

Tall whitetop (*Cardaria draba*)



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Photo credit: J.M. DiTomaso



UGA145

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Key ID Tips

- Heart-shaped seed pods.
- Clasp-like leaves along the stem and short stems near the base.
- Short hairs on the leaves.

Navajo Name

Os si tsóh

Origin

Native to the Russia and Eurasia

Description

Tall whitetop, or hoary cress, is a deep-rooted perennial that grows up to 2 feet tall above ground and 12 to 30 feet deep. Leaves are alternate, grey-green in color, and arrowhead shaped. The leaves are covered in short hairs. Lower leaves have a short stalk, while leaves along the stem are clasp-like. It has numerous small, white, four-petaled flowers. Flowers grow in clusters at the stem ends and form an umbel shape. Seeds are in a round pod, called a silicle, that are heart-shaped to oval. They are prolific seed producers.



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Photo credit: USDA ARS

Biology

Tall white top grows in disturbed open sites, along roadsides, riparian areas, and agricultural fields. It prefers moist, alkaline to saline soils, but can grow in a wide range of site conditions. They can reproduce either through seeds or vegetatively as they produce numerous vertical and horizontal roots. Seeds germinate in the fall, after the first rain fall, and can begin producing root buds within three weeks. Their extensive roots store carbohydrate reserves that accumulate throughout the growing season and keep the plants alive during prolonged drought and freezing periods.

Locations

Tall whitetop has been detected along roadsides and washes in the eastern Chuska Mountains on the Navajo Nation.

Ecological Threat and Management Concerns

Tall white grows aggressively and can displace native vegetation to form monocultures. They are difficult to control due to their extensive root system and prolific seeding rate. They are toxic to cattle as they produce high levels of glucosinolates. When they decompose, they also produce allelopathic chemicals that inhibit the growth of other plants (USFS 2014).

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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

Hand pulling is not recommended as its extensive root system can remain for a year after removal. Hand hoeing can be effective if repeated every 4 weeks for 2 years. Mowing is only effective if paired with replanting efforts. Tilling and grubbing are not recommended as it can disperse root fragments and increase infestations, unless done every two weeks for 2 to 4 years.

Biological

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

Cultural Control

Sheep and goats will eat young whitetop but cattle should not be used as it can form toxic compounds in the cattle and taint the milk supply. Burning is not effective and can stimulate resprouting. Agricultural practices, such as reducing irrigation, removing outlying plants, and reducing disturbance are helpful when paired with rigorous native plant restoration.

Chemical

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

Recommended herbicides include:

- Aminopyralid
- Chlorsulfuron methyl
- Glyphosate
- Imazapic
- Imazapyr
- Metsulfuron methyl

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.

U.S. Forest Service (USFS). 2014. Field guide for managing whitetop in the southwest. USDA Forest Service Southwestern Region, Forest Health. Technical Guide TP-R3-16-20.

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