Common Weed Seedlings of Michigan
Michigan State University
Cooperative Extension Service

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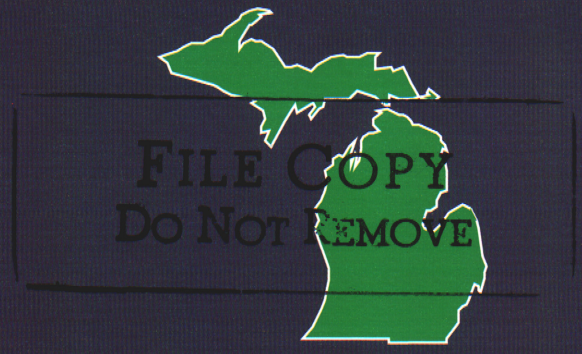

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Foreword

Accurate weed identification is the first step in a successful weed control program. Various weed species respond differently to different methods of control. Whether you choose chemical, cultural or mechanical control measures, you need to know what weed species are present. Failure to identify the weed problem accurately may lead to wasted time and money or excess pesticide applied to the environment.

Because weeds are most effectively controlled at a very young stage, it is important to identify them as early as possible. Unfortunately, many weeds look very similar at a young stage. This guide is designed to help identify seedling weeds while there is still time to control them.

This guide includes 33 of the most common problem weed species in Michigan. It is divided into two main sections: grass and grasslike weeds and broadleaf weeds.

Grass weeds are especially difficult to distinguish, so an identification key is included at the beginning of the grass and grasslike weeds section. This key gives you a step-by-step progression of questions that will help you identify species correctly.

An illustrated guide to broadleaf weed characteristics is included at the beginning of the broadleaf weeds section. There is also a glossary of terms at the back of the guide. Referring to these sections will help you understand many of the terms used in the written descriptions of each species. An alphabetical index of the weed species is included in the back of the manual for quick reference.

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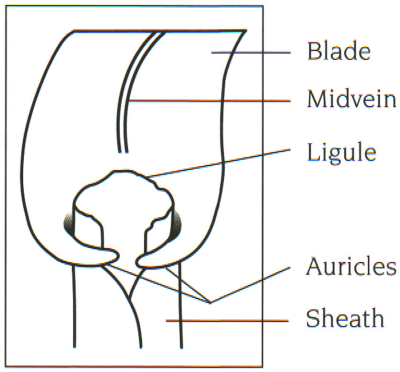
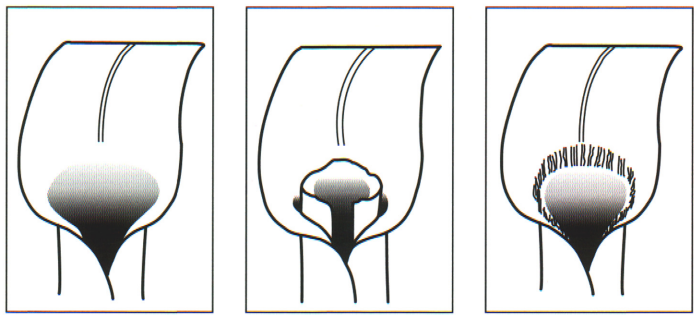
Identification Key for Grass and Grasslike Weeds

Grass Morphology



Ligule Types



Begin Here

- **Stem triangular** → **Yellow Nutsedge** *page 4*
- **Stem round or flattened**
  - **Ligule membranous**
    - **Auricles present** → **Quackgrass** *page 4*
    - **Auricles absent**
      - **Blade and sheath hairless**
        - **Top of ligule smooth** → **Smooth Crabgrass** *page 5*
        - **Top of ligule jagged** → **Johnsongrass** *page 5*
      - **Blade and sheath hairy** → **Large Crabgrass** *page 5*
  - **Ligule hairlike**
    - **Blade with little or no hair**
      - **Sheath margin hairless** → **Fall Panicum** *page 7*
      - **Hairs along sheath margin** → **Green Foxtail** *page 6*
    - **Blade with hairs on both surfaces, sheath hairy**
      - **Large, shiny, persistent seed on root system** → **Wild-Proso Millet** *page 7*
      - **Seed smaller and less persistent** → **Witchgrass** *page 7*
    - **Blade with hairs on upper surface only, sheath hairless or sparsely hairy**
      - **Short, dense hairs covering entire upper surface of blade** → **Giant Foxtail** *page 6*
      - **Long hairs on upper surface of blade near base** → **Yellow Foxtail** *page 6*
  - **Ligule absent** → **Barnyardgrass** *page 4*

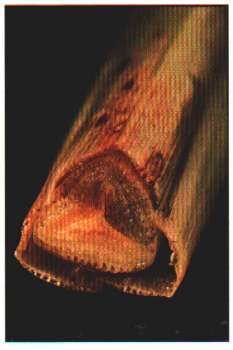
Grass and Grasslike Weeds

1. Barnyardgrass (*Echinochloa crus-galli*)

Summer annual. Leaf sheath and blade hairless. No ligule. No auricles. Stem flattened.

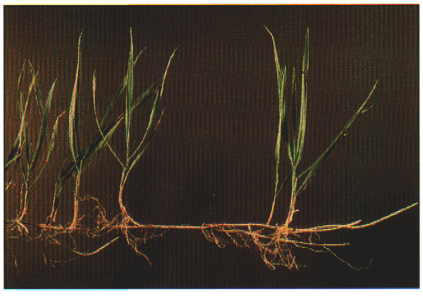
2. Yellow Nutsedge (*Cyperus esculentus*)

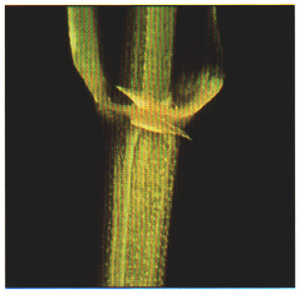
Perennial. Not a grass species. Stem is triangular. Leaves are smooth, hairless and deeply keeled. Whole plant is yellowish to pale green. Tubers (nutlets) usually present at tips of rhizomes.



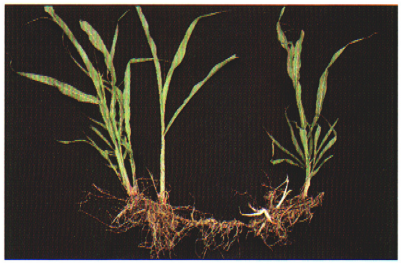
3. Quackgrass (*Elytrigia repens*)

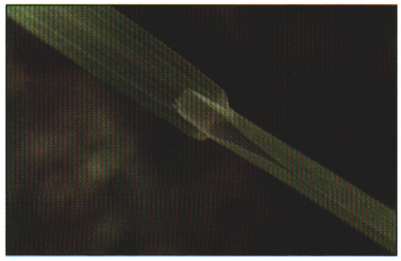
Perennial. Leaf sheath and blade hairless or sparsely hairy. Clasping auricles present. Short, membranous ligule. Rhizomes usually present.



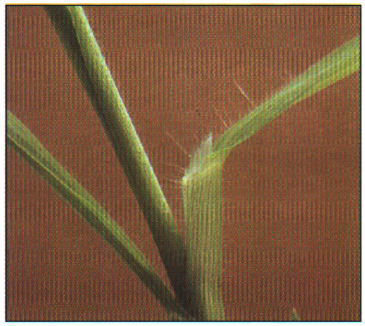


4. Johnsongrass
(*Sorghum halepense*)
Perennial. Leaf sheath and blade hairless. No auricles. Prominent, jagged, membranous ligule. Rhizomes usually present.

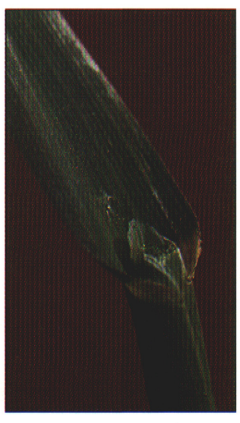




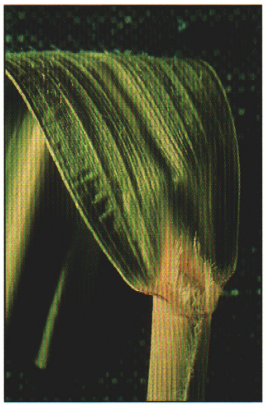
5. Large Crabgrass (*Digitaria sanguinalis*)
Summer annual. Leaf sheath and blade (both surfaces) densely hairy. Membranous ligule. No auricles. Leaf blade is short and wide compared with blades of most other grasses.



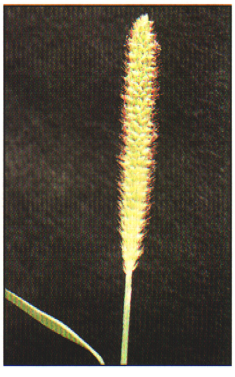
6. Smooth Crabgrass
(*Digitaria ischaemum*)
Summer annual. Leaf sheath and blade hairless or sparsely hairy. Membranous ligule. No auricles. Similar in appearance to large crabgrass.



7. Giant Foxtail (*Setaria faberi*)
Summer annual. Entire upper side of leaf covered with dense, short hairs. Sheath margin hairy.
Hairlike ligule.
No auricles.



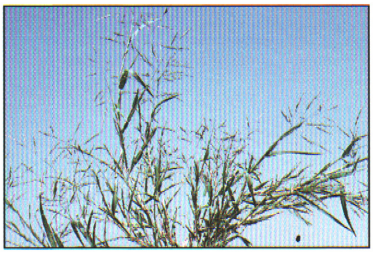
8. Yellow Foxtail (*Setaria glauca*)
Summer annual. Leaf blade hairless except for long, wiry hairs on upper side near base. Sheath is hairless. Hairlike ligule.
No auricles.

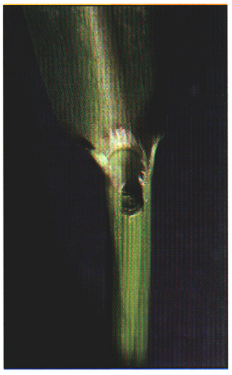


9. Green Foxtail
(*Setaria viridis*)
Summer annual. Leaf blade is hairless. Leaf sheath is hairless except for short hairs along margins. Hairlike ligule. No auricles.

10. Fall Panicum (*Panicum dichotomiflorum*)

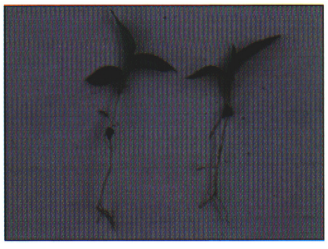
Summer annual. Leaf sheath and blade hairless. Hairlike ligule. Leaf midrib prominent and somewhat white on older plants. No hairs on sheath margin. No auricles.





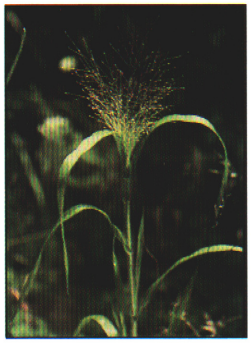
11. Wild-Proso Millet

(*Panicum miliaceum*)
Summer annual. Leaf blade (both surfaces) and sheath densely hairy. Back of midrib often with a row of hairs protruding at a 90° angle. Hairlike ligule. No auricles. A large, oval-shaped, shiny, dark brown to black seed often persists on the root system.



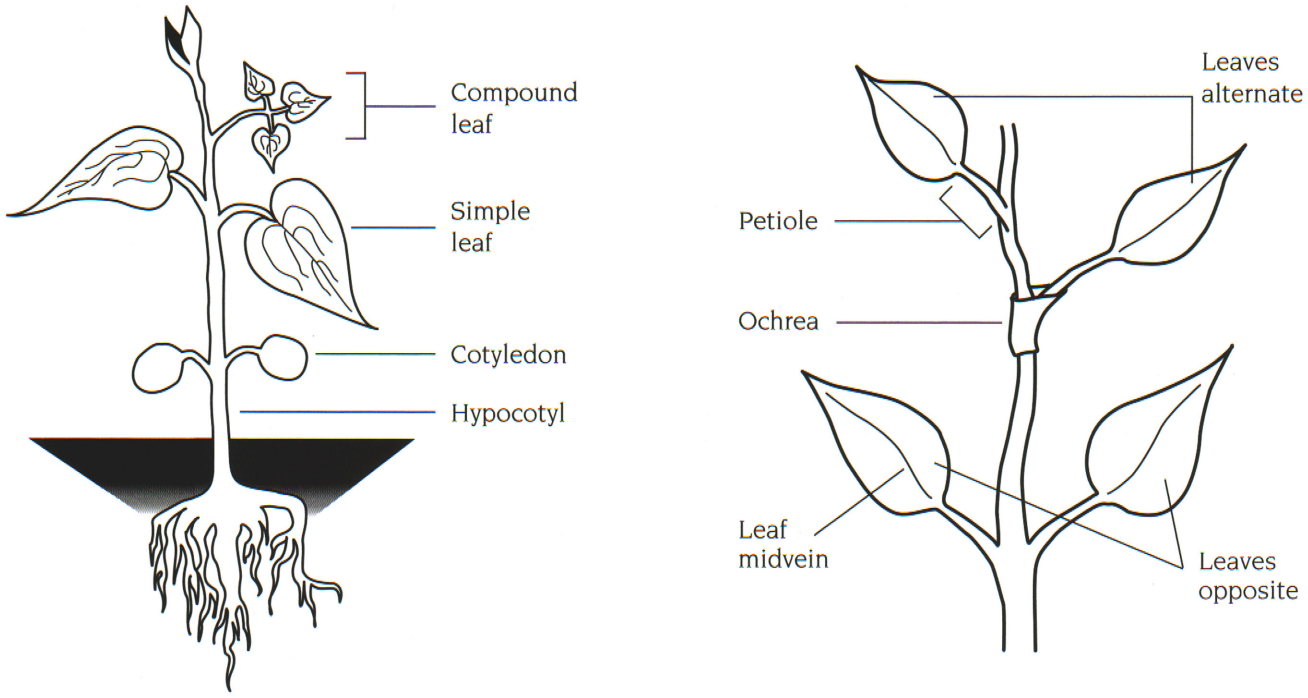
12. Witchgrass

(*Panicum capillare*)
Summer annual. Leaf blade (both surfaces) and sheath densely hairy. Hairlike ligule. Leaf midrib prominent. No auricles. Seed smaller and less persistent than that of wild-proso millet.

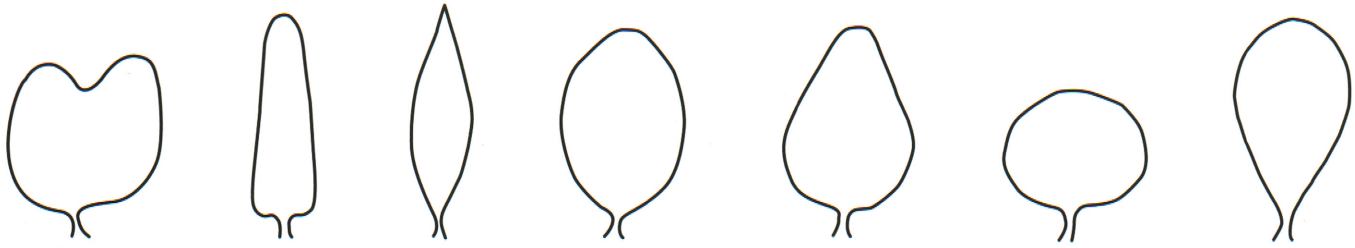


Broadleaf Weed Characteristics

Broadleaf Morphology



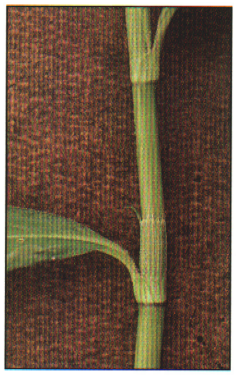
Cotyledon Shapes



Leaf Margins

13. Ladysthumb (*Polygonum persicaria*)

Summer annual. Cotyledons are lanceolate with rounded tips and smooth on both surfaces. True leaves are alternate, smooth and lanceolate with smooth edges. May or may not have a purplish mark (watermark) near the center of the leaf. Nodes are surrounded by an ochrea with hairlike projections extending up the stem. Similar to Pennsylvania smartweed.



14. Pennsylvania Smartweed (*Polygonum pensylvanicum*)

Summer annual. Cotyledons are lanceolate with rounded tips and smooth on both surfaces. True leaves are alternate, smooth and lanceolate with smooth edges. May or may not have a purplish mark (watermark) near the center of the leaf. Nodes are surrounded by an ochrea. Very similar to ladysthumb, but Pennsylvania smartweed does not have hairlike projections extending from the ochrea up the stem.

15. Wild Buckwheat (*Polygonum convolvulus*)

Summer annual. Cotyledons are linear and hairless. Stems are reddish and hairless. Nodes are surrounded by an ochrea. First true leaf is arrow-shaped.

16. Common Lambsquarters (*Chenopodium album*)

Summer annual. Small seedling with linear cotyledons. First two true leaves are opposite and ovate with smooth edges. Later emerging leaves are alternate and triangular with unevenly toothed edges. Cotyledons and true leaves are covered with white, mealy granules that look like frost.

17. Redroot Pigweed (*Amaranthus retroflexus*)

Summer annual. Cotyledons linear and hairless. True leaves are alternate and ovate with a small notch or indentation at the tip. This notch helps differentiate redroot pigweed from eastern black nightshade. Leaves also have purple petioles.

18. Eastern Black Nightshade (*Solanum ptycanthum*)

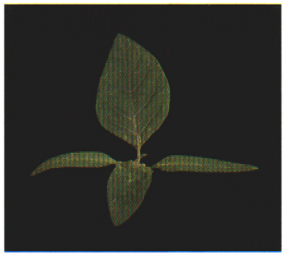
Summer annual. Cotyledons small, ovate and green on both surfaces. First true leaves are ovate and simple with a wavy edge and petioles. First leaves have purple undersides. May look like redroot pigweed when very small, but does not have notch at leaf tip as redroot pigweed does.

19. Common Cocklebur

(*Xanthium strumarium*)
Summer annual. Cotyledons are smooth, waxy and lanceolate and may be protruding from the bur. True leaves are alternate and triangular to ovate with a rough, sandpapery feel.

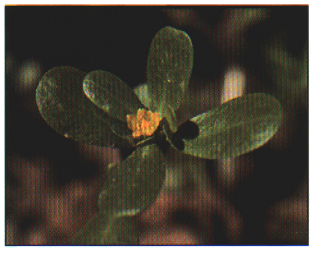
20. Jimsonweed (*Datura stramonium*)

Summer annual. Cotyledons smooth and lanceolate. Hypocotyl is often hairy. True leaves are smooth and alternate with petioles. Seedling has an unpleasant odor when crushed.



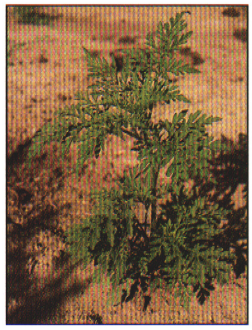
21. Common Purslane (*Portulaca oleracea*)

Summer annual. Cotyledons linear and hairless. True leaves are opposite with each pair rotated around the stem 90° from the previous pair. Leaves are wedge-shaped, tapering toward the base. Leaves are thick, fleshy and glabrous. Stems are prostrate and reddish.



22. Common Ragweed (*Ambrosia artemisiifolia*)

Summer annual. Cotyledons are thick and oval to spatulate with grooved petioles. Adult leaves are pinnatifid with a lacy appearance. Small seedling very similar to giant ragweed, but common ragweed cotyledons are much smaller with purple undersides.

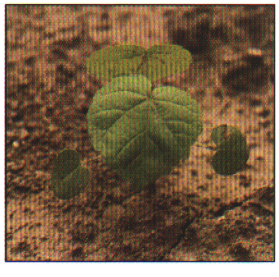


23. Giant Ragweed (*Ambrosia trifida*)

Summer annual. Cotyledons oval to spatulate with grooved petioles. Early leaves covered with dense hair. Small seedling very similar to common ragweed, but giant ragweed cotyledons are three to four times larger and green underneath instead of purple. Adult leaves are deeply three-lobed (occasionally five-lobed) with a rough surface.

24. Velvetleaf (*Abutilon theophrasti*)

Summer annual. Cotyledons have slightly different shapes--one is nearly round; the other, more heart-shaped. Both cotyledon margins are entire, and cotyledons are covered on both surfaces with short hairs. The stem is densely hairy. True leaves are heart-shaped and alternate with serrated margins and velvety, hairy surfaces.



25. Common Chickweed

(*Stellaria media*)
Summer or winter annual. Seedling is small, pale green and only sparsely hairy. First leaves have very pointed tips and petioles. Hypocotyl is slender and often reddish.

26. Shepherd's-purse (*Capsella bursa-pastoris*)

Summer or winter annual. Cotyledons and early true leaves are oval to spatulate and are borne on long stalks or petioles. Older rosette leaves are variable in shape and variously lobed with toothed or undulating edges.

27. Horseweed (Marestail) (*Conyza canadensis*)

Summer or winter annual. Cotyledons are smooth and green. Early leaves are entire. Later leaves are alternate, sessile, crowded around the stem, entire or toothed, and often hairy.

28. Prickly Lettuce (*Lactuca serriola*)

Summer or winter annual, or sometimes a biennial. Seedling is a rosette. First leaves are pale green and spatulate. Later emerging leaves have spiny edges and prickly spines along the underside of a prominent midrib. Stem is hollow with milky juice.

29. Wild Mustard (*Brassica kaber*)

Summer or winter annual. Cotyledons are kidney-shaped and smooth. True leaves are alternate and hairy and vary considerably in size and shape. Stem also hairy, especially near base.

30. Yellow Rocket (*Barbarea vulgaris*)

Winter annual or biennial. Cotyledons and early true leaves are round to ovate and are borne on long stalks or petioles. Cotyledons have a slight notch at the tip. Older leaves are pinnately lobed with a large terminal lobe.

31. White Campion (*Silene alba*)
Biennial or short-lived perennial. Cotyledons are spatulate and hairy. First true leaves are also hairy and narrowly oval.

32. Wild Carrot (*Daucus carota*)
Biennial. Cotyledons are linear, long and smooth. The first emerging true leaf and subsequent leaves are compound, lacy and pinnatifid. Seedling similar in appearance to cultivated carrot.

33. Bull Thistle (*Cirsium vulgare*)
Biennial. Cotyledons are round to spatulate, glabrous and fleshy. First true leaves are oval to spatulate with spines and a rough, bumpy surface. Forms rosette with adult leaves becoming pinnatifid and with dense hairs on undersurfaces.

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Species — Page Number

Glossary

glabrous – hairless, smooth.
midrib – the central vein running lengthwise along the underside of a leaf or cotyledon; underside of midvein.
rosette – a cluster of leaves growing from a common point at the soil surface, without a stem.
sessile – describes a leaf that lacks a petiole, attached directly to the stem.
rhizome – an underground stem from which new plants may emerge, appears to be a root.
tuber – underground nutlike storage organ located at tips of rhizomes.