

## Vascular Plants of Williamson County

### *Secale cereale* – RYE [Poaceae]

*Secale cereale* L., RYE. Annual (in range), fibrous-rooted, not rosetted, 1–several-stemmed at base, each shoot unbranched from base, erect with terminal inflorescence, in range to 80 cm tall; shoots with a couple basal leaves and several cauline leaves, mostly glabrous; adventitious roots nodal. **Stems (culms):** cylindrical, to 3.5 mm diameter, finely striped, brown at nodes, internodes smooth and to 200 mm long, somewhat glaucous especially next to nodes; exposed axis approaching inflorescence conspicuously hirsute at the top with a ring of longer, erect straight hairs to 2 mm long. **Leaves:** alternate distichous, simple with sheath; prophyll not observed sheath open, to 170 mm long increasing from lower to upper plant, exposed margin with membranous margin  $\pm 0.5$  mm wide, top of sheath overlapping or with short lobes (auricles)  $< 1$  mm long, glaucous approaching blade, sheath at base of plant white or with purple-red veins; collar short and hingelike; ligule membranous,  $\pm$  truncate, to 0.7 mm long, jagged on margin; blade linear long-tapered, in range to  $180 \times 10$  mm, the widest near base, flat (inrolled upward when water-stressed), minutely toothed on margins, parallel-veined with midrib low-raised on upper surface, upper surface scabrous with projections along veins and on basal leaves short-hirsute along veins and pubescent near ligule; lower surface glabrous and smooth; blade of flag leaf narrow and shorter upper cauline leaves,  $< 70$  mm long, not overtopping inflorescence. **Inflorescence:** panicle, spikelike, terminal, erect later spreading to nodding in fruit, spikelets 1 per node and alternate distichous, in range  $< 35$  spikelets appressed and strongly 2-ranked, linear compressed side-to-side, in range body ca.  $80 \times 8 \times 4.5$  mm + long awns extending at top, spikelets appressed and overlapping with nodes spaced 2.5–3 mm apart, spikelet with 2 bisexual florets, awned, bracteate, scabrous incl. rigid, horrid clawlike hairs (“scabrules”). **Spikelet:** strongly ascending, elliptic in outline, compressed front-to-back and radially symmetric, front and back dimorphic, at maturity breaking tardily above glumes and between florets; **glumes** 2, lateral, equal, lanceolate folded and strongly keeled, ca. 5 mm long incl. awns, exposed outer face ca. 0.6 mm wide, red-purple with green stripe and a colorless, scabrous keel edge, the outer margin scabrous, the awn in range 1–1.5 mm long often purplish, inner face paler; rachilla extending as a minute bristle; **lemma** elliptic-ovate folded with off-center keel wider on outer side, in range 10–12 mm long, 5-veined, concealed back face glabrous and glaucous whitish with 2 faint green veins, outer face acuminate-lanceolate, pale with dark green veins with evenly spaced scabrous short hairs, keel with clawlike hairs in range mostly 0.6–0.8 mm long with thickened and glaucous bases grading to scabrous teeth on awn, outer margin also with short scabrous hairs; **palea** slightly  $<$  lemma, membranous with 2 green veins not fused at tip, keel with several short hairs approaching tip. **Flower: perianth (lodicules)** 2, acute-elliptic, ca.  $1.5 \times 0.7$  mm, lower portion swollen and whitish, upper portion thinner and colorless, ciliate on margin above midpoint to 1 mm long; **stamens** 3, free, fully exerted; filaments threadlike, 3+ mm long, whitish; anthers basifixed, dithecal, in range ca. 4(–7) mm long, pale yellow or blushed reddish, with long sac lobes at base, longitudinally dehiscent; pollen yellowish; **pistil** 1; ovary superior, wedge-shaped,  $\pm 0.9 \times 0.5$  mm, opaque but greenish above midpoint, shallowly grooved on 1 side, truncate at top puberulent and with several larger hairs; styles 2, to 2 mm long, lower portion greenish, upper portion with colorless papillate

hairs. **Fruit:** achene (caryopsis), oblong with a longitudinal groove, ca. 7 mm long, yellowish brown to orangish brown, pubescent at top.  
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