Morphological characteristics of major turfgrass species

There are several questions to ask when identifying a turfgrass or grassy weed.

- Is the bud leaf folded or rolled?
- Is the leaf blade hairy or smooth; veined; glossy or dull; wide or narrow?
- Is the tip boat-shaped or flattened?
- Is the collar narrow or broad; continuous or divided?
- Are auricles present? If so, are they short and blunt, or long and clawlike?
- Are ligules present? If so, are they membranous or hairy?
- Is the sheath flattened or round; smooth or rough?
- Is the growth habit bunch-type, rhizomatous or stoloniferous?
- Are seed heads present? Are they spike, panicle or raceme?

The following tables answer these questions for Missouri grasses.

Turf-type tall fescue

Tall fescue — coarse vernation in leaf blade

Morphological characteristics	Tall fescue
Bud leaf (vernation)	Rolled
Leaf blade	Tapered, ribbed to smooth, wide to narrow
Collar	Very distinct; hairy and broad
Auricles	Blunt to absent; may have hairs on margin
Ligule	Indistinct and blunt
Sheath	Round, smooth and split
Growth habit	Bunch-type primarily Tillers, but a few newer varieties have short rhizomes
Seed head	Panicle
Other key points	Leaf edge feels rough

Crabgrass

Summer annual grassy weed

Other names: Large crabgrass, hairy crabgrass, smooth crabgrass

Growth habit: A pale green annual with short, sparse hair and blades that taper to a point. Fingerlike seed head produces thousands of seeds that germinate in the spring when soil temperatures reach 55 degrees F.

Leaf blade: Rolled in the bud, hairy or smooth, about ¼ inch wide, tapers to a sharp point.

Sheath: Compressed and smooth or hairy.

Ligule: Long and membranous.

Auricles: None.

Collar: Broad and sparsely hairy.

Seed head: Three to 13 narrow racemes at the top of the stem.

Spikelets: Found in two rows; elliptical and sparsely hairy.

Fall panicum

Summer annual grassy weed

Other names: None

Growth habit: A sprawling to ascending bright-green summer annual that can be found in all seasons in subtropical conditions and propagates by seed. It is common during turfgrass establishment and often seen in wet open habitats.

Leaf blade: Rolled in the bud with flat, smooth, pointed leaf blade that is sometimes hairy on the upper surface. Leaves have a distinct broad light-green midrib. Upper surface is dull; underside is glossy.

Sheath: Smooth, slightly compressed and often purplish.

Ligule: Fringe of hairs.

Auricles: None.

Collar: Broad and continuous.

Seed head: Panicle, compact.

Spikelets: Yellow; each produces a smooth, dull seed that is readily separated from hulls when ripe.

Brown patch

Rhizoctonia solani

Hosts: Tall fescue, Kentucky bluegrass

Time of year: May–August

Identification: Brown patch is the disease that most limits tall fescue use in Missouri. Tall fescue is much more susceptible than Kentucky bluegrass to brown patch. The disease begins in late spring or early summer and follows the 6-8 flip-flop rule, with conducive temperatures being nighttime lows of 68 degrees F or higher combined with daytime highs of 86 degrees F or higher. Brown patch on higher-cut turf appears as straw-colored or brown circular patches. A characteristic, irregularly shaped straw-colored lesion with a dark brown margin can be observed on newly infected leaves along the margin of patches. When turf is wet in early morning, tufts of pathogen mycelium may be seen scattered along patch margins.

Control: A major predisposing factor to brown patch occurrence is overfertilization with nitrogen during or just before heat stress periods. Brown patch is much more severe on lush turfgrasses, so restricting most fertilization to the early spring — and more importantly, the fall — will limit this disease. Water deeply and infrequently during the early morning hours to minimize leaf wetness and reduce disease incidence. Raise mowing heights to 3.5 to 4 inches for tall fescue during the summer stress period. Fungicides purchased over the counter by homeowners are not very effective at controlling this disease. In field trials, azoxystrobin provides the most consistent control of brown patch on tall fescue.

Cool-season grasses

Greenbug aphids

Schizaphis graminum

Important turfgrass species affected: Tall fescue, Kentucky bluegrass, perennial ryegrass

Identification and control: Greenbug aphids feed on plant sap and also inject a toxin in their saliva that results in plant collapse and death. Damage appears as irregular brown patches with yellow to orange margins. Damage normally occurs in mid- to late spring in Missouri, when greenbug populations, which can rise rapidly, are not yet held in check by natural enemies, such as lady beetles, parasitic wasps and lacewings. Routine scouting for the numerous small greenbugs on leaf blades should be done in the spring, and treatment should occur only when necessary.

Armyworms, fall

Spodoptera frugiperda

Important turfgrass species affected: All

Identification and control: The fall armyworm is susceptible to extreme cold temperatures and therefore doesn't overwinter in Missouri. Moths migrate to Missouri in late spring and lay eggs of first generation worms. Two to three generations occur in Missouri, with most problems occurring in late summer and fall, after several generations have increased the population. Armyworm larvae feed on all aboveground leaf tissue, and as the name implies, the population moves as an army across a turfgrass stand, rapidly causing widespread bare areas. Damage is often associated with lush turfgrasses, so restricting summer nitrogen may help limit the problem. Because armyworm occurrences are sporadic, turfgrass stands should be carefully monitored so curative treatment can be applied if necessary.