

Avena L. OATS

Avena fatua L., WILD OATS. Annual, fibrous-rooted, several–many-stemmed at base, not branched above base, initially prostrate bending upward at the lowermost nodes (geniculate), erect, 80–160 cm tall; shoots having to 5 leaves, mostly glabrous (sparsely pilose). **Stems (culms):** cylindrical, to 5.5 mm diameter, glossy, pilose or with backward-pointing hairs above and below the uppermost node; internodes hollow. **Leaves:** alternate distichous, simple with sheath; sheath open, not keeled, narrowly membranous on margins, glabrous to sparsely pilose (basal leaves) and glabrous (cauline leaves), without lobes at top (lacking auricles); ligule translucent-milky membranous, broadly deltate to acute, 1.2–6 mm long, irregularly cut to jagged on obtuse margin, later often splitting from margin downward; blade linear, 95–450 × (3–)5–15 mm, flat, collar whitish, minutely toothed on margins, parallel-veined with well-defined midrib on lower surface, lacking microhairs. **Inflorescence:** spikelets in paniclelike arrays, terminal, 70–400 × 50–1100(–2000) mm, panicles open with several widely spaced semi-whorls of spreading lateral branches and stalked spikelets, the lowest nodes with 2–3 branches + 4–5 stalks, decreasing in number approaching tip, with pendent spikelets having 2–3 bisexual florets + 0 or 1 sterile floret; peduncle cylindrical, 230–410 mm long (= node of flag leaf to the lowest branch); rachis finely striped, basal internodes to 80 mm long reduced upward; lateral branches 25–160 mm long, with 2–5 spikelets; stalk of spikelet (“pedicel”) 9–55 mm long, very fine, at end often sharply bent ($\pm 90^\circ$), swelling beneath spikelet 1.1–1.3 mm wide. **Spikelet:** before anthesis narrowly fusiform, 3.4–5.2 mm wide, not compressed, awned, long-hairy, breaking above glumes and between each floret; **glumes** 2, widespread at anthesis, subequal, acuminate-lanceolate, (18–)22–26(–32) mm long, > florets, upper glume 0.9–3.5 mm > lower glume, membranous striped with green along each side of veins, 9–11-veined below midpoint and typically 7–9-veined above midpoint, glabrous, the green stripes often radiating at base; rachilla internodes 1.1–3.5 mm long (for fertile florets) and 3–4.3 mm long (sterile floret), progressively longer, producing a triangular to ovate (round) scar on callus of floret; callus soft long-hairy, the hairs ca. 1/4 lemma long, tawny. **Fertile floret:** **lemma** membranous, narrowly lanceolate, 14–22 mm long (lowest floret) decreasing upward, awned, 6-veined, with ascending hairs 4–5 mm long, forked at tip 0.7–1.7 mm long, without bristles, sometimes with a small tooth on outer edge; awn arising 5–6 mm from lemma base, (23–)37–42 mm long, dark brown, stiff, bent and twisted at or before midpoint, with longitudinal groove conspicuous in twisted segment, not twisted above midpoint, persistent; **palea** membranous, narrowly oblanceolate to linear, 11–13.8 mm long, flat, 2-keeled (2-veined), short 2-forked at tip, ciliate on keels. **Flower:** bisexual, protandrous; **perianth (lodicules)** 2, lanceoloid, 1.8–2.7 mm long, translucent, tapered at tip; **stamens** 3, free, exerted laterally; filaments 1.7–2.5 mm long, translucent-white; anthers dorsifixed, dithecal, 4.3–5.8 mm long, light yellow, longitudinally dehiscent; pollen light yellow; **pistil** 1, ca. 4.5 mm long; ovary superior, inversely conic to wedge-shaped and compressed, ± 1 mm long, covered by erect, straight hairs to 2.5 mm long; styles 2, exerted laterally, widely spaced and arising from near lateral margins, 3.3–4.2 mm long, whitish, plumose for ca. 3/4 of length. **Sterile floret:** short, with rudimentary lemma, lacking awn and palea. **Fruit:** achene (caryopsis), concealed by lemma and palea, narrowly ellipsoid, 6.5–8 × 1.7–2.3 mm, light tan, with deep longitudinal groove opposite

palea, sparsely sericeous; floret awned, tawny long-hairy, lemma and palea dark brown, lemma erect, strongly ridged, palea glossy; scar ca. 0.9 mm wide. Early January–early June.

Naturalized. Annual widespread and exceedingly common in openings of disturbed and waste areas throughout range. *Avena fatua* forms fairly dense stands, which can be nearly monoculture. Wild oats (also called wild oat) has a swelling beneath the spikelet of about 1 mm in diameter, and the bristle tips on the lemma of *A. fatua* typically do not exceed 1.5 mm long in flower or fruit. Side by side, a fruit-bearing floret of *A. fatua* is much darker (bractlets and hairs) than of *A. barbata*, and has larger fruits that are more tightly held in place.

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