

Laboratory

Grass and Sedge Weed Identification

A. Importance of Weed Identification

- Growers lose millions of dollars each year in wasted chemicals, application costs, and yield losses resulting from incorrect identification of weeds.
- A successful weed control program requires correct and early identification of weeds and timely application of the appropriate herbicide.
- Proper identification is the single most important step in making a weed control recommendation.
- “The most expensive herbicide is the one that does not work.”
- The grass family contributes more weed species than any other plant family. Of the world’s ten worst weeds, *seven* are grasses.

B. Helpful Hints in Identifying Weeds

- Look at several seedlings, particularly those on edges of fields where soil was not tilled. Older, mature weeds are easier to identify.
- Carefully dig up seedlings and remove the soil. Many times the seed will be attached and may be used for identification.
- For grasses note leaf shape, leaf width versus length, and plant growth habit (prostrate, decumbent, or erect).
- For broadleaf weeds, note cotyledon shape and size.
- Look for pubescence (hairs) on leaves and stems.
- Look at seed heads of grasses, flower color and shape on broadleaves; Identifying a weed after it has set seed will allow you to anticipate weed problems the following year.

C. Grass Weed Identification

- Grasses are the most difficult weeds to identify at the seedling stages. The presence or absence of a ligule and the type of ligule is a key to grass identification.
- You will be responsible for identifying the following grasses:

barnyardgrass (*Echinochloa crus-galli*)
 bahiagrass (*Paspalum notatum*)
 itchgrass (*Rottboellia cochinchinensis*)
 Texas panicum (*Panicum texanum*)
 dallisgrass (*Paspalum dilatatum*)
 goosegrass (*Eleusine indica*)
 large crabgrass (*Digitaria sanguinalis*)
 johnsongrass (*Sorghum halepense*)

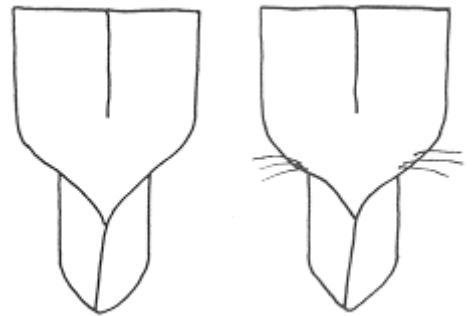
red rice (*Oryza sativa*)
 yellow foxtail (*Setaria glauca*)
 vaseygrass (*Paspalum urvillei*)
 Amazon sprangletop (*Leptocloa panicoides*)
 crowfootgrass (*Dactyloctenium aegyptium*)
 bermudagrass (*Cynodon dactylon*)
 broadleaf signalgrass (*Brachiaria platyphylla*)
 giant foxtail (*Setaria faberi*)

Grass Weed Identification

Ligule Absent

barnyardgrass (*Echinochloa crus-galli*)

- Synonyms: watergrass
- Erect growth habit
- Awned or awnless
- Leaves and leaf sheath are glabrous (hairless)
- Flattened stems
- Collar margin sometimes hairy
- Often reddish at base of plant
- Looks very similar to junglerice (*Echinochloa colona*), which often has a purple leaf band present

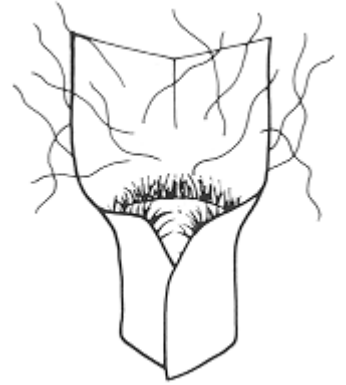


Grass Weed Identification

Ligule a Fringe of Hairs

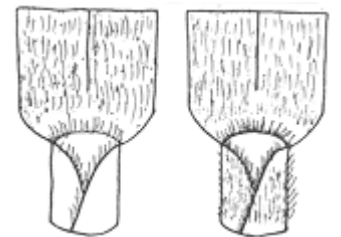
yellow foxtail (*Setaria glauca*)

- Long hairs on upper side of blade near base
- Sheath glabrous and flattened
- Often reddish of base at plant
- Yellow colored seed head with 5 or more bristles per spikelet



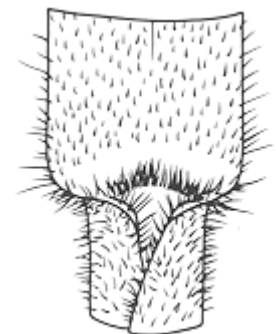
giant foxtail (*Setaria faberi*)

- Sheath margin hairy and nearly round
- Hairs on upper leaf surface
- Nodding panicle



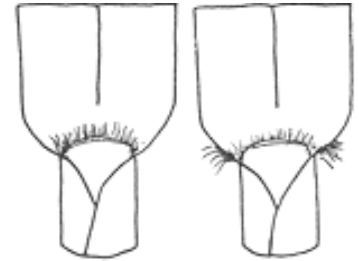
Texas panicum (*Panicum texanum*)

- Hairy leaves and sheaths (velvet-like)
- Prominent midrib
- Often reddish at base



crowfootgrass (*Dactyloctenium aegyptium*)

- Bending and rooting at lower nodes
- Sheath and blade usually glabrous
- Blade margins with long stiff hairs
- Rounded stem
- Seed head look's like crow's foot (all rachis emerge from same point i.e. digitate)



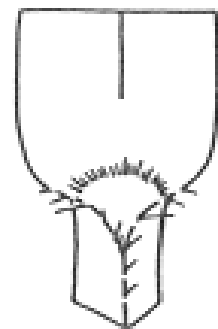
bermudagrass (*Cynodon dactylon*)

- Synonyms: wiregrass, bluegrass, bermuda
- Perennial, spreading by stolons and rhizomes
- Tuft of erect hairs on sheath margins at collar
- Also a turfgrass



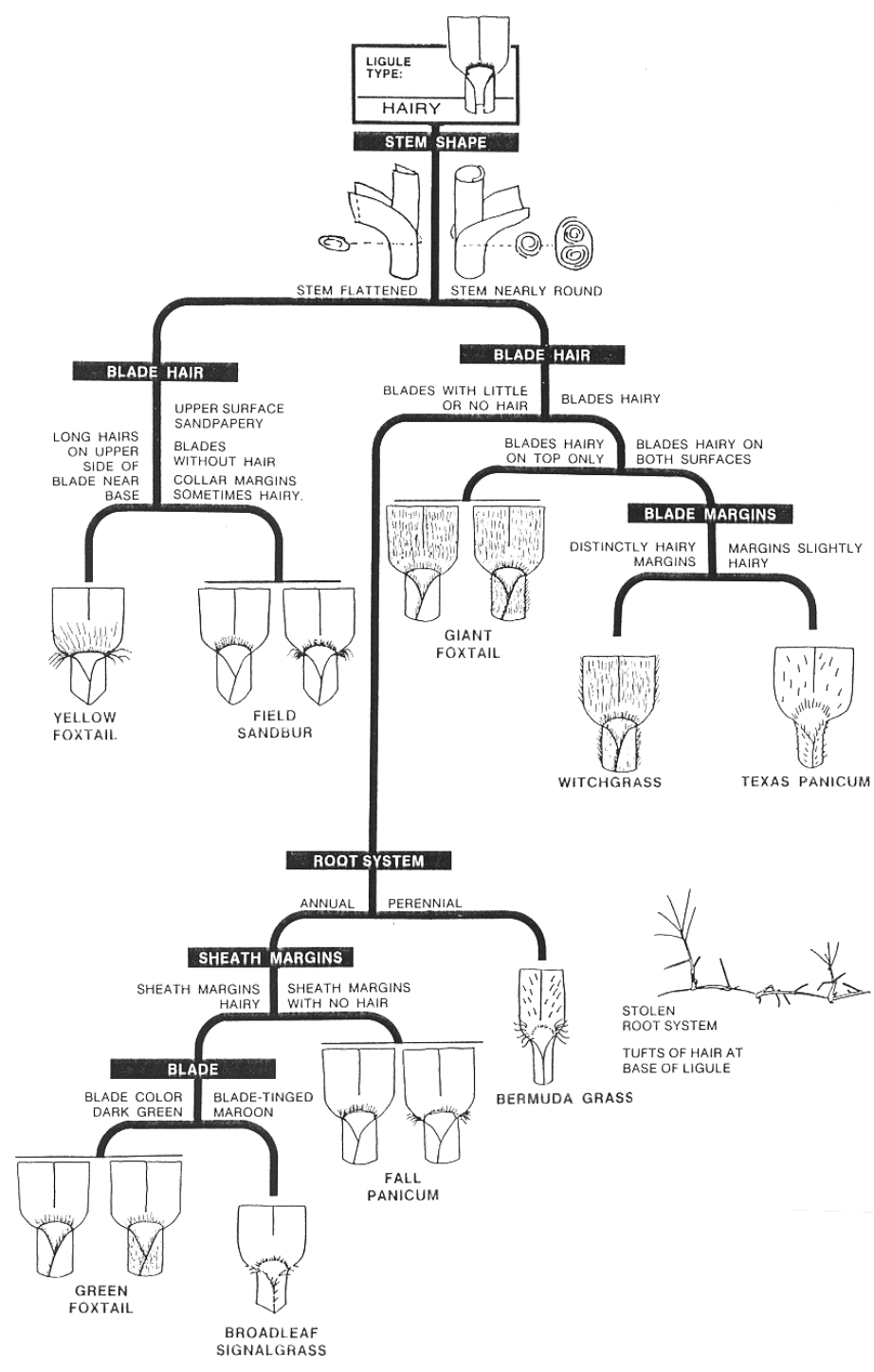
broadleaf signalgrass (*Brachiaria platyphylla*)

- Synonyms: brachiaria
- Decumbent, spreading, branched, bent and rooting at nodes
- Leaf blades short and wide with crease at tip
- Leaf sheaths hairy, blades glabrous
- Leaf margins with distinct hairs
- Often reddish at base
- Sheath round



Key to Grass Weed Identification

Ligule a Fringe of Hairs

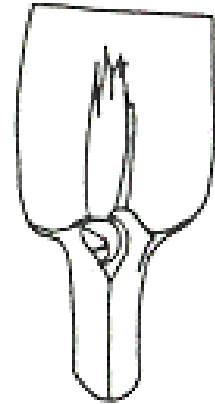


Grass Weed Identification

Membranous Ligule

red rice (*Oryza sativa*)

- Leaf sheath glabrous
- Leaf blade rough to touch (scabrous) when compared with white rice
- Ligule 15mm long and pointed
- Well developed auricles
- Red pericarp

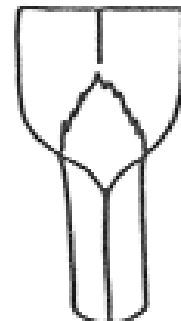


itchgrass (*Rottboellia cochinchinensis*)

- Synonyms: raoulgrass, raoul
- Sheath and blade with long, stiff hairs
- Seed heads pencil-like (or barrel shaped) and jointed

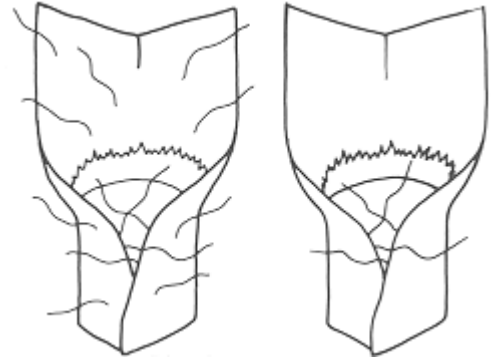
Amazon sprangletop (*Leptochloa panicoides*)

- Synonyms: tighthead sprangletop
- Blade usually smooth
- Long, narrow panicle, keeled sheath
- Long toothed ligule
- Green midrib



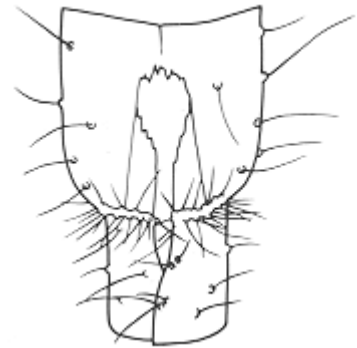
goosegrass (*Eleusine indica*)

- Leaf sheath margins broad, whitish to translucent
- Flattened leaf sheath
- Seedlings erect, plants later develop a prostrate growth habit



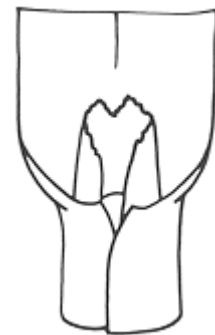
large crabgrass (*Digitaria sanguinalis*)

- Sheath and blades densely hairy
- Prostrate spreading growth habit
- rooting at nodes



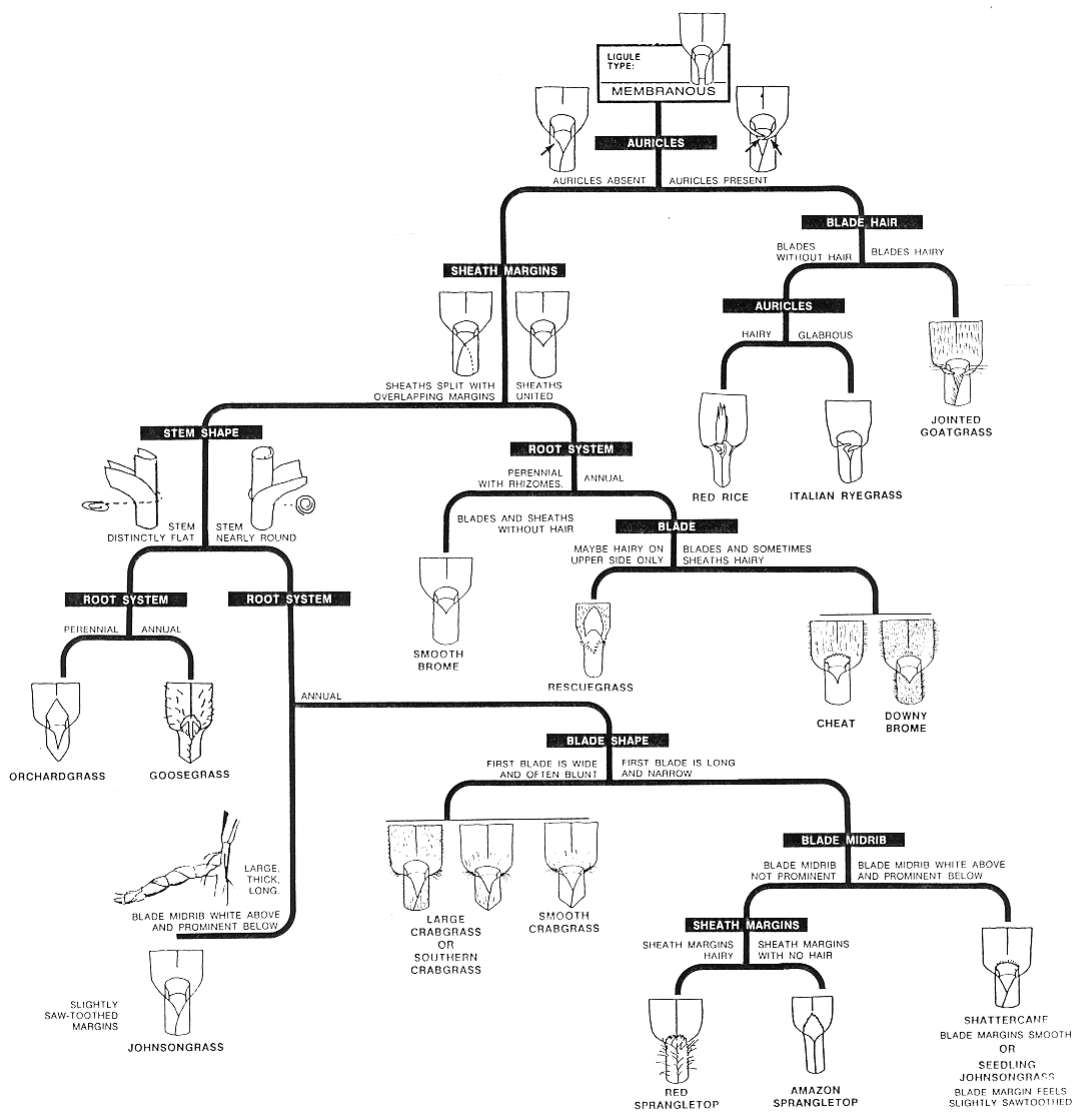
johnsongrass (*Sorghum halepense*)

- Perennial, spreading by rhizomes
- Leaf sheath and blades glabrous
- Toothed ligule
- Sheath round
- Often see red spots on leaves from disease
- Open panicle
- May appear purple in early spring



Key to Grass Weed Identification

Membranous Ligule



D. Nutsedge Identification

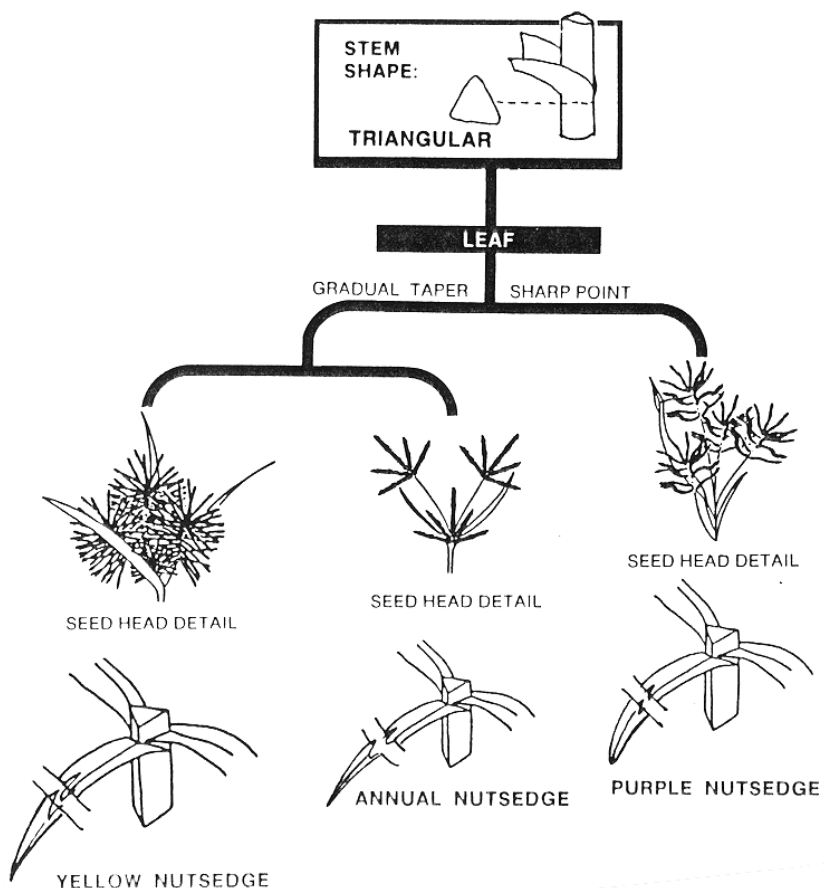
- Nutsedges all have a triangular stem rather than a round or flattened stem as is found in grasses. Sedges also are often characterized by a dark green, glossy appearance.
- Nutsedges can be perennials that produce tubers (yellow and purple nutsedge) or annuals (annual sedge of which rice flatsedge is an example).
- Purple nutsedge (*Cyperus rotundus*) is considered the most problematic weed in the world.
- Some weed scientists believe the smell and taste of the tubers can be used to distinguish between species. For sure the tubers of purple and yellow nutsedge differ in appearance.
- You will be responsible for identifying the following sedges:

yellow nutsedge (*Cyperus esculentis*)

purple nutsedge (*Cyperus rotundus*)

rice flatsedge (*Cyperus iria*)

Key to Nutsedge Identification



Nutsedge Identification

yellow nutsedge (*Cyperus esculentis*)

- Synonyms: yellow nutgrass, cocoglass, chufa
- Perennial
- Produces single, nut-like tubers at tips of rhizomes
- Tubers sweet to taste and smooth
- Blade is glabrous and sheath triangular
- Three ranked leaves gradually tapering to a sharp point
- Yellow seed head, with spikelets held tightly



purple nutsedge (*Cyperus rotundus*)

- Synonyms: cocoglass, purple nutgrass
- The most problematic weed in the world
- Perennial
- Produces multiple nut-like tubers in chains on rhizomes
- Blade is glabrous and stem is triangular
- Three-ranked leaves abruptly tapering at tip (dagger shaped)
- Purple seedhead
- Tubers have a bitter taste and are rough



rice flatsedge (*Cyperus iria*)

- Synonyms: annual sedge
- Annual – produces no tubers
- Blade is glabrous and sheath is triangular
- Three-ranked leaves gradually tapering to a sharp point
- Golden brown seedhead
- Multiple fruiting stems from base
- Spikes tufted
- Distinct odor “Christmas tree like”

