

**Vascular Plants of Williamson County**  
*Bouteloua trifida* var. *trifida* – RED GRAMA [Poaceae]

*Bouteloua trifida* Thunb. var. *trifida*, RED GRAMA. Perennial herb, small bunchgrass, compressed-rhizomatous, fibrous-rooted, many-stemmed at base, principal shoots not branched above base, in range 20–40 cm tall; shoots with several basal leaves (including on rhizome several without blades) and to 4 cauline leaves, axes somewhat jointed at nodes (geniculate), having some long, straight hairs including some with enlarged, nipplelike base (pustulate); rhizome ascending, somewhat angled, to 1.5 mm across, brownish, with short internodes; adventitious roots on lower side of rhizomes. **Stems:** exposed internodes somewhat compressed on 2 sides, < 0.5 mm diameter, with microhairs along veins, lacking longer hairs; internodes solid. **Leaves:** alternate distichous, simple with sheath; prophyll 2-keeled and 2-veined, to 7 × 1 mm, with wide membranous margins outside keels, keels densely short-hairy along keels to midpoint and minutely toothed above midpoint; sheath open, finely low-ridged, without lobes (auricles) at top; ligules truncate, densely short-hairy, ca. 0.5 mm long; collar to 0.5 mm long, white, often with several hairs to 2.5 mm long; blade linear, 2.5–50 × 1 mm the widest near base, ± folded upward from midridge, minutely toothed on margins and often with several long hairs (pustulate) on margins near the blade base, long-tapered at tip, parallel-veined with ca. 9 veins raised on both surfaces, upper surface somewhat bluish green and have many having microhairs or minutely scabrous along veins. **Inflorescence:** spikelets on lateral branches, 13+ tightly arranged en echelon in 2 parallel rows on lower side of rachis, the branches 2–5(–7), appressed to ascending, mostl 12–25 mm long, spikelets sessile to subsessile, with upper glumes on outer side, with a lower bisexual floret and 1 neuter upper floret terminal on the rachilla, bracteate, with 6 fully visible, equally spaced and diverging awns per spikelet; peduncle of lateral branch flattened and winged on upper side, axis green and wavy, 0.15–0.2 mm wide and with membranous wings to 0.45 mm wide, upper surface not scabrous, wings absent on segment for terminal spikelet (distal), lower side 2-channeled where spikelets arise within channels, the 2 rows overlapping along center line, exposed surfaces glabrous, lacking a terminal extension. **Spikelet:** breaking above persistent glumes; **glumes** 2, monomorphic, keeled and folded lanceolate, 2–3.7 × 0.5–0.65 mm including a short awnlike tip, lower glume < upper glume, membranous with scabrous green keel or blushed purplish red on sides, in range lacking nonglandular hairs; rachilla appressed between keels of lower palea, erect, cylindric, 1 mm long, translucent, glabrous; callus often with several short hairs. **Lower floret: lemma** keeled, unequally 3-lobed, and 3-awned, the body rounded on back, ca. 1.5 mm long, with 3 green veins into awns, the awns ascending to spreading, subequal and mostly straight, 2–5 mm long (central awn often not the longest); **palea** 2-keeled and 2-veined, ca. 1.7 mm long, membranous aging whitish and sometimes keels reddish above midpoint, short 2-pointed with minute awnlike at tip, concave between keels and sparsely minute-ciliate along keels approaching tip. **Bisexual flower:** cleistogamous within lemma and palea; **perianth (lodicules)** 2, minutely 2-lobed, ca. 0.25 mm long, colorless, not swollen at base; **stamens** 3, free, included; filaments threadlike, ca. 0.7 mm long, white; anthers dorsifixed, dithecal, 0.3–0.4 mm long, pale yellowish, longitudinally dehiscent; pollen whitish; **pistil** 1, < 1 mm long; ovary superior, ellipsoid, 0.25–0.3 mm long, pale green, glabrous, 1-chambered with 1 ovule; styles 2, 0.5–0.6 mm long, colorless, touching at base, from below midpoint bottlebrushlike. **Rudimentary**

**floret:** = 3-awned lemma at top of rachilla, flower absent; **lemma** body inrolled, membranous, ca. 1.5 mm long + 3 ascending awns, the awns subequal, 3–4 mm long, 1-veined to tip, vein green and scabrous; **palea** absent. **Fruit:** achene (caryopsis), sausage-shaped, ca. 1.5 × 0.35 mm, opaque to pale brownish; spikelet with 6 divergent awns having a fruit-bearing lower floret and an appressed rachilla with a terminal sterile floret.

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