

Maltese Starthistle

Centaurea melitensis



FAMILY

Asteraceae - daisies & sunflowers

ORIGIN

Mediterranean

LIFE CYCLE

Annual

OTHER NAMES

Tocalote, Malta starthistle,
Napa starthistle

QUICK FACTS

- Maltese starthistle can grow up to 3 feet tall, with a taproot of up to 3 feet deep. It has a small yellow flower with purplish-brown spikes surrounding the base of the flowerhead. This weed has deeply lobed, dark green basal rosettes. The stem is a lighter green, with small, bristly hairs.
- Maltese starthistle is an annual forb native to the Mediterranean. It was introduced to the U.S. in the 1700s through Spanish colonization. It spread through western and southern states, but couldn't establish itself in eastern and northern states. It continues to affect disturbed open areas in these regions.
- This weed is very similar to yellow starthistle. The main differences are that Maltese starthistle is smaller, slightly less toxic, and spreads less easily. Maltese starthistle also sprouts earlier and dries out quicker than yellow starthistle.

Maltese starthistle quickly took over open fields after its introduction in the 1700s. It spread through contaminated seeds and human movement. While it struggles to compete with neighboring plants, it can quickly take over disturbed areas because it grows quickly and produces hundreds of seeds. In New Mexico, it mainly affects southern counties but threatens native species like Wright's marsh thistle by altering habitats and competing for resources.

What does it look like?

Maltese starthistle is an annual with gray-green stems and leaves. It has a small thistle-like flower surrounded by spikes, growing to about 2 feet tall. Stems and leaves are covered in small, stiff hairs. This plant is often confused with yellow starthistle because of its yellow flowers, but it can be distinguished by size and color. The Maltese starthistle is shorter (1-2 feet) and has a smaller flowerhead (1/2-5/8 inch), and its spikes are purplish-brown and shorter (1/5-1/2 inch).



beth, inaturalist.org

Plant: Maltese starthistle is an annual that can germinate from fall through early spring. It starts as a basal rosette of entire, dark grey-green leaves, and becomes deeply lobed as it matures. After bolting in spring, they can grow up to 3 feet tall in ideal conditions, but are usually around 2 feet tall. They have a yellow thistle-like flower from April to June on top of the grey-green stems that appear winged.



Aaron Echols, inaturalist.org

Roots: This weed forms a simple taproot through winter and spring.



Joey Bom, inaturalist.org

Leaves: Basal rosette leaves are dark grey-green, thick, oblong, and entire, but become lobed as they mature, and range from 1-6 inches in length. Basal leaves sometimes dry out by the time flowering occurs. Stem leaves are grey-green, linear, 0.5-2 inches long, and alternate up the stem. The margins of stem leaves can be toothed or wavy. Both basal and stem leaves can be covered in cottony white hairs, while the stem leaves have stiff hairs with resinous dots.



prouillard, inaturalist.org

Flowers: Maltese starthistle can flower from April to June. It has a small, yellow thistle-like flower surrounded by purplish brown spikes. Flowerheads sit on top of stems, are egg-shaped at the base, and are about half an inch long with cottony hairs. Spikes are short, usually about 1/5 to 1/2 inch long. Large plants can produce over 100 flower heads.



Steve Dewey, Utah State University, Bugwood.org

Seeds: Maltese starthistle can produce from 1 to over 100 flower heads, and each flower head can have more than 60 seeds per head, depending on growing conditions (about 600 seeds in bigger plants). Seeds are spread shortly after flowering; however, an exact time is unknown. Seeds are tiny (1/10 inch) and have gray-tan stripes. One side of the seed has uneven tan bristles, and the other has a notched scar from where it was attached.

Impact and Management

Livestock

Sheep, goats, cows, and pigs can graze on weeds before they develop spikes, and infested fields are usually avoided, but their spikes can still harm animals. Maltese starthistle contains a toxin that causes a neurological condition, “chewing disease” in horses.

Ecosystem and Soil Health

Once established, Maltese starthistle displaces native plants, resulting in a notable loss of floral and faunal biodiversity. When left to invade, it can cause soil erosion and reduced water percolation.

Economic

Maltese starthistle has aggressive seed production and vegetative growth. It can reduce the available forage for domestic livestock, as most animals avoid its spikes. This plant is also toxic to horses in large quantities.

Health & Safety

This weed has small spikes around the base of its flowerhead, which can physically injure children, workers, livestock, and wildlife by causing puncture wounds or infections. It is also poisonous to horses in large quantities.

Not much research has been done on managing Maltese starthistle specifically, but it seems effective to treat it similarly to its more invasive lookalike, yellow starthistle. Preventative measures work best, as this weed rarely competes with established vegetation. However, once an infestation has occurred, effective treatment takes several years. Hand pulling, digging, and mowing are effective at all life stages, but hand pulling is recommended as soon as possible to prevent seed dispersal. Herbicides are also best used before flowering occurs to prevent seed dispersal. Both mechanical and chemical control methods are most effective when used over several years, as seeds remain viable in seed banks for 4-10 years.



Cesar Garcia, inaturalist.org

DO's

- Keep the desired vegetation healthy and avoid disturbing areas, as this plant can take over open spaces.
- Combine several management methods, including seeding desired plants, herbicides, and mechanical removal.
- Mow, cut, or pull before flowering has occurred, as this prevents seeding.

DON'Ts

- Allow the plant to flower, as it produces hundreds of viable seeds.
- Avoid disturbing areas or allowing livestock to overgraze, as this will enable plants to grow and spread.
- Wait until it is a widespread issue, as this plant is easier to manage in small or individual infestations.

For more information on managing Maltese starthistle, please visit www.nmweeds.org

