



Photo credit: USDA ARS



Photo credit: C. Roche



Photo Credit: M.E. Harte

Key ID Tips

- Long terminal spines on the phyllaries/ bracts
- Thin, pinnately lobed leaves covered in short hairs.
- Perennial knapweed with a deep taproot.

Navajo Name

C'it bilat'a dootłizhigí

Origin

Native to Asia

Description

Yellow starthistle is a bushy winter annual with spiny yellow flowers and stiff, wiry stems. Plants form a basal rosette in the early spring, before bolting into flowering stems in mid-spring. Stems leaves are alternate and appear blue to greyish-green. They are densely covered in cottony hairs. Their compound flowers grow singly at the end of each stem and have long spines at the tips of the phyllaries or bracts and narrow yellow petals. They have a deep taproot that can grow at least 3 feet deep.



Photo credit: S. Dewey, USU

Biology

Yellow starthistle prefers open disturbed sites and can grow in variety of settings from grasslands to open wastes. They do not tolerate shade or low light, however. They grow quickly and form dense stands and reproduce only by seed. However, their deep taproots allow them to resprout after removal. Germination typically follows precipitation events in the fall, winter, and early spring. Seeds can survive for up to 10 years in soils with ideal weather conditions.

Locations

Yellow starthistle has been detected along BIA Route 27 north of Ganado Lake and along I-40 outside of Window Rock.

Ecological Threat and Management Concerns

Yellow starthistle seeds can contaminate hay and agricultural seeds, lowering their quality and production. They form dense colonies that crowd out native vegetation and create barriers to wildlife and livestock. Yellow starthistle also produces an unknown compound that causes nigropallidal encephalomania, or chewing disease, which prevents horses from swallowing and is fatal.

Yellow starthistle (*Centaurea solstitialis*)

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, mowing, and tilling can be used to prevent seed production when done for 2 or more years. Manual removal is most effective for small patches and areas where plants occur sporadically. It is most effective shortly after plants have bolted and before seed production and should remove all above ground material to limit resprouting. Mowing is most effective when seedheads just start to form and should cut plants below the lowest branch. Mowing requires multiple years of retreatments. Tilling is most effective in agricultural fields and along roadsides. It is not recommended in rangelands or wildlands as it can create conditions that lead to rapid recolonization. Tilling is most effective before seed set and after rainfall/germination events.

Biological

Four biological control organisms are available for use on the Navajo Nation. They include the starthistle hairy weevil, bud weevil, peacock fly, and gall fly.

Cultural Control

High intensity grazing over a short period with sheep, goats, or cattle can be effective at reducing seed production if done just after plants have bolted. Burning can also be effective when plants begin flowering and should be repeated for at least 3 years.

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
- Glyphosate
- Imazapyr
- Indaziflam
- Metsulfuron methyl
- Picloram*
- Triclopyr

*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.

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