

Category A—High

Sahara mustard (*Brassica tournefortii*)

Identification and Impacts



Photo credit: P. Alexander



Photo credit: Bureau of Land Management



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Key ID Tips

- Deeply pinnately lobed leaves (more so than most mustards)
- Small yellow four-petaled flowers along a raceme
- Linear seed pods that open from the base.

Navajo Name

Oostsé

Origin

Native to the Mediterranean region.

Description

Sahara mustard is a winter annual forb, that can grow up to 4 feet tall. It starts as a basal rosette until forming its flowering stems. Leaves are deeply pinnately lobed and lower stems have dense stiff white hairs. Flowers are small and pale yellow with four petals arranged in a raceme. Fruits are long linear siliques, or seed pods, that are strongly constricted around the seeds to appear beaded. Seeds open from the base to release the seeds. Seeds become slightly sticky when wet.



Photo credit: Michael Lewis, UCR

Biology

Sahara mustard seed is adapted to arid climates and sandy soils. They spread readily along roads, washes, and desert shrublands. Plants reproduce through seed, which germinate close to the parent plants and can persist in soils for years.

Locations

Sahara mustard has not been found yet on the Navajo Nation but has been detected in southern parts of Arizona and New Mexico.

Ecological Threat and Management Concerns

Individual plants can produce a large amount of biomass, which increases fuel loads and fire risk. It has been connected with increased fire frequency and plant community conversions, especially in arid environments (DiTomaso et al. 2013). It can also harbor diseases that affect agricultural crops. The foliage and roots are high in glucosinolates, which can irritate the digestive tract and cause thyroid issues. Cattle can exhibit toxicity issues after ingesting large quantities of seeds, especially when confined in heavily infested areas. These impacts can all result in significant increases in management costs.

Management Recommendations

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

Mechanical/Manual Removal

Manual removal is effective for small young populations, and should be done after stems form but before seed production. Hula hoes can be effective when still in the rosette stage. Grading can also control plants, but should be done before seed development.

Biological

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

Cultural Control

While some livestock species will graze on Sahara mustard, it is not recommended as it can lead to toxicity issues. Burning is not recommended as plants grow in arid environments, which complicates timing issues. Plants need to develop enough biomass to fuel the fire, which is typically after seed production, which can contribute to post fire germination.

Chemical

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

Recommended herbicides include:

- 2,4-D
- Aminopyralid
- Clopyralid
- Metsulfuron methyl
- Triclopyr

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



Bureau of Indian Affairs
 Navajo Region
 301 West Hill Street
 Gallup, NM 87301
 Phone: (505) 863-8314
www.bia.gov/regional-offices/Navajo-region