

Vascular Plants of Williamson County

Elymus canadensis – CANADA WILDRYE, GREAT PLAINS WILDRYE [Poaceae]

Elymus canadensis L., CANADA WILDRYE, GREAT PLAINS WILDRYE. Perennial herb (bunchgrass), generally not obviously rhizomatous (condensed rhizome forming on large clumps), fibrous-rooted at buried nodes, not rosetted, several-stemmed at base (many-stemmed specimens often = several separated plants), cespitose, principal shoots unbranched from base, ascending to erect, in range < 120 cm tall; shoots with 1 basal leaf and to 9 cauline leaves, foliage somewhat scabrous with minute teeth and appearing otherwise glabrous; adventitious roots nodal on erect rhizome. **Stems (culms):** cylindrical, to 3.5 mm diameter (lower internodes), tough, glabrous, internodes to 300 mm long increasing upward, tough, light green, nodes to 4.5 mm diameter and usually swollen, straight, green aging reddish or purple-red; cauline internodes hollow except solid at ground level. **Leaves:** alternate distichous, simple with sheath; sheath open, low-ridged, mostly glabrous but sheaths of lower leaves sometimes with some short-villous hairs, short-ciliate on exposed margin especially approaching sheath base, hidden margin membranous and 1 mm wide, lobes at top (auricles) present initially but often removed on mature leaves, ascending or spreading, tongue-shaped, 0.5–1.5 mm long, initially crisped; ligule membranous, truncate, in range 1(–2) mm long, minutely ciliate, splitting or not in age; collar often with wavy purplish margins; blade linear, 100–240 × (2–)4–12 mm, the widest near midblade, generally flat, scabrous on margins, long-acuminate at tip, finely parallel-veined with veins raised on upper surface and lower surface smoother; upper surface minutely scabrous, lower surface with inconspicuous microhairs. **Inflorescence:** spike-like stalk having many spikelets, terminal, with conspicuous ascending awns becoming divergent in dry fruit, arching to nodding and unbranched, 120–270 mm long (including awns), with many nodes, having (2–)3 sessile spikelets at each node, clusters alternate distichous along axis, nodes unevenly spaced 3–8(–14) mm apart, cluster 3-dimensional, each spikelet with (0–)2–4(–5) fertile florets and 1(–2) terminal sterile floret; flag leaf sheath and blades not reaching inflorescence, even at base, distinctly scabrous; peduncle cylindrical, to 400 mm long, < 2 mm diameter at top, smooth, glabrous; rachis somewhat zigzagged, internodes hemi-cylindrical, mostly 5–7(–13) mm long, scabrous along 2 edges, glabrous; stout stalk of spikelet sometimes minutely red-speckled; breaking above the glumes and between florets or rarely below the glumes; spikelet at the lowest node with at least 1 fertile floret, subtended by a pair of decurrent ridges defining a reduced bract. **Spikelet:** florets at anthesis with lemma and palea widely spreading, when appressed spikelet to 18 × 7 mm and V-shaped, breaking above glumes and between florets; **glumes** 2, awned, ascending with outer glumes of clusters somewhat divergent away from other bracts of spikelet, subequal, equal, ± linear body + awn, body 5–9 × 0.5–0.8 mm, subcylindrical at base < 1 mm long, tapered to awn, green, together with terminal awn 10–15 mm long, > glume body, 0.2 mm wide at base, mostly flanked by 1, colorless, linear lobe at top of body to 1 mm long, body firm, stiff, ridged with 3–4 raised, fine parallel veins at midpoint on outer surface and shallowly ridged on inner surface, margins thickish and opaque white, margins and along veins minutely scabrous, awn indistinct from body; rachilla whitish, internodes mostly 1.5–1.8 mm long, whitish, glabrous; **lemma** awned, body narrowly lanceolate inrolled, rounded on back to midpoint, to 11 × 2 mm (of sterile floret most < 7 mm long), 5-veined (of sterile floret mostly finely

3-veined), light green, with midvein raised from midpoint and scabrous, back with scattered, minute scabrous teeth (glabrous), having a pair of unequal, narrow teeth at top 0.5–1 mm long each at the top of a lateral vein, the awn arising between lobes at end of midvein, to 34 mm long, 0.2 mm wide at base; **palea** lanceolate in outline, 8.5–11 mm long, 2-keeled, strongly 2-folded the largest 1.1–1.3 mm across, slightly < lemma, membranous, not glaucous on back, 2-veined, margins sharply folded inward along keels, obtuse to rounded at tip (scarcely 2-toothed) with minute hairs, green along each vein, scabrous along keels, inner surface and folded lacking minute hairs. **Flower:** bisexual; **perianth (lodicules)** 2, ± teardrop-shaped, 1.3–1.55 mm long, initially swollen at base, translucent, membranous upper portion acute to acuminate-acute and entire and minutely ciliate; **stamens** 3, free; filaments threadlike, 3–3.5 mm long, white; anthers fully exerted, basifixed, dithecal with sacs attached most of length but free and parallel at base, linear, 3.3–3.8 mm long, pale yellow, longitudinally dehiscent; pollen whitish to yellowish; **pistil** 1, ca. 3 mm long; ovary superior, shield-shaped flattened front-to-back, ca. 1 × 0.8 mm, white, densely hairy with erect hairs but glabrous at base, 1-chambered with 1 ovule; styles 2, exerted from palea, densely branched, 2 mm long, white. **Fruit:** achene (caryopsis), dispersed as lanceoloid unit with adherent lemma and palea and an outcurving awn on lemma, in range minutely scabrous (not hairy); achene oblong compressed front-to-back, ca. 6 × 1.5 × 0.7 mm, brown, convex on back, concave on front, short-tapered at base, rounded or truncate at tip with an erect tuft of white hairs 1 mm long.

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