

The Eleven Primary Noxious Weeds of Minnesota

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Applied Weed Science

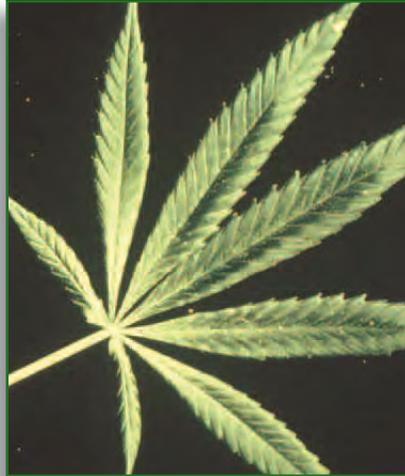


Connecting Community Needs and University Resources

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Hemp mature plant

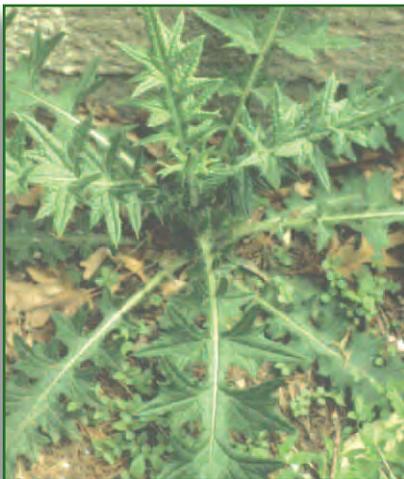


Hemp leaf

The following eleven Primary Minnesota Noxious Weeds are prohibited in Minnesota because they are difficult to control or are injurious to public health, the environment, roads, crops, livestock, and property. These weeds must be controlled on all public and private lands.

Annuals: annual weeds germinate and emerge from seed and complete their life cycle in one growing season. There is one annual weed on the Minnesota Noxious Weed List, hemp.

Hemp (*Cannabis sativa*) is also known as marijuana. The plant is two to ten feet tall, has rough, hairy stems, and leaves that are divided into 5 to 11 hairy leaflets (divisions within a leaf) with notched edges. Flowers are green in color. Hemp is found in rich, low, wet areas, but can also be found in waste areas, farm sites, ditches, pastures and fields throughout Minnesota.



Bull thistle rosette



Bull thistle flowers

Biennials: requires two growing seasons to complete their life cycle. Biennials form a rosette (cluster of leaves close to the ground, like dandelions) the first year and during the second year they develop a flower stalk, flower, and produce seeds. The four biennial weeds on the Minnesota Noxious Weed List are: plumeless thistle, musk thistle, bull thistle, and garlic mustard.

Bull thistle (*Cirsium vulgare*) grows to a height of two to four feet. Leaves are dark green, coarsely lobed and end in a long, sharp spine. The upper leaf surface is covered with short, stiff hairs and spines, while the underside of the leaf is covered with dense, woolly, gray hair. Flowers are reddish-purple and surrounded by spines. Bull thistle is primarily found in pastures, waste areas, and along roadsides throughout Minnesota.



Garlic mustard mature plant



Garlic mustard flower



Musk thistle rosette



Musk thistle flower



Plumeless thistle rosette



Plumeless thistle flower



Canada thistle mature plant



Canada thistle rosette

Garlic mustard (*Alliaria petiolata*) grows three to four feet in height. Lower leaves are heart or kidney shaped, while upper leaves are toothed, and triangular in shape. Flowers are white and clustered on the top of the stem. Young plants smell like garlic. Garlic mustard is found in the forest understory, at the edges of wooded areas near trails, roadsides and areas where trees have been removed.

Musk thistle (*Carduus nutans*), also called nodding thistle, grows to a height of three to six feet. The leaves are dark bluish-green with light green midribs (central vein in the leaf) and white margins that end in a white to yellowish spine. The leaves are coarsely lobed and slightly wavy. The leaves have little or no hair. Flowers are large, purplish, surrounded by spines and often droop. Musk thistle is primarily found in Southern Minnesota in pastures, waste areas, and roadside, and prefers moist soils.

Plumeless thistle (*Carduus acanthoides*) grows to a height of three to six feet. The leaves are narrow, deeply divided, with scattered hair on the upper surface and dense white hair on the lower surface. Lobes on the leaves end in white to yellowish spines. Flowers are reddish-purple with spines. Plumeless thistle is found primarily in pastures, waste areas, and along roadsides, however, it prefers sandy, well-drained soils.

Perennials: A perennial weed can live for two or more years. The six perennial weeds on the Minnesota Noxious Weed List are perennial sowthistle, Canada thistle, leafy spurge, field bindweed, poison ivy and purple loosestrife.

Canada thistle (*Cirsium arvense*) grows to a height of two to five feet. The stems are grooved and become hairy as the plant matures. The leaves have crinkled edges, spiny margins, and are somewhat lobed. Flowers are lavender, white or reddish-purple without spines. Canada thistle is found in cultivated fields, pastures, waste areas and roadsides throughout Minnesota.

Perennial sowthistle (*Sonchus arvensis*) grows to a height of three to seven feet. The stems contain a milky juice called latex. The basal leaves are narrow and deeply lobed. The leaves attached to the stem are toothed, lobed, and have spiny edges. Flowers are yellow. Perennial sowthistle is found in cultivated fields, pastures, waste areas, and along roadsides throughout Minnesota.



Canada thistle flowers



Perennial sowthistle mature plant



Perennial sowthistle rosette



Perennial sowthistle flowers



Leafy spurge mature plant



Leafy spurge flowers

Leafy spurge (*Euphorbia esula*) grows to a height of two to three feet. The stems contain a milky juice called latex. The leaves are bluish-green, narrow and linear in shape. Leafy spurge produces a flat-topped cluster of yellowish-green flower-like structures called bracts. Leafy spurge grows primarily in pastures, waste areas, and along roadsides throughout Minnesota.

Field bindweed (*Convolvulus arvensis*), also known as creeping jenny or morningglory, grows prostrate (along the ground), and can climb on nearby objects. The plants can spread two to seven feet. The leaves are arrow-shaped with two basal lobes. The flowers are white to pink and are funnel shaped. Field bindweed is found in most cultivated fields, gardens, lawns, waste areas and along roadsides throughout Minnesota.

Poison ivy (*Toxicodendron radican*) is a native species and grows primarily as a woody vine, but if growing in full sunlight it may grow as a shrub up to several feet tall. The leaf contains three leaflets that are pointed at the tip and shiny. Flowers are yellowish-green and produce a grayish cluster of fruit. All parts of the plant contain a poisonous material that causes blistering of the skin. Poison ivy grows along stream banks, edges of paths and roadsides, fencerows, woodland and other non-cultivated sites.

Purple loosestrife (*Lythrum salicaria*) is a wetland weed that can reach heights of seven feet. Leaves are linear (long and narrow) in shape, hairy and have smooth edges. Flowers are purple and found at the top of the plant. Purple loosestrife grows in wets soils, including meadows, pastures, cattail marshes, streams, river banks, lake shores and ditches.

Control of Noxious Weeds

Chemical control of annuals works best when a herbicide is applied in the spring to actively growing, young weeds. Mechanical control, such as mowing, is also effective against annuals.



Field bindweed mature plant



Field bindweed leaf



Poison ivy leaf



Berries (fruit) of poison ivy



Purple loosestrife mature plant



Purple loosestrife flower

Control of biennials, via herbicides, are most effective when applied during the first year's growth. If treatment is delayed until the second year, early season application of a herbicide, or mowing, before bloom is recommended.

Methods of perennial weed management fall into three categories: (a) cultural - such as crop rotation, (b) mechanical - such as tillage, and (c) chemical - herbicides.

Effective management of perennial weeds requires a combination of all three methods. Fall herbicide applications can provide some of the best perennial weed control during the season. However, it is important to realize that herbicides alone, or one herbicide application will generally not eradicate a perennial weed population. Application of herbicides in spring, or frequent mowing during the summer is also effective in controlling growth until fall. However, mowing alone may take several growing seasons to effectively control perennial weed populations.

Biological control, using host-specific natural enemies, has shown to be successful on large populations of noxious weeds (like leafy spurge and purple loosestrife) where traditional weed management methods are logistically or environmentally impractical.

Each year, the University of Minnesota publishes *Cultural and Chemical Weed Control in Field Crops*. This publication includes control strategies (cultural, mechanical and chemical) for many of the noxious weeds. The publication is available on-line only at <http://appliedweeds.coafes.umn.edu/>

Reviewers: Jeanie Katovich, PhD and Patrick Weicherding, PhD, University of Minnesota; and Anthony Cortilet, Minnesota Department of Agriculture
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In Partnership...



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