

SCOTCH THISTLE: Options for control

Scotch thistle, a class-B noxious weed in Lincoln County, Washington (*Onopordum acanthium*) of the Asteraceae (Sunflower) family. It is also known as cotton thistle, and derives from Eurasia.

Scotch thistle is a branched, robust biennial (or sometimes annual) that often grows 8 feet or more in height and 6 feet in width. Main stems may be up to 4 inches wide at the base. Stems have vertical rows of prominent, spiny, ribbon-like leaf material or "wings" that extend to the base of the flower heads. Leaves, which are armed with sharp, yellow spines, are up to 2 feet long and 1 foot wide. Upper and lower leaf surfaces are covered with a thick mat of cotton-like or woolly hairs, which give the foliage a gray-green appearance. Plants flower in mid-summer. The globe-shaped flower heads are borne in groups of 2 or 3 on branch tips. Flower heads are up to 2 inches in diameter, with long, stiff, needle-like bracts at the base. Flowers range from dark pink to lavender. Seeds are smooth, slender, and plumed.

situations. As a biennial, Scotch thistle typically lives for two growing seasons. Seeds usually germinate in the late fall, but germination can occur at other times, as well. Seedlings that appear in late autumn behave as true biennials, but seedlings produced during late summer or early autumn behave as annuals. It grows along roadsides, fence lines, ditch banks, open dry areas, and in pastures. During its first year, Scotch thistle produces a rosette with a taproot that may extend down 1 ft. or more. Early in the second year, the plant bolts. Flowering occurs mid June to September. Plants produce 8,400 to 40,000 seeds. Reports on seed longevity in the soil vary all the way to 20+ years. Seeds are dispersed locally by wind; humans, water, livestock, and wildlife are involved in longer-distance dispersal.

Scotch thistle has been credited with helping Scotland fend off Viking invasion. As the Vikings moved into Scotland for a nighttime sneak attack, they yelled out in pain when they stumbled through the Scotch thistle plants. Their cries alerted the Scots and allowed them to push out the Vikings. Since then, Scotch thistle has been the national



Rosettes can be 6 feet wide and form dense patches.



The stems have spiny wings, which makes this plant an increased hazard to humans and animals.



Mature plants can reach a height of 8-12 feet tall.

Scotch thistle is usually a biennial, although it can behave as a winter or summer annual or a short-lived perennial under certain

Key identifying traits

- **Stems** are erect, branching, sharp spiny leaf wings extend down to the stem.
- **Basal leaves** may be over 2 feet long and a foot wide.
- **Leaves** are coarsely lobed, fine dense hair on both sides, with sharp spines on margin.
- **Hairy leaf surface** causes a grayish-green appearance.
- **Flowers** are pink to violet purple, 1 to 2 inches in diameter, solitary and numerous.

Biology and ecology

- **Biennial** that grows 8–12 feet tall.
- **Rosettes** may reach a diameter of 6 ft.
- **Reproduces entirely by seed** that is dispersed by wind.
- Each plant may produce up to **40,000 seeds**, viable up to **40+** years.
- **Reproduces by seed only.** Plumed seeds can be dispersed by attaching to clothing, and fur, or transported by wind, water, hay or machinery.
- **Not palatable** to livestock due to sharp spines.



Upper and lower leaf surfaces are covered with a thick mat of cotton-like or woolly hairs, which give the foliage a gray-green appearance.



Stems are broad with spiny wings.



Flowers are globe shaped, violet to purple, 1-2 inches wide.

CONTROL MEASURES:

For this and other publications, see our website at: www.co.lincoln.wa.us/weedboard

Prevention:

- Beware of fill dirt, hay and seed from outside your area. **Early detection** is vital to prevent invasion.

Biological:

- None available at this time.

Cultural:

Healthy competitive vegetation helps reduce open spaces which lessens the chance for invasion.

Mechanical:

- Mowing, can stop seed production in short term, but plants can re-grow.
- cutting, digging, pulling or cultivation are all

effective, but need to monitor for re-growth, because seeds are viable in the soil for 20+ years.

Chemical:

- Any of the following herbicides can be used during the rosette stage or for fall regrowth: Dicamba + 2,4-D (Weedmaster), Aminopyralid (Milestone) can be used up to the water's edge, Redeem R & P (clopyralid + triclopyr), Tordon (a restricted use product).
- **Always** use a **surfactant** due to the hairy leaf surface.
- **Read** the **label** instructions before applying.

Notice how the dense hairs on the leaves give Scotch thistle a velvety grayish green appearance.



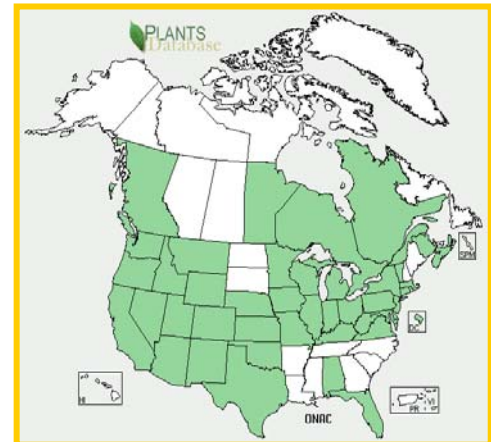
The short spines on the bracts of Scotch thistle become harsh and sharp at maturity.



Infestations of Scotch thistle reduce forage production and virtually prohibit land utilization for livestock. Dense stands of the large, spiny plants constitute a impenetrable barrier to humans and livestock or wildlife movement, almost totally excluding animals from grazing and access to water.



Scotch thistle has reportedly been used to treat cancers and ulcers and to diminish discharges of mucous membranes. The receptacle was eaten in earlier times like an artichoke. The cottony hairs on the stem have been occasionally collected to stuff pillows. Oil from Scotch thistle seeds has been used in Europe for burning and cooking.



Photos and references courtesy of: Photos: James Parks; Rich Old, XID Services Inc., Bugwood.org; Wikipedia; NWCB written findings.

Lincoln County Noxious Weed Control Board
405 Ross St.
Davenport, WA 99122
509-725-3646