

# CONTROL OF OLD WORLD BLUESTEMS

Because Caucasian and yellow bluestems are perennial species and grow from their established root systems, there is a very limited number of methods available for controlling them.

- Because of their deep and extensive root systems, they cannot be dug, tilled or pulled.
- They are fire-adapted species so they thrive in the annual burns that are so good at keeping other weeds at bay.
- There are no biological controls available because of the possibility that the agents would harm our native species as well.
- Because they are so closely related to our native bluestems, there are no herbicides available that will control the invasives without hurting the natives and other desirable species.
- The only herbicides that have shown success at controlling both species of Old World Bluestems are:

## **Glyphosate**

Applied at 1-2 lbs. / acre will effectively control the old world bluestems but will also kill any native or desirable species.

## **Imazapyr**

Applied at 0.25 - 0.5 lbs. / acre is less efficient at controlling the old world bluestems but is also less harmful to the natives.



For more information on the  
state weed program, go to:  
[www.agriculture.ks.gov/noxious-weed](http://www.agriculture.ks.gov/noxious-weed)

**Kansas Department of Agriculture**  
1320 Research Park Drive  
Manhattan, KS 66502  
(785) 564-6698

# NATIVE OR INVASIVE?



## A GUIDE TO THE BLUESTEM GRASSES OF KANSAS

## INVASIVE BLUESTEMS

### Yellow Bluestem

*Bothriochloa ischaemum*



Yellow bluestem is a perennial, clump-forming, small, blue-gray graceful grass, with flowering stems up to 4 feet tall. It has yellow-green leaves that are usually smooth and grow up to 10 inches in length. The leaf blades are flat or folded. The stem joints may be smooth or with short hairs. The silvery, reddish-purple flower head is similar to that of big bluestem except that there are more

branches and they are much finer with smaller seeds. It blooms in late June to July, earlier than the native bluestems.

### Caucasian Bluestem

*Bothriochloa bladhii*



Caucasian bluestem is a small blue-gray grass, with flowering stems that can reach 1 to 3 feet high. It forms dense tufts of smooth leaf blades, up to 12 inches long with a thickened mid-vein. The stem joints are purple-tinged and may be smooth or with short hairs. It blooms in late June to July, far earlier than our native bluestems. The flower head features side branches that are shorter than the central stem,

and resembles a miniature Johnsongrass, which blooms at the same time.

## OLD WORLD BLUESTEMS IN KANSAS

The native prairies of Kansas are in the midst of an invasion by aggressive intruders that are pushing our native bluestem species away as they take over our formerly pristine landscapes.

The interlopers are the old world bluestems, two exotic species that were introduced into the United States in the early 1900s as forage species. The two species of old world bluestems are yellow bluestem (*Bothriochloa ischaemum*) and Caucasian bluestem (*Bothriochloa bladhii*). Both of these species have had several cultivars bred from them, all of which are invasive.

Both species are found throughout Kansas; in fact, one or both of them have been reported in 98 of our 105 counties. Having established themselves in such large numbers, there is little to no chance of eradicating them from Kansas without spending large amounts of money.

Other than being able to spread to new areas quickly and easily, one of the reasons they are impacting our pastures and native prairies so much is that they both produce natural chemicals that prevent any other species from growing around them, reducing competition for water and nutrients and creating large areas where nothing else can grow.

Being able to identify the Old World Bluestems and telling them apart from our native species is the first step in controlling them. While they are so much alike in early spring that even the experts can't tell them apart, after they flower it is fairly easy to identify them. In the late summer and fall they become very light colored and stand out easily amongst the darker native grasses.



## NATIVE BLUESTEMS

### Big Bluestem

*Andropogon gerardii*



Big bluestem can be distinguished from other warm-season grasses by its purplish, 3-part flower clusters that resemble a turkey's foot. The stems are erect, up to 10 feet tall, stout, and are usually covered with a blue-tinted waxy layer. Leaf blades are flat, 6-24 inches long, smooth below and rough above. The flower head is typically composed of three robust spike-like branches, but can have as many as seven.

Flowering takes place July through October. The foliage stems stay upright through the winter.

### Little Bluestem

*Schizachyrium scoparium*



Little bluestem is one of the dominant grasses in the tallgrass prairie. It is a native, warm-season grass which typically grows 2-4 feet tall and occurs throughout most of the state. It forms upright clumps of slender green leaves with a tinge of blue at the base. Purplish-bronze flowers appear in 3-inch long heads on branched stems rising above the foliage in August. Resulting clusters of fluffy, silvery-white seed heads are attractive and may persist into winter. The most outstanding feature of this grass may be the bronze-orange fall foliage color.