

# YELLOW STARHISTLE

(*Centaurea solstitialis* L.)

State Noxious Weed List: **No.**

Yellow starthistle is an extremely invasive, fast-spreading member of the knapweed family and native of the Mediterranean region. Yellow starthistle first was collected in North Dakota in Grand Forks County in 1964 and was added to the state noxious weed list in 1999 after plants were observed in several newly seeded CRP fields. Yellow starthistle infests more than 15 million acres



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in California and has displaced leafy spurge as the most invasive weed found in Idaho. Yellow starthistle presently has been found in the neighboring states of Montana, South Dakota and Minnesota.

## Identification and growth form:

Yellow starthistle is an annual that often grows 3 feet or more tall and is branched with winged stems. Each stem terminates in bright yellow flowers with needlelike straw-colored bracts often up to 2 inches long. Lower leaves are deeply lobed while upper leaves are entire. Both stems and leaves are covered with pubescent hairs that give the plant a grayish appearance. Yellow starthistle reproduces (and thus spreads) only by seed. A single plant can produce as many as 150,000 seeds, of which 90 percent or more are viable and can remain dormant in the soil for a few years. Most yellow starthistle seeds are plumed and disperse when mature. However, some seeds are plumeless and stay in the flower head until winter storms disperse them in blowing snow. Yellow starthistle has a long tap root similar to spotted knapweed or dandelion.

Yellow starthistle seeds can germinate either in the fall following cool rains and overwinter as a rosette or in the spring after snowmelt. Yellow starthistle begins to bolt in late May to early June. Flowering starts in early to mid-July, similar to Canada thistle. Yellow starthistle often can go unnoticed until the plant begins to flower, but once the bright yellow, dandelionlike flowers bloom, the plant is easily detected. Flowering continues until mid to late August, then the plant dries to a straw color, the seeds mature and the cycle repeats.

## Why is this plant a concern?

Livestock and wildlife will not graze where yellow starthistle grows because of the sharp spines around the flower. Yellow starthistle is adapted to a wide variety of environments and will out-compete most native plants for nutrients and moisture, reducing both native wildlife and plant diversity. Yellow starthistle can cause “chewing disease” in horses, which is a lethal neurological disorder.

However, to present symptoms, such as the inability to eat or drink, stiff or trembling legs and a stiff, swollen, “frozen” face, a horse must eat an amount nearly equivalent to its body weight.

## How do I control this plant?

Prevention is the best method to keep yellow starthistle from invading North Dakota cropland, rangeland and wildlands. Yellow starthistle is most likely to be found in recently seeded pastures or CRP fields; along highways, railroad tracks and other transportation or communication lines; or anywhere livestock is brought into the state. Previous infestations in the state can be traced to contaminated grass seed, including those used in CRP and contaminated hay, and from movement of out-of-state livestock and vehicles into North Dakota.

**Chemical.** The most effective herbicides for yellow starthistle control include Milestone (aminopyralid), Tordon (picloram) and dicamba (various). Treat an extra 10 to 15 feet around the infestations to control seedlings. A careful follow-up program is necessary to control missed plants and seedlings.

**Cultural.** Grazing, mowing, burning, cultivation and maintaining competitive forages can be used in conjunction with herbicides to keep yellow starthistle from establishing in North Dakota. Hand-pulling is also effective for control of this annual weed.

**Biological.** Biological control is in the research and implementation stage in states with large acreage of yellow starthistle such as California. However, biological control is not recommended in North Dakota because of the limited yellow starthistle acreage.