

Vascular Plants of Williamson County
Tripsacum dactyloides – EASTERN GAMAGRASS [Poaceae]

Tripsacum dactyloides (L.) L., EASTERN GAMAGRASS. Perennial herb, rhizomatous, fibrous-rooted, cespitose, many-stemmed at base, with principal shoots ascending, in range 130–180 cm tall; monoecious; shoots with basal leaves and cauline leaves, basal leaves with blades to 1250 mm long, below midblade folded upward from midrib somewhat V-shaped, cauline leaves with blades shorter and broader, blade of flag leaf acuminate-lanceolate and as small as 65 × 7 mm, scabrous; rhizome creeping, shallow, the thickest 13+ mm diameter, tough and hard, hidden by persistent, fibrous sheaths of older leaves, the sheaths conspicuously alternate distichous, with thick adventitious roots emerging from lower side of rhizome. **Stems:** ± elliptic in ×-section to 7 × 4 mm, glabrous; internodes solid. **Leaves:** alternate distichous, simple with sheath; prophyll (most easily observed on axillary reproductive shoot) strongly 2-keeled and with margins folded and long-tapered to tip, open, to 165 × 4–5 mm (folded), keels membranous, ⊥ from surface, 0.5–0.6 mm wide, and scabrous, colorless between keels and green on wide, folded margins; sheath open, of basal and lower cauline leaves keeled (from midrib), to 225 mm long, strongly folded upward and V-shaped, and whitish belowground, of other cauline leaves wrapped > 360° and to 150 mm long and green, without lobes (auricles) at top; ligule membranous, truncate, < 1 mm long, short-ciliate on margin, on surface facing blade conspicuously appressed hirsute; blade strap-shaped long-tapered to tip, of basal leaves < 600–1250 mm long, of cauline leaves mostly 400–780 × 11–21 mm, the widest below midblade, minute teeth on margins, parallel-veined with whitish midrib raised on lower surface, with minute teeth along principal veins on lower surface and several on upper surface. **Inflorescence:** spikelets, unisexual, in terminal spikes and appearing axillary from upper cauline nodes, axillary spike terminal on short shoots with prophyll and a flag leaf, in range spikes solitary or 2-branched, each spike cylindric, 130–250 mm long, having spikelets conspicuously alternate distichous, spikelets 1-flowered, basal 4–8 nodes having 1 pistillate spikelet per node, tightly fused at node and nested within a cavernlike internode (rame segment), arching staminate upper portion of spike (above pistillate segments) having to 25 nodes each with 2 fully exposed staminate spikelets, of the pair the lower spikelet sessile and upper spikelet subsessile, staminate spikelets 4-ranked, approaching tip 2–4 nodes with only 1 spikelet (staminate, sterile, or neuter), bracteate; after pollination staminate portion abscised from spike, leaving the erect stack of pistillate rame segments (often without developing fruits); rame segments of pistillate portion 6–8(–9.5) mm long, of staminate portion internodes 6–8 × 1.4–1.6 mm, with short, ascending stiff hairs along edges, staminate spikelets often tinged purple-red. **Pistillate spikelet:** on axis easily broken into segments and shattering later as dispersal units; spikelet mostly embedded in rame segment, ovoid, 9.5–11 × 4.5 mm, typically > rame segment with tip overlapping next segment, on outer side at base rame segment margins with ciliate notch having hairs 1 mm long, bracts alternate distichous; **glumes** 2, lower glume visible, sheathing spikelet, tough aging hard, glossy green and glabrous or a tuft of minute hairs at tip, upper glume with sheathing 2×, < lower glume, pale green, not hard; lemma membranous, sheathing forming conic structure, acute, ca. 7 × 7 mm, translucent, veins fine and inconspicuous except approaching tip; palea membranous, 2-keeled approaching tip, unfolded roundish and ca. 5

× 5 mm and shallowly notched at tip, the folded margins wide so palea appearing ca. 2 mm across, the teeth 0.4–0.6 mm long. **Pistillate flower:** **perianth (lodicules)** absent; **stamens** absent; **pistil** 1; ovary superior, somewhat ovoid, ca. 1 × 0.7 mm, pale green, 1-chambered with 1 ovule; style 2-branched, basal portion within palea ± 5-sided, 3.5 mm long, translucent, the stigmatic branches nearly fully exerted at top of lower glume, spreading and variously curved or twisted, ca. 6 mm long, pale green. Staminate spikelet: oblanceoloid; **glumes** 2, lower glume oblanceolate, ca. 9 × 2.2–2.4 mm, having many fine veins, scabrous, somewhat keel-like, and with 2 lines of microhairs, not membranous, upper glume cupping flower, ovate, ca. 8.5 × 4 mm; **lemma** membranous, broadly triangular half-sheathing, 6–7 mm long, fleshy-membranous; **palea** oblanceolate, 4.5–6 × 2 mm, < lemma, fleshy-membranous. **Staminate flower:** **perianth (lodicules)** 2, fan-shaped, ca. 0.8 × 0.8 mm, translucent, fleshy and somewhat crescent-shaped in ×-section, minutely toothed or jagged on top margin; **stamens** 3, free; filaments within spikelet 1.8–2 mm long, when anthers released threadlike and ca. 6 mm long, white; anthers exerted and pendent to lower side of spike, dorsifixed, dithecal, 5.5–6 mm long, pale yellow in bud aging crimson to maroon, longitudinally dehiscent; pollen pale yellow; **pistil** absent. **Fruit:** achene (caryopsis) tightly enclosed in bracts of pistillate spikelet and dispersed attached at node to rame segment; achene ovoid, ca. 3.5 × 2.5 mm, whitish when dispersed.

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