

YELLOW FOXTAIL

(*Setaria lutescens*, *S. glauca*)

SEEDLING DESCRIPTION

The seed leaf (coleoptile) of yellow foxtail is pale green, less than 1/8 inch (3 mm) wide, and up to two inches (5 cm) long. It usually has a few cobwebby hairs on the upper surface near the base of the leaf blade, but these hairs are more conspicuous on true leaves. True leaves of yellow foxtail are rolled in the bud and taper evenly to a point. In seedlings it is difficult to see the ligule—a fringe of hairs about 1/2 inch (0.5 mm) long. Ligule hairs are fused together at the base.

Leaf sheaths are smooth and distinctly flattened, usually green, and often purple-tinged, especially near the soil surface. Sheaths are split and the smooth transparent margins overlap in front. The back edge of the leaf sheath is sharply keeled, or folded along its length, forming a flattened, creased stem.



1. Seedlings have cobwebby hairs near the collar.
2. Fringed ligule surrounded by wispy hairs.
3. Leaf sheaths are flattened, leaf blades are hairy near the collar.
4. Leaf blades often twist in a graceful spiral.
5. Mature plant in seed.
6. Seed head showing yellow bristles.



smooth and flattened; the back edge forms a sharp crease, especially at the base of the plant.

The ligule of the mature leaf blade is a fringe of hairs about $\frac{1}{16}$ inch (1 to 2 mm) long. The hairs of the ligule are fused together near the base. Auricles are absent.

A major identifying characteristic of yellow foxtail is the straggly white hairs clustered near the base of the upper leaf surface, as described under the *Similar Species* section. Except for these long hairs near the collar, the leaves are smooth above and below.

Leaf blades are 4 to 12 inches (10 to 30 cm) long and about $\frac{1}{4}$ inch (6 mm) wide at the base. They broaden slightly up to the midpoint, then taper evenly to a pointed tip.

The seedhead (panicle) is a compact, slightly tapered cylinder covered with soft yellow bristles (awns) about $\frac{1}{4}$ inch (6 mm) long. The erect panicle grows 1 to 5 inches (2 to 12 cm) long and $\frac{1}{2}$ to $\frac{3}{4}$ inch (1 to 1.5 cm) wide, including the awns.

The small seeds are densely packed along the main axis of the panicle. Since they do not require a dormant period, they can germinate as soon as they mature. Seedlings can grow to maturity and produce seed in forty days or less. Seeds germinate at temperatures between 68° and 95°F (20° to 35°C) and at depths of about $\frac{3}{4}$ to $1\frac{1}{4}$ inch (19 to 30 mm).

NATURAL HISTORY

Originally introduced from Europe, yellow foxtail is now found throughout the United States and much of Canada. Somewhat less common than green foxtail, it occurs in the same areas, competing most heavily in cereals, vegetables, in row crops such as corn and soybeans, and in orchards and vineyards.

Like green foxtail, yellow foxtail has value as a forage. However, it is usually not encouraged in well-managed fields because it can crowd out more desirable plants. In addition, the barbed awns can cause abscesses and infections by lodging

roots travel through the soil and are absorbed by the roots of vegetable plants. This interaction, called "allelopathy," enables some plants to reduce competition by stunting nearby vegetation.

The genus name *Setaria* derives from the Latin *seta*, meaning "bristle." Yellow foxtail may be referred to by one of two species names, *glauca* or *lutescens*, both referring to a pale yellow color. This weed is also known as yellow bristlegrass and pale pigeongrass.

SIMILAR SPECIES

Three *Setaria* species are common in the United States: yellow, green, and giant foxtail. The yellow variety is the easiest to identify because of the cobwebby hairs near the base of the leaf blade. Hairs grow up to $\frac{3}{8}$ inch (9 mm) long and may be either sparse or dense enough to obscure the ligule. The rest of the leaf blade is hairless. Mature yellow foxtail leaves often twist in a loose spiral, while those of the other species tend to be flat.

Green foxtail (*S. viridis*) leaves are completely smooth or have a few short hairs $\frac{1}{16}$ inch (1.5 mm) long scattered along the upper surface. They never have the long white hairs characteristic of yellow foxtail. The entire upper leaf surface of giant foxtail (*S. faberii*) is densely covered with soft, short, velvety hairs $\frac{1}{16}$ inch (1.5 mm) long.

The seedheads (panicles) of yellow and green foxtail are similar in size and shape, but not in color. The bristles (awns) on the seeds of yellow foxtail are yellow, while those of green foxtail are green or purple. All foxtail panicles turn tawny yellow when dry.

Important identifying characteristics of yellow foxtail include the long hairs near the leaf base, the smooth flattened leaf sheath, spirally twisted leaf blade, short hairy ligule, and yellow awns.

CONTROL

Since seeds can germinate over the entire summer, full-season control of this weed may be difficult. Most preemergence her-

rotation that includes a solid stand crop such as legumes or grasses can help keep this weed under control. Mowing before seed production is a cost effective way to prevent the spread of foxtail in solid-stand forages. A combination of cultural and chemical methods is recommended for avoiding foxtail problems in row crops. Cultural methods include planting narrow rows and providing the nutrients necessary for vigorous crop growth and early canopy closure.

For specific recommendations, consult your county Extension agent or the most recent *Weed Control Manual and Herbicide Guide*, available through Meister Publishing Company, 37841 Euclid Avenue, Willoughby, Ohio 44094. Follow label instructions for all herbicides and observe restrictions on grazing and harvesting procedures.

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Where trade names appear, no discrimination is intended, and no endorsement by the Cooperative Extension Service is implied.

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