KANSAS DEPARTMENT OF AGRICULTURE

OFFICIAL CONTROL METHODS FOR JOHNSONGRASS

Sorghum halepense (L.) Pers.

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DESCRIPTION

Johnsongrass is a warm-season, perennial grass native to Asia and northern Africa. It reproduces by long rhizomes and seeds. It is well adapted to hold its own in competition with crop plants. Stems grow up to 6-12 feet tall, from freely branching, stout, fleshy rhizomes bearing, fibrous roots. Leaves are alternate, simple, and relatively wide and long with a prominent white midvein. Spikelets are paired (1 sessile and perfect, 1 stalked and anther-bearing) and borne in large open panicles. The fruits are reddish-brown grains about 2 mm long, . Flowering from May – frost; fruiting June – frost.

PREVENTION OF SPREAD

The Noxious Weed Law (K.S.A. 2-1313a et. seq.) requires all landowners to control the spread of and to eradicate Johnsongrass on all lands owned or supervised by them. Methods used for control must prevent both the production of viable seed and destroy the plant's ability to reproduce by vegetative means. Infestation sites must be monitored after control methods have been accomplished to ensure that dormant seeds in the seedbank do not germinate and establish new infestations.

JOHNSONGRASS CONTROL PRACTICES

Johnsongrass control means that both the roots, rhizomes and the flowers must be destroyed. The rhizomes, which are horizontal underground stems, can extend for more than 6 feet from the original plant and can sprout new plants every few inches. Because Johnsongrass is a perennial, with the exception of herbicide applications, one or more of the following control methods must be used together to control Johnsongrass. Contact your county noxious weed director for more information.

Cultural Control

Cultural weed control involves land and vegetation management techniques used to prevent the establishment or control the spread of noxious weeds.

Johnsongrass is generally a good forage grass, especially when young and healthy, and is intolerant of heavy grazing. However, plants at certain developmental stages (when leaves and stems are actively growing) or when stressed (especially due to drought, extreme heat, or frost) canbecome toxic to livestock due to the production of cyanogenic glycosides. Also, prolonged consumption of fresh Johnsongrass can cause nitrate poisoning in ungulates. Consequently, grazing as a control method must be carried out with extreme caution.

Planting a dense cover crop in the spring, after a period of intensive cultivation, may provide effective competition for Johnsongrass. The effectiveness of all competitive crops depends on intensive cultivation during the Johnsongrass growing season when land is not in crop.

Frequent surveys of fence lines, roadway, ditches and other susceptible areas for new infestations and the quick removal of any new plants will prevent Johnsongrass from becoming established.

Mechanical Control

Mechanical weed control involves the physical removal of all parts or just the reproductive parts of weeds.

As a perennial species, Johnsongrass is difficult to control mechanically.
Hand-pulling or hoeing may work for small, recently established populations, they are too time-consuming and laborious to be economical on a large scale. Mowing or harvesting prevents weed seed production but does not prevent the plant from reproducing vegetatively.
Fall plowing may bring Johnsongrass rhizomes closer to the surface, exposing them to killing temperatures. Cultivation reduces carbohydrate reserves in Johnsongrass, making it less competitive. Once cultivated, the system of rhizomes can quickly produce new plants and cultivation can spread the pieces of rhizome, ultimately increasing the extent of the infestation. It is important to clean roots and root fragments from equipment before entering uninfested areas of the field or other fields to prevent the spread of Johnsongrass. This is not financially practical for most agricultural production systems and may also increase erosion of the topsoil. In general, mechanical control is not a good option because plants are able to reproduce from both rhizomes and seed.

Chemical Control

The following herbicides may be used for cost-share with landowners. Other products labeled and registered for use on this noxious weed in Kansas may be used in accordance with label directions but are not available for cost-share. Be sure to follow all label directions and precautions. For additional information consult the most recent edition of the KSU publication of “Chemical Weed Control for Field Crops, Pastures, Rangeland, and Noncropland”.
Any two or more of the herbicides listed below may be available for cost-share as a pre-mix or a tank mix if allowed on the respective labels. Contact your county weed program for availability.

Herbicide	Mode of Action
fenoxaprop-ethyl	1
fluazifop-p-butyl	1
foramsulfuron	2
glyphosate	9
imazapic	2
metsulfuron methyl	2
nicosulfuron	2
primisulfuron	1
quizalofop-p	1
rimsulfuron	2
sethoxydim	1
sulfometuron	2
sulfosulfuron	2

Biological Control

Biological control refers to the deliberate application of a living organism to control the spread of weeds. These agents will not eradicate their host plant, therefore other control methods must be used in addition to the use of biological control agents as part of an integrated pest management strategy. The importation of biological control agents is regulated by USDA-APHIS and is allowed by permit only.

There are no biological control agents available for Johnsongrass.