



Purple Starthistle

Centaurea calcitrapa



FAMILY	Asteraceae-daisies & sunflowers	ORIGIN	Europe, West Asia, North Africa
LIFE CYCLE	Annual, biennial, or short-lived perennial	OTHER NAMES	Common starthistle, Maize thorn, Caltrops, Red starthistle

QUICK FACTS

- Purple starthistle can grow up to **3 feet tall** and has long, sharp spines that can injure people, livestock, and wildlife. These spines can lead to puncture wounds or infections, seriously **threatening the health** and safety of individuals who come in contact with them.
- Originally from Eurasia, purple starthistle spread to other continents, including North and South America, New Zealand, and Australia, where it has become a noxious, **globally recognized** weed. It disrupts agriculture by crowding crops and making land unsuitable for grazing.
- Purple starthistle is **toxic** to some animals, particularly horses. Its spines deter livestock from grazing in infested areas. The plant also **out-competes native plants**, reducing biodiversity and negatively impacting ecosystems.

Around the globe, purple starthistle is known as a determined and disruptive weed. The plant grows up to 3 feet tall and possesses uniquely long and sharp spines, which can cause significant injury. Likely spread via contaminated seed, purple starthistle escaped its native range and is now listed as noxious in North and South America, New Zealand, and Australia. This invader threatens food production by deterring desirable crops and cattle.

What does it look like?

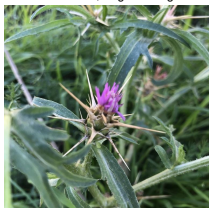
Purple starthistle is a multi-branched bushy forb that can act as an annual, biennial, or short-lived perennial. Plants closely resembles spotted and diffuse knapweed, other noxious weeds commonly found in the West. Purple starthistle can be differentiated by the sharp spines at the tips of the flower bracts. Knapweeds lack these sharp spines.



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D. Walters and C. Southwick, Table Grape Weed Disseminule ID, USDA APHIS PPQ, Bugwood.org

Plant: Appears as only a basal rosette until stems are ready to bolt. The stems are usually found in groups of one to several and often form rounded mounds. They are covered in short, dense, tangled hairs. When fully mature, purple starthistle can grow to be 4 feet tall.

Roots: This weed has a thick, fleshy taproot, which can grow long enough to sequester deeper moisture from surrounding plants.

Leaves: The dark green basal leaves are short-lived and have petioles (leaf stems) and hairy surfaces. These leaves are lanceolate with deep lobes and toothed margins, growing approximately 9.8 inches long by 1.6–2 inches wide. Stem leaves appear much more narrow (linear) and deeply divided (less so closer to branch tips). They are rough to the touch and have no stems.

Flowers: The cluster of stems terminates in roundish heads, each about 0.6-1 inches in size. The outer part of the flower heads is covered in green or straw-colored bracts, each tipped with a sharp, yellow spine with 2-6 shorter spines at the base of the flower head. Topping each head is a vibrant purple thistle-like flower with 25-40 florets. Flowers appear in June through November.

Seeds: Fruits, each containing a single smooth, hairless seed, are dry and do not open at maturity. These fruits (achenes) are usually white and streaked with brown. Each seed is 3-4 mm long and about 2mm wide.

Impact and Management

Agriculture and Food Security

This weed is bitter and unpalatable, avoided by most creatures except in its early rosette stage. Farmers and ranchers face increased costs of managing this weed, including herbicide expenses, additional labor, and mechanical control measures. Dense stands of purple starthistle inhibit and crowd out the growth of crops. Loss of crops in this manner, combined with the loss of associated rangeland for cattle, can severely disrupt food production and cause substantial economic loss in agricultural settings.

Health and Safety

Purple starthistle can physically injure children, workers, livestock, and wildlife, causing puncture wounds or infections. The obstruction of firebreaks and pathways by large weed infestations can exacerbate fire risks in dry regions, threatening property and personal safety. Horses are particularly endangered as the plant's consumption can cause "chewing disease." Poisonings are not common among grazers due to the plant's unpalatability.

Wildlife Habitat

The continued spread of purple starthistle harms wildlife as well as agriculture. Areas taken over by this thorny plant will likely not be grazed by ungulates. This can disrupt historically grazed areas and alter nutrient forage patterns. While the dense brambles caused by plant stands may offer concealment and protection to rabbits, many larger species will not be able to find shelter in infested areas due to the sharp spines.

Purple starthistle is the most vulnerable during its early stages after germinating in winter or spring. Herbicides can be effective at this stage when used in conjunction with cultivation. Isolated plants should be dug out immediately, removing the root crown to avoid resprouting. Mowing will not kill plants completely but may reduce seed production if timed correctly. Burning and grazing are not viable options as these methods can leave behind the root crown to re-sprout.

DO's

- Encourage the growth of competitive native plants. Purple starthistle tends to thrive in disturbed soils, so maintaining healthy, dense vegetation can help crowd it out.
- Mow or cut plants before they set seed. This prevents new plants from germinating and helps limit their reproductive success.
- Combine different management techniques, such as mechanical removal, herbicides, and seeding desirable plants.

DON'Ts

- Avoid disturbing the soil unnecessarily, as tilling or excessive digging can spread purple starthistle seeds and help them germinate.
- Allowing livestock to overgraze disturbs the soil, reduces competition from native or desirable plants, and facilitates growth.
- Don't wait until purple starthistle has become a widespread issue. Small plants and early infestations are more manageable.



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

