

Scotch Thistle

Onopordum acanthium



FAMILY	Asteraceae-daisies & sunflowers	ORIGIN	Europe
LIFE CYCLE	Biennial	OTHER NAMES	Cotton thistle, Horse thistle

QUICK FACTS

- Scotch thistle is a large biennial plant that can reach heights of up to 8 feet. Its sharp, spiny leaves and fluffy flower heads bloom in midsummer, typically in shades of dark pink to lavender.
- It thrives in varied environments, particularly in moist areas like riparian zones, irrigated fields, or acequias. However, it can also establish itself in disturbed, drier regions and is often found alongside other invasive species.
- Scotch thistle is a competitive, noxious weed with sharp spines that deter grazers. It also affects the health of surrounding vegetation and poses a risk of injury to children and pets.

If you live in the West, you will likely notice this gigantic grey-green plant with its formidable (and painful) spines, especially if it appears in your garden, pasture, or croplands. Brought to America for floral arrangements, Scotch thistle or cotton thistle is a large invasive plant that is thankfully easy to spot but poses a significant threat to pastures and livestock. It also only reproduces through seeds, which can be prevented by removing and disposing of flower heads early in their development. This is easy to do in small areas but may prove difficult for larger infestations.

What does it look like?

Scotch thistle is a gigantic plant that can reach heights of 8 feet or more and achieve up to a 6-foot wide diameter, with main stems that measure up to 4 inches in diameter at the base. The stems feature prominent vertical rows of spiny, ribbon-like “wings” that extend up to the flower heads. A variant of Scotch thistle, *O. tauricum*, has a very similar appearance to *O. acanthium* but lacks the dense, woolly hairs.



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Roots: Scotch thistles possess a large fleshy taproot. The roots are not regenerative and will generally die if severed below the surface.

Leaves: Its leaves, which can grow up to 2 feet long and 1 foot wide, are armed with sharp, green-white spines and are covered with a thick mat of cotton-like or woolly hairs, contributing to its alternate name, cotton thistle. This unique foliage often gives the plant a distinctive gray-green appearance.

Flowers: The flowers bloom in midsummer. They are fluffy, globe-shaped heads that cluster in groups of 2-3 at the tips of the stems. These flower heads can reach up to 2 inches in diameter and are adorned with long, stiff, needle-like bracts at their base. The flowers' colors vary, typically from dark pink to lavender.

Seeds: Each flower head produces 110-140 black-brown oblong seeds that are wrinkled and about 3/16 inches long. Each seed is tipped with a bristly pappus, which allows for wind dispersal.

Impact and Management

Agriculture and Food Security

Scotch thistle takes over open fields when other crops are not present. Allowing the plant to take over will guarantee severe soil nutrient depletion, making reintroducing crops or establishing a healthy pasture challenging. The thistle's sharp spines and tall height often form a natural barrier, preventing livestock from accessing forage areas.

Health and Safety

The plant's dense, spiny foliage can physically injure children, workers, livestock, and wildlife, causing puncture wounds, skin irritation, or infections. The obstruction of firebreaks and pathways by large thistle infestations can exacerbate fire risks in dry regions, threatening property and personal safety.



An early infestation of Scotch thistle on pasture lands

Photo by John M. Randall, The Nature Conservancy, Bugwood.org

Scotch thistle only reproduces from seeds, so preventing seed head production is most critical. This can be difficult, however, as the seeds become fertile even after the flower is removed. The most effective management measures involve the prevention of flowerheads from forming in the first place. Sheep and goats (not cattle) will readily consume thistle rosettes when young. This can have a significant impact on the plant's growth as they will not be able to produce stems and, subsequently, flowers and seeds.

Prevention is the first step in the management of Scotch thistle. If using equipment to remove already seeded thistle stands, clean the equipment before moving it to another site. Thistle seeds easily contaminate crop seeds, and the seed purchased should be well reviewed and tested to prevent infestation of scotch thistle (among other weeds).

DO's

- Identify the plant when it is young; young rosettes can be easily removed by hand.
- Be wary that this plant is currently sold in flower arrangements and as an ornamental, so it could appear anywhere.
- Out-compete the plant with well-established crops and native grass communities.

DON'Ts

- Let it go to seed. Scotch thistle produces thousands of seeds per plant, which can remain viable in the soil for years.
- Ignore early infestations. Waiting until an infestation is extensive before taking action makes control significantly harder.
- Let the plant become established; management becomes more difficult with time, especially after its first year of flowering.



For more information on managing Scotch thistle, please visit www.nmweeds.org

