



Bull Thistle Fact Sheet

Common Name: Bull thistle

Alternate Name: Spear thistle

Scientific Name: *Cirsium vulgare*

Legal Status: Prohibited-Eradicate

Bull thistle was added to the Maryland Noxious Weed Regulations in 1984. It is one of four thistle species on the noxious weed list. The law prohibits the import and transport of noxious weeds throughout the state and requires that infested lands be managed for their eradication or control.

What is Bull thistle?

Bull thistle is an invasive biennial herbaceous plant native to Europe, Asia, and Africa. It was accidentally introduced to North America in the early 1800s as a seed contaminant and is widespread throughout the United States and parts of Canada.

Bull thistle **reproduces solely by seed** and germinates in the fall or spring, depending on soil moisture. Seed is dispersed by water, machinery, in contaminated grain and hay, and by wind for short distances. Bull thistle is a prolific seeder with individual plants producing between 100 to 300 seeds per seedhead. While most seeds die in the first year, deeply buried seeds may survive for 3 or more years.

Bull thistle can grow in a wide range of environments, but is **most problematic in recently or repeatedly disturbed areas** such as pastures, overgrazed rangelands, recently burned forests, forest clearcuts, roadsides and ditches. It is found on dry and wet soils and tolerates a wide range of soil pH. The presence of bull thistle in hay decreases the forage value and lowers the market price. Its sharp spines deter grazing by animals, and heavy infestations in pastures and rangelands reduce the availability of livestock forage.

Appearance

Bull thistle forms a **low-growing basal rosette** (cluster of radiating leaves) in the first year that typically grow up to 3 feet in diameter. In the second year, the flowering stem can grow 2 to 5 feet tall with one branched, upright stem. The light green stem is **densely covered in white hair and spiny wings extend downward** from the leaf base. The coarsely lobed, hairy leaves (3 to 6 inches long and up to 2 inches wide) feature a distinct, two-sided texture. The upper leaf surface is covered in **short, coarse, and stiff, bristle-like hairs**, making it feel rough or prickly to the touch. The underside of the leaf is covered with **soft, white, woolly or cottony hairs**. Each lobe has **long, sharp spines** and the **tip of the leaf is elongated**.



Photos by Susi Ponce, MDA

Stages of Bull thistle

- | | |
|--------------------------|------------------|
| a) rosette stage | b) mature plants |
| c) bud (spiny involucre) | d) flower head |
| | e) seedhead |

The distinctive **gumdrop-shaped flower head** (1.5 – 2 inches in diameter) contains hundreds of tiny pink, dark purple or magenta disc florets. They can be solitary or 2 – 3 clustered at the end of branching stems. The flower head sits on a **bulbous or narrow, vase-shaped involucre** (collection of bracts/modified leaves) which surrounds and protects the enclosed achene-pappus units (the dry seeded fruit and its 'fluffy' parachute). The **sharp, spiny bracts** help guard the thistle against insects. The yellow-tipped spines are tapered and curve outwards or bend down. The **bracts are covered with hairs that look like cobwebs**. Bull thistle blooms from July to September. Seeds are **lightweight, tan, and topped with long, white, feathery hairs** to carry them off in the wind. It has a short, fleshy taproot with several primary roots.

Prevention

1. Early detection is key to prevent invasion. **Scout your land frequently** in the early growing season. Look for Bull thistle plants along field margins and fencerows.
2. **Use certified weed-free seed, hay, straw, and soil** to ensure the seed is not contaminated with bull thistle seed.
3. **Avoid bare ground and minimize soil disturbances** from vehicles, machinery and over-grazing in non-cropland areas. Promptly revegetate disturbed areas with desirable perennial forage species.
4. **Clean equipment** using a pressure hose, air compressor, or sweep before leaving infested areas.

Key ID Characteristics



Leaves: Rough in texture. Tip of leaf is elongated. Spines at end of each lobe



Stems: Spiny and winged



Bracts: Stiff, spine-tipped and covered with hairs that look like cobwebs



Involucre: Gumdrop, vase-shaped or globed-shaped



Upper leaf surface: Covered in short, coarse, and stiff, bristle-like hairs, making it feel rough or prickly to the touch



Underside of the leaf: Covered with soft, white, woolly or cottony hairs

Photos by Susi Ponce, MDA

Management

Managing bull thistle requires a multi-year, integrated control strategy focused on preventing seed production and reducing root reserves. Annual treatments are often necessary to manage new seedlings.

- **Chemical.** Apply a post-emergent broadleaf herbicide when the plant is actively growing. The **most effective timing is to apply herbicide during the rosette stage in late fall** (October – November) as it is actively transporting nutrients to its roots and kills the plant before winter. Early spring (March – April), before bolting, is the second best time. For bolted plants, applying herbicide to the cut surface can also be effective. **Read labels before use.** Use a surfactant to increase absorption of the herbicide by the leaves. Do not apply when the soil is dry or the plant is stressed.
- **Mechanical.** For small infestations, use a sharp shovel or spade to **cut the plant 1 to 2 inches below the surface of the soil**, ideally when the plant is in the rosette stage or early bolt. If the plant is cut at or above the soil surface, it can often resprout from remaining buds, particularly if cut too early in its lifecycle. Minimize unnecessary soil disturbance, which can expose buried seeds and promote new germination. **Repeat the cutting process twice or more per season** because seeds in the soil can germinate during the growing season.

For large infestations, **mow before flowering**, ideally in early to mid summer (June – August). Peak blooming occurs between July and August. If the plant has bloomed, they **should be collected and bagged**, even after cutting, as they can still produce viable seeds. If plant has already set seed, use caution when removing and bagging seed heads. Wear protective clothing including eye protection.

- **Cultural.** Maintaining a vigorous and competitive pasture and preventing overgrazing will suppress seedling development. Avoid applying fertilizer during bull thistle germination to prevent establishment.

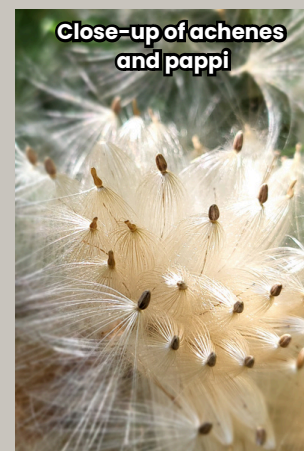
Resources

MDA has entered into an agreement with many counties in the State to provide technical assistance to landowners.

Many of the programs provide herbicide application to landowners on a fee-for-service basis.

To learn whether your county has a Weed Control Program, visit <https://mda.maryland.gov/plants-pests>

For weed identification and herbicide recommendations, contact your local Extension office at: <https://extension.umd.edu/locations>



Scan the QR code for more ID photos.



Note: Land under the Conservation Reserve Program should consult with USDA Farm Service Agency on weed control and management.



Maryland Department of Agriculture
Plant Protection & Weed Management
50 Harry S. Truman Pkwy
Annapolis, MD 21401
(410) 841-5920

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