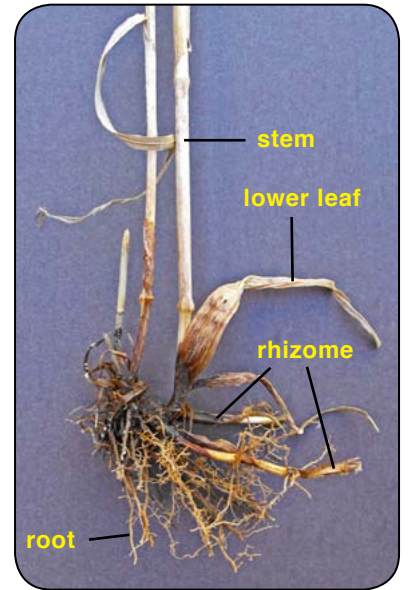
Stamen x8



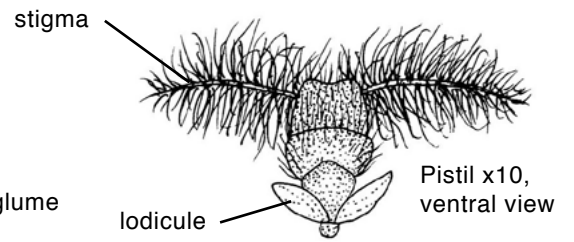
Old inflorescence in early fall; tan empty spikelets blown to one side of rachis



Spikelet x5, some stigmas exerted in Winnipeg, Manitoba



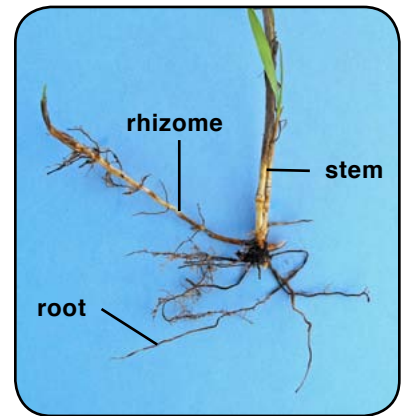
The underground Smooth Brome



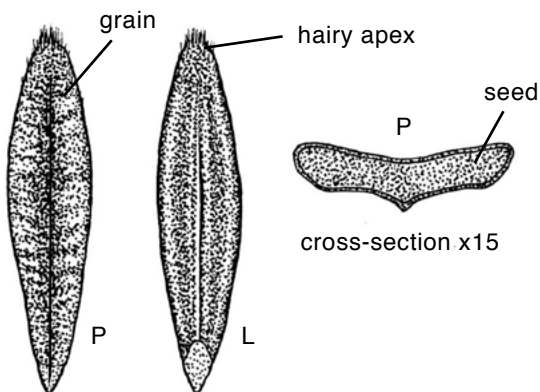
Pistil x10, ventral view



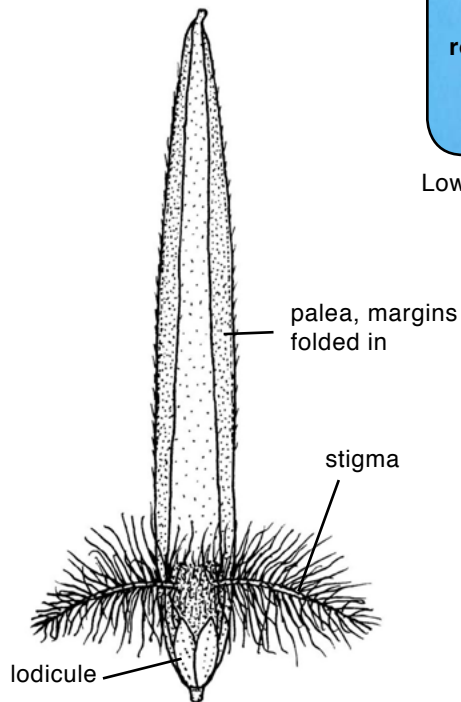
Old inflorescence with a more symmetrical shape



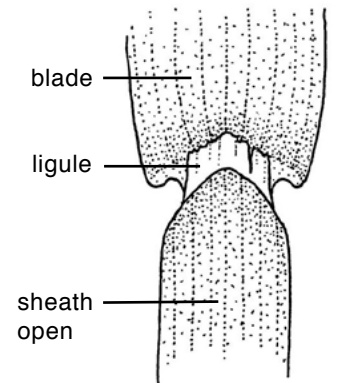
Lower plant with rhizome and roots



Fruit (a 1-seeded grain) x6, palea (P) side concave, lemma (L) side ridged



Palea and pistil x10, ventral view



Leaf x3