

# Johnsongrass (*Sorghum halepense*)

Category B—Medium

## Identification and Impacts



Photo credit: C. Evans



Photo credit: S. Dewey, USU



Photo Credit: R.D. Wallace

**Navajo Name**  
Akál

**Origin**  
Native to the Mediterranean region.

**Description**  
Johnsongrass is a tall perennial grass species, growing up to 6 feet tall. Stems are erect with flat leaves that are smooth to sparsely hairy. Leaves have a distinct white mid-rib. Ligules have a fringe of small hairs at the top. They have vigorous rhizomatous roots. Flowers are in open pyramidal-shaped panicles 4 to 20 inches long that darken to a reddish brown to purple as they mature. The seeds can have a single bent awn.



Photo credit: Bureau of Indian Affairs

**Biology**  
Johnsongrass reproduces both vegetatively and by seed. Seeds typically fall near the parent plant and can survive for at least six years, with some instances of them remaining viable for up to 15 years. They prefer disturbed sites and grow best in well-drained soils in warm temperatures.

**Locations**  
It is a common invader of agricultural lands, but no known populations have been documented on the Navajo Nation.

**Ecological Threat and Management Concerns**  
Johnsongrass can invade riparian communities, agricultural sites, forests, and disturbed areas. It can crowd out native species and replace native vegetation. It grows rapidly and can hybridize with commercial sorghum species. While plants can provide forage for livestock, they can produce toxic hydrocyanic acid when stressed, which can be poisonous to livestock. Young plants and regrowth are more toxic and dead material can retain the toxic compounds. It can also host a variety of agricultural pests and diseases.

### Key ID Tips

- Distinct white mid-rib on smooth leaves.
- Fruits in sessile spikelet, sometimes with a single awn.
- Seeds in a loose panicle that appears brown to purple.
- Rhizomatous roots.

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Additional safety measures and limitations may apply for each method. Refer to the [Navajo Nation Integrated Weed Management Plan](#) for more information.

### Mechanical/Manual Removal

Hand removal can be infeasible unless the rhizomes and new sprouts are removed regularly. Larger plants are almost impossible to remove by hand and can often leave rhizomes in the soil to regrow. Removal in early spring is more effective when soils are moist. Repeated, close mowing can be effective at killing seedlings, reducing rhizome growth, and reducing seed production. Tilling can be effective if repeated every two weeks during the growing season.

### Biological

No biological control organisms are available for use on the Navajo Nation.

### Cultural Control

Grazing is not recommended due to the risk of toxic exposure to livestock. Fire is also not recommended as it can stimulate rhizome growth and reestablishment.

### Chemical

Use of herbicides can be effective. Refer to the product labels for information application rates, timing, and approved application methods.

Recommended herbicides include:

- Metribuzin
- Prodiamine
- Paraquat\*

\*Restricted Use by U.S. EPA

### References

DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center. University of California. 544 pp.

USDA, NRCS. 2023. PLANTS Database. Available at <https://plants.sc.egov.usda.gov/>. National Plant Data Team, Greensboro, NC 27401-4901 USA



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