

Vascular Plants of Williamson County
Triticum aestivum – BEARDED BREAD WHEAT [Poaceae]

Triticum aestivum L., BEARDED BREAD WHEAT. Annual, fibrous-rooted, 1–several-stemmed at base, unbranched above, erect, in range 50–80 cm tall, in fruit with lax or nodding spikes; shoots with 1 basal leaf and to 4 cauline leaves, in range essentially glabrous and leaves somewhat glaucous. **Stems (culms):** cylindric, minutely low-ridged, in range to 4 mm diameter, internodes 60–160+ mm long, in range either glabrous or nodes conspicuously short-hairy with downward-pointing hairs; internodes hollow (at least when dry). **Leaves:** alternate distichous, simple with sheath; prophyll 2-keeled, to 75 mm long, keels short-pilose ciliate; sheath open, strongly overlapping at margins, striped dark green and whitish (pale green to pale yellowish green), not ridged but sometimes slightly ridged after being dried, with lobes (auricles) at top, auricles overlapping, crescent-shaped, in range to 3 mm long, greenish and papery; collar whitish, in range glabrous; ligule membranous, ± truncate, 1.5–3 mm long; blade strap-shaped, in range 100–285 × (3–)6–18 mm, the widest somewhat above the base, flat with a well-defined midrib, minutely toothed on margins, long-tapered at tip, parallel-veined with veins except either midrib or most veins strongly raised on upper surface and only midrib raised on lower surface. **Inflorescence:** spikelets, in terminal, dense “spike” of alternate distichous, subsessile spikelets, spike of awned form to 80 × ± 8 mm (excluding awns) in range with 12–15 nodes, spikelets appressed to rachis, bracteate, in range with awns ca. 50 mm above florets, with hairs on some parts; peduncle = stem 150 × 7–10 mm, hidden by sheath of flag leaf, hollow to tip (at least when dry), not terminated with a prominent rim; rachis remaining intact, internodes obovoid compressed front-to-back, ca. 5 × 3 × 1.5 mm, dull pale yellowish tan and partially green-striped and glaucous, slightly convex on back, longitudinally concave but transversely flat on inner side, the thickest near tip, densely short-hairy on edges and at nodes of inner surface, hairs whitish or golden, somewhat glossy on inner surface. **Spikelet:** of bearded form in range 2–3-flowered, typically 7–8.5 mm long (excluding awns), flattened side-to-side, not breaking apart; **glumes** 2, firm and leathery (coriaceous), subequal, keeled (excl. terminal spikelet), 6–7 mm long (excluding awn), 3–3.5 mm wide, asymmetrically keeled (or not keeled at base), green and white-striped, glaucous on exposed surfaces, indistinctly ca. 12-veined, scabrous along keel with upward-pointing teeth, short-ciliate at base where attached and finely pilose to pubescent on inner surface above midpoint, membranous and sparsely short-ciliate on margins, margins 0.5–0.7 mm wide; of bearded form long-awned, the awn stout, 3.2–6 mm long, scabrous with upward-pointing teeth; rachilla < 0.5 mm long on the lowest lemma to ca. 2.5 mm below the uppermost sterile lemma; of club wheat lacking awn but toothed at tip; **lemma** of fertile florets (bearded form) similar to glume in size (typically 10.5–11 mm long) and pubescence but symmetric, long-awned, firm and pliable, rounded on back, glaucous on exposed surfaces, obscurely ± 12-veined, the awn subterminal, ascending and later spreading, 25–70(–120) mm long (present only on fertile florets), scabrous short-serrate; of sterile florets shorter (2.5–9 mm long), lacking awn; of club wheat mostly lacking awn but on spikelets above midpoint awns short and increasing to 20 mm long on terminal spikelets; **palea** of fertile floret lanceolate, 9–10.5 mm long, < lemma, membranous, 2-veined, strongly 2-keeled, concave on back, sharply angled inward at

margin, 2-toothed at tip, not splitting at maturity, keels membranous and short-ciliate, veins green; of staminate or sterile florets absent or shorter (3–7.5 mm long). **Flower:** bisexual (terminal floret in range often pistillate); **perianth (lodicules)** 2, free, wedge-shaped (sometimes symmetric), in range a mm long, colorless, with swollen base, short-ciliate on margins, the hairs ca. 0.5 mm long; **stamens** 3, free; filaments threadlike, ca. 4 mm long, translucent to white; anthers basifixed, dithecal, sacs narrowly lanceolate to linear, 2.1–2.4 mm long, pale yellow, longitudinally dehiscent; pollen pale yellow; **pistil** 1; ovary superior, ± obovoid or inversely conic to mushroom-shaped, 1.1–2.5 × 1.5–2.8 mm, flat and grooved on side facing lemma, conic below midpoint, glabrous on base, convex on top, weakly 2-lobed, densely pilose on top, 1-chambered with 1 ovule; styles 2, 2.3–3.4 mm long, shaggy-feathery (plumose) base-to-tip with colorless stigmatic hairs. **Fruit:** achene (caryopsis), ± ovate, to 7.5 × 4.7 × 4.5 mm, brown, with deep longitudinal groove on side facing palea, with tuft of short hairs at top.

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