

Vascular Plants of Williamson County
Agrostis exarata – SPIKE BENT GRASS [Poaceae]

Agrostis exarata Trin., SPIKE BENT GRASS. Perennial herb, sometimes rhizomatous or producing stolons, fibrous-rooted, several-stemmed at base, tufted, decumbent and rooting at lower nodes, with erect inflorescences, mostly to 30 cm tall; shoots lacking basal leaves and with 3–5 cauline leaves, essentially glabrous; adventitious roots at lower nodes contacting wet soil or mud. **Stems (culms):** cylindric, to 2 mm diameter, internodes between cauline leaves in range to 100 mm long, from a horizontal internode strongly bent at that node (geniculate) and often with adventitious root or roots, 1–2 subsequent cauline node bent less so, and above midplant axis erect; internodes hollow. **Leaves:** alternate distichous, simple with sheath; sheath open, to 70 mm long, in range mostly < internode, flag leaf blade > inflorescence lowest node, with 7–13 ridges, margins overlapping 1/4 to most of length, the margins membranous but wider on outer margin, without lobes (auricles) at top, sometimes slightly glaucous; ligule erect, finely ribbed, whitish membranous, truncate to obtuse but splitting downward and having several short teeth, in range 1.5–7.5 mm long, sometimes minutely ciliate at tips of teeth, exposed surfaces puberulent; blade in range lanceolate-linear, in range 30–100 × to 7.5 mm, the widest near base, flat, minutely scabrous on margins, acute at tip, finely parallel-veined with closely spaced veins raised slightly on both surfaces (domed cells). **Inflorescence:** spikelets, in terminal panicles, panicle contracted and cylindric or narrowly oblong to more expanded and lanceoloid to ovoid, 30–80 mm long, often interrupted and spreading below midpoint and closed and appressed above midpoint, branching alternate distichous, having 5–9 nodes, the lower node or also second node with many unequal branches = a 1-sided arc (verticil), spikelet with 1 bisexual floret, bracteate, in range with very short awns (glumes); rachis straight and cylindric, lower internodes visible and upper internodes concealed by branches and spikelets, striped (corrugated), glabrous; principal branches at anthesis appressed to suberect, 5–25 mm long with the longest branch of each node decreasing upward, principal branches with an axillary pulvinus, axes short-hairy to scabrous or glabrous; stalk of spikelet 1–3 mm long, smooth to minutely scabrous. **Spikelet:** = glume length, breaking above glumes; **glumes** 2, subequal, short-awned, at flowering widely spreading later erect, lanceolate inrolled, keeled and 1-veined, unequal, lower glume ± 1.8–2.2 × 1.5–1.8 mm, lower glume > upper glume, keel green and scabrous, back appressed puberulent (upward-pointing), colorless margins short-ciliate (difficult to observe), acute to shallowly notched at tip, sinus < 0.2 mm long, having an awn or awnlike extension of keel from tip or sinus straight, 0.3–0.7 mm long, and colorless; callus with several unequal hairs < 0.5 mm long; rachilla not prolonged beyond palea; **lemma** membranous, cupped-broadly ovate, in range 0.8–1.2 mm long, < glumes, mostly colorless (appearing greenish from ovary), 5-veined, minutely 5-toothed = end of each vein, persistent around fruit; **palea** in range mostly present, ± flat top-shaped, 0.5–0.7 × 0.3–0.35 mm, membranous and colorless with 2 faint veins, shallowly notched at top. **Flower:** bisexual, fully exposed by spreading bracts; **perianth (lodicules)** 2, bulbous at base tapered to acute tip; **stamens** 3, free, ± 0.7 mm long; filaments threadlike, ca. 0.4 mm long, colorless; anthers basifixed, dithecal, ca. 0.4 mm long, pale greenish, longitudinally dehiscent; pollen nearly colorless; **pistil** 1, slightly > stamens; ovary superior, ellipsoid,

0.3 × 0.15 mm, pale green, 1-chambered with 1 ovule; styles 2, widely spaced at base, ascending, ca. 0.5 mm long, colorless, short but conspicuously papillate. **Fruit:** achene (caryopsis), wrapped by lemma, ellipsoid, in range ca. 0.7–0.9 mm long, with longitudinal groove on side facing palea.

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