

Identifying *Miscanthus* in IOWA

Miscanthus is a genus of perennial grasses from Asia that were originally grown as ornamentals. One species, *M. x giganteus* (Fig. 1b), is now being evaluated for its bioenergy potential. However, two other species of *Miscanthus*, *M. sacchariflorus* (Fig. 1a) and *M. sinensis* (Fig. 1c), have escaped cultivation and are becoming invasive in the United States. Due to the invasive risk of some species of *Miscanthus*, it is critical that people are able to identify each species. While all three species share some characteristics, they can be identified by differences in plant growth and flowering structure.

Miscanthus x giganteus is sterile and unable to produce viable seeds. Its rhizomes do not spread quickly. Because of these traits, the invasive risk of *M. x giganteus* is negligible. In contrast, *M. sinensis* plants can produce thousands of seeds, while *M. sacchariflorus* rhizomes can spread rapidly. These two *Miscanthus* species are of invasive concern in Iowa.

This publication describes three species of *Miscanthus* that are present in Iowa and how to identify them. It also describes another grass species that is commonly mistaken for *Miscanthus* species.



Figure 2. *M. x giganteus* (left) and *M. sacchariflorus* (right) near Boone, Iowa, in October.



Figure 1. (a) *M. sacchariflorus*, (b) *M. x giganteus*, (c) *M. sinensis*

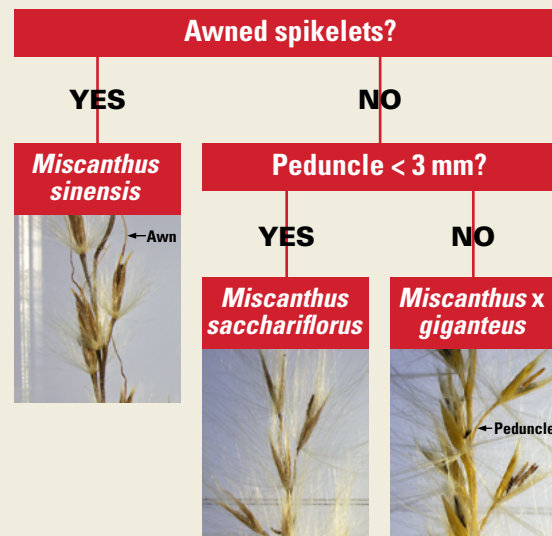
Identification Chart

Glossary of terms

Spikelet—the basic, repeating unit of the seed head in grasses

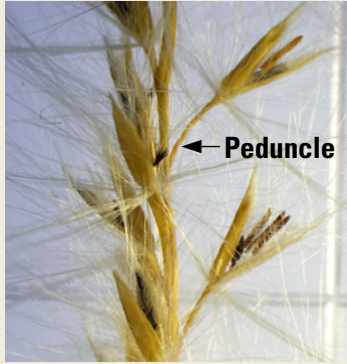


Awn—a bristle that extends from the spikelet

Peduncle—the stalk of the spikelet



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Miscanthus Species Identification

	<i>M. x giganteus</i>	<i>M. sacchariflorus</i>	<i>M. sinensis</i>
Invasive concern	Negligible	Moderate	Small
Awns (see below)	No	No	Yes
Likely location	Research plots, biomass plantings, ornamental plantings	Road ditches, ornamental plantings, near streams	Ornamental plantings
Growth habit	Less aggressive rhizome spread, large bunches; patches are small when planted ornamentally, large when planted in fields	Strongly rhizomatous, difficult to differentiate individual plants; patches are large and running, especially when in ditches and along streams	Bunch grass with weak rhizome spread, can differentiate individual plants in Iowa; patches are very small in Iowa
Height	2.5 to 3.5 meters	1.5 to 2.5 meters	1 to 2 meters
Stems	Solid, becoming hollow with age	Solid or hollow	Solid
Fertile seed	No	Yes	Yes
Flowering initiation	Late fall	Late summer, early fall	Late summer, early fall
Seed head structure			



Commonly confused with *Miscanthus* *Phragmites australis*

- ▶ Perennial grass
- ▶ Grows 2-4 meters tall
- ▶ Dense panicle 15-50 centimeters long
- ▶ Gray/purple flowers in mid-summer to fall
- ▶ Blue-green leaves, no white midrib
- ▶ Hollow stems
- ▶ Found in or near wetlands and roadside ditches

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