

# Johnsongrass [*Sorghum halepense* (L.) Pers.]

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Row Crop



Fig. 1. Johnsongrass forms dense stands.



Fig. 2. Johnsongrass inflorescences are panicles.



Fig. 3. Johnsongrass spikelets have short pedicels with fine hairs.

## Introduction

### Problems Caused

Johnsongrass [*Sorghum halepense* (L.) Pers.] is a perennial warm-season grass native to the Mediterranean. It was introduced as forage and escaped, especially along roadsides. It can cause cyanide poisoning in livestock, particularly in cattle, horses and sheep feeding on Johnsongrass following stress such as cutting or frost. Cyanide poisoning can also cause deformities in livestock offspring.

### Regulations

Johnsongrass is Noxious in Arkansas, California, Delaware, Idaho, Illinois, Indiana, Kansas, Kentucky, Maryland, Missouri, Nevada, Pennsylvania, Utah, and West Virginia. It is a C List noxious weed in California and Colorado, a "B" designated weed in Oregon, and Class A noxious weed in Washington. It is prohibited in Ohio, quarantined in Oregon and Washington. Johnsongrass is regulated as a non-native plant species in South Dakota. It can be problematic in all Mid-South states, especially on roadsides.

## Description

### Vegetative Growth

Johnsongrass is a rhizomatous perennial, forming dense stands. Stems can reach 6' tall. Stem nodes are appressed pubescent, but internodes are glabrous (smooth). Leaf blades are up to 25" long and just over 1" wide. They are pilose on the upper surface basally and sheath margins are glabrous or ciliate. Ligules are membranous, usually ciliate, about 0.1" long.

### Flowering

Flowering occurs from May to October. The inflorescence is a panicle about 25" long and about 8" wide. The rachis and ascending branches are rough (scaberulous) and the raceme joints are pubescent. Spikelets are less than 1/4" long with short pubescent pedicels. Glumes of fertile spikelet pubescent and those of staminate spikelet are glabrous or pubescent both less than 1/4" long. Sterile and fertile lemmas are ciliate and slightly shorter. The awn on fertile lemmas may be present or absent, twisted geniculate and 0.25" to 0.75" long when present. The paleas are absent. The grain (caryopsis) is small, roughly 0.8" long, generally reddish and oblong to ellipsoid.

### Dispersal

Johnsongrass can be spread both by rhizomes in soil and by seed in contaminated hay and equipment. Mowing, movement of contaminated soil, or other activities on roadsides or other areas can also spread johnsongrass.

### Spread By

Johnsongrass is spread by seed and rhizomes.

## Habitat

Johnsongrass is a problem in pastures, fields, prairies, roadsides and waste places. It can form dense stands, replacing the surrounding native vegetation. Although it can be utilized as a forage crop, caution should be taken because of potential cyanide poisoning. On roadsides, its height can obstruct visibility. It is tolerant of a wide range of terrestrial conditions, but generally does not tolerate deep shade.

## Distribution

Johnsongrass is widespread in the United States, possibly in all states except Maine and Minnesota. It has escaped in other parts of the world as well. It is easily spread both by rhizomes in soil and by seed in contaminated hay and equipment. It is widespread in all MidSouth states, particularly in open areas along roadsides and in pastures.

## Control Methods

### Biological

Aside from livestock grazing, no widespread use of biological controls is utilized in the United States. In pasture systems, three or more years of intensive grazing will significantly reduce johnsongrass populations. Frequent mowing is also effective for johnsongrass control. Likewise, flooding infested areas with 2" to 4" water for 3 to 6 weeks in early spring will kill most rhizomes, but will not damage viable seed in the soil.

### Chemical

A number of herbicides are effective for johnsongrass management. These include asulam, bromacil, clethodim, fluazifop, glufosinate, glyphosate, imazamox, imazapic, imazapic plus glyphosate, imazapyr, imazethapyr, MSMA, nicosulfuron, primisulfuron, prometon, quizalofop, sethoxydim, sulfometuron plus chlorsulfuron, and sulfosulfuron. Most require either crop oil or a nonionic surfactant.

### Mechanical

No mechanical controls for johnsongrass are currently in widespread use. Mowing is a common practice, but does not generally eradicate johnsongrass. Since johnsongrass has long rhizomes, hand removal is difficult. However, hand removal for small patches in a landscape may be feasible.

### Physical

Physical controls are generally not effective, although johnsongrass generally does not tolerate deep shade.

Table 1. Suggested chemical control methods for johnsongrass.

Herbicide	Trade name	Method	Rate per Acre
Asulam	Asulox		128 oz.
Bromacil	Hyvar		7-15 lbs.
Clethodim	Select, Prism, etc.	With crop oil concentrate	8 oz.
Fluazifop	Fusilade, etc.	With crop oil concentrate	24 oz.
Glufosinate	Liberty, Finale	With nonionic surfactant	128 oz.
Glyphosate	Roundup, etc.		128 oz.
Imazamox	Raptor, Beyond	With nonionic surfactant	6 oz.
Imazapic	Plateau, Cadre, etc.	With nonionic surfactant	6 oz.
Imazapic & glyphosate	Journey	With nonionic surfactant	22 oz.
Imazapyr	Arsenal	With nonionic surfactant	16 oz.
Imazethapyr	Pursuit	With nonionic surfactant	6 oz.
MSMA	MSMA, etc.		2.5-6 pints
Nicosulfuron	Accent	With nonionic surfactant	0.67 oz.
Primisulfuron	Beacon	With nonionic surfactant	0.76 oz.
Prometon	Bromacil		7.5-10 gal.
Quizalofop	Assure	With crop oil concentrate	12 oz.
Sethoxydim	Poast, Vantage, etc.	With crop oil concentrate	24 oz.
Sulfometuron & Chlorsulfuron	Landmark XP	With nonionic surfactant	9 oz.
Sulfosulfuron	Maverick, Outrider	With nonionic surfactant	1.3 oz.

## References

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