

■ Noxious Weeds

Noxious plants are undesirable in light of planned land use or unhealthy to range or pasturelands. Noxious plants are categorized by the State Department of Agriculture and will vary from state to state.

Absinth wormwood.

Introduced perennial forb which is found on dry soils, in overgrazed pasture and rangeland, disturbed areas, Conservation Reserve Program (CRP) fields and roadsides. Absinth wormwood is easily recognized by its grey color and strong sage odor. Absinth is a prolific seed producer that can also spread by short roots. This plant is unpalatable to most classes of livestock, causing economic losses by reducing available forage.

Tip: The presence of absinth wormwood is a symptom of an unhealthy plant community characterized by bare ground and low plant vigor.

Tip: Herbicides should be applied when the plant is at least 12 inches tall and actively growing (late June to mid August).

Tip: Herbicides are the most frequently used control technique. The NDSU publication W-838, "Absinth Wormwood Control," lists the most affective herbicides to control absinth wormwood, including clopyralid (Stinger or Curttail), dicamba (Banvil), 2,4-D and picloram (Tordon). See table for results from experiments conducted in North Dakota (Lym et al. 1994).

Herbicide	Rates (lb/ac)	Months after treatment		
		3	12	15
		(% control)		
dicamba	0.5	20	70	75
dicamba	1.0	60	90	100
2,4-D	1.0	15	75	75
2,4-D	2.0	50	85	95
picloram	0.13	35	90	100
picloram	0.19	60	100	100
picloram	0.25	90	100	100
clopyralid	0.19	50	90	90
clopyralid	0.25	75	100	95
clopyralid + 2,4-D	0.19 + 0.75	85	100	95

Canada thistle.

Introduced perennial forb found on moist sites, in overgrazed pasture and rangeland, disturbed areas, Conservation Reserve Program (CRP) fields, and roadsides. Canada thistle usually grows two to three feet tall and has alternate dark green leaves that vary in size. Canada thistle has small, compacted flower heads that appear on the upper stems and range in color from lavender to pink or white. This plant is unpalatable to most classes of livestock, causing economic losses by reducing available forage. Sometimes flowers are consumed by calves, yearling cattle and horses.

Tip: Canada thistle is less of a problem in healthy plant communities. The plant becomes an aggressive invader in areas with bare ground and low plant vigor resulting from excessive over grazing or over rest.

Tip: Prevention is the best control method. Since thistle often invades overused or disturbed land, the best preventive measure is to reseed the disturbed area with a desirable species as soon as possible. Proper grazing management and rotational grazing practices should be established and maintained.

Tip: Herbicides are the most frequently used control technique. The NDSU publication W-799, “Perennial and Biennial Thistle Control,” lists the most effective herbicides to control Canada thistle, including 2,4-D, clopyralid (Stinger or Curtail), dicamba (Banvil), and picloram (Tordon). See table for results from experiments conducted in North Dakota (Lym and Zollinger 1995).

Tip: Control is greatest when applied at the early bud growth stage (early summer) or in the fall to plants in the rosette form.

Herbicide	Rates (lb/ac)	Comments ^a
dicamba	0.5 to 4.0	use surfactant high rate for patch treatment
2,4-D	1.5 to 2.0	suppression only
picloram	0.25 to 1.0	restricted use high rate for patch treatment
picloram + 2,4-D	0.125 to 0.5 + 1.0	restricted use
clopyralid	0.25 to 0.5	expensive but very effective
clopyralid + 2,4-D	0.3 + 1.5	cost-effective for large infestations

^aConsult the specific label for use and grazing restriction, surfactant requirements, and specific application rate.

Leafy spurge.

Introduced perennial forb widely established in North Dakota and western Minnesota on a variety of soils and sites. Leafy spurge normally grows 2 to 3 feet tall from a woody crown that is below the soil surface. This plant produces a flat-topped cluster of showy yellowish-green bracts which bear small and green flowers. The root system is extensive and consists of numerous coarse and fine roots which occupy a large volume of soil and can extend to a depth of 15 feet or more.

Leafy spurge contains a toxic substance that when consumed by most livestock and wildlife is irritant and purgative. However, sheep and goats will graze leafy spurge and can provide a form of cultural control.

Tip: Leafy spurge will invade pasture and rangeland regardless of management practices. However, proper land management will minimize the rate of spread.

Tip: Early detection and treatment of new infestations is critical to provide effective control and minimize economic losses.

Tip: Best control techniques include a combination of herbicide, biological and cultural tools. Biological control includes insects which are available from the North Dakota Department of Agriculture. Cultural control includes managed grazing by sheep and goats alone or in combination with cattle (see NDSU Extension Service circular R-1093, “Controlling Leafy Spurge Using Goats and Sheep”).

Herbicide treatments include picloram (Tordon), dicamba (Banvil), 2,4-D, picloram + 2,4-D, glyphosate + 2,4-D (Landmaster BW) and imazapic + MSO (Plateau). See NDSU Extension Service circular W-765, “Leafy Spurge Identification and Control,” for detailed recommendations.

Musk thistle.

Introduced biennial forb found in dry upland and sandy soils, occurring in overgrazed pastures and disturbed sites. Musk thistle often grows in excess of 6 feet, has very large flowers that tend to droop, and flower has very characteristic brown bracts that resemble pine cones. Flowers are usually deep rose colored, solitary, and very large, producing in excess of 10,000 seeds per plant.

Tip: Prevention is the best control method. Proper grazing management and rotational grazing practices should be established and maintained.

Tip: Control techniques include herbicides and biological. Weevils have been introduced to control musk thistle with limited success. Herbicides commonly used to control musk thistle include 2,4-D, clopyralid (Stinger or Curttail), dicamba (Banvil), and picloram (Tordon). See table for results from experiments conducted in North Dakota (Lym and Zollinger 1995).

Tip: Control is greatest when herbicides are applied in the fall but prior to a killing frost.

Herbicide	Rates (lb/ac)	Comments ^a
dicamba	0.5 to 1.0	use surfactant high rate for patch treatment
2,4-D	1.5 to 2.0	suppression only
picloram	0.125 to 0.5	restricted use high rate for patch treatment
picloram + 2,4-D	0.125 + 1.0	restricted use
glyphosate	0.125 to 0.5	expensive but very effective
glyphosate + 2,4-D	0.2 to 0.3 + 1.5	cost-effective for large infestations

^a Consult the specific label for use and grazing restriction, surfactant requirements, and specific application rate.

Spotted knapweed.

Introduced perennial forb that rapidly invades pasture and rangeland causing serious decline in forage production. Spotted knapweed is found on a wide variety of soils and sites. It is a prolific seed producer, producing up to 1000 seeds per plant. Seed remains viable in the soil for five years or more so infestations may occur a number of years after vegetative plants have been eliminated. Spotted knapweed releases a toxin that reduces growth of neighboring plants.

Tip: Prevention is the best control for spotted knapweed. People are the major cause of spotted knapweed spread. The weed is spread readily in hay and on vehicle undercarriages. Avoid driving through patches of spotted knapweed and do not transport hay containing this weed.

Tip: The plant generally is easy to control with herbicides but the area must be monitored for several years and retreated as necessary.

Tip: Herbicides should be applied when the plant is in the rosette growth stage in the fall or in the bud to bloom stage in the spring. Herbicides commonly used to control spotted knapweed include clopyralid + 2,4-D (Curttail), dicamba (Banvil), and picloram (Tordon). See NDSU Extension Service circular W-842 “Spotted Knapweed,” for recommended control guidelines (Lym and Zollinger 1992).