



Figure 1. Yellow starthistle.



Figure 1. Winged stems of yellow starthistle.

Yellow Starthistle

(*Centaurea solstitialis*)

Identification and Control

STOP THE SPREAD

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Yellow starthistle is an extremely invasive, fast spreading member of the knapweed family and native of the Mediterranean region. Yellow starthistle was first 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 has the potential to dramatically reduce crop and forage production, decrease native plant and wildlife habitat, poison horses, and cause severe economic loss in both crop and wildlands.

How do I identify this plant? Yellow starthistle is an annual which often grows 3 feet or more tall (Figure 1) and is branched with winged stems (Figure 2). Each stem terminates in a bright yellow flower with needle-like, straw colored bracts that are often up to 2 inches long (Figure 3). 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 (Figure 4). 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.

What is yellow starthistle's growth cycle?

Yellow starthistle seeds can germinate either in the fall following cool rains and overwinter as a rosette (Figure 5) 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 can often go unnoticed until the plant begins to flower, but once the bright yellow, dandelion-like flowers bloom, the plant is easily detected.



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Figure 3. Yellow starthistle flowers.



Figure 4. Yellow starthistle seeds.



Figure 5. Yellow starthistle rosette.

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.

Where in the state is this plant found?

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, contaminated hay, and from movement of out-of-state livestock and vehicles into North Dakota.

All known infestations in North Dakota have been treated and the areas are being observed for reinfestation. Even though yellow starthistle only spreads by seed, it has infested over 15 million acres in California alone. In addition, yellow starthistle presently infests over 1 million acres in Idaho and has been found in the neighboring states of Montana, South Dakota, and Minnesota.

How do I control this plant? Prevention is the best method to keep yellow starthistle from invading North Dakota cropland, rangeland, and wildlands. Herbicides are the most effective yellow starthistle control method and the most commonly used are Curtail, Redeem, and Tordon. Consult the latest edition of NDSU Extension Service Circular W-253, the North Dakota Weed Control Guide, for recommended use rates and locations. Biological control is in the research stage and is not recommended in North Dakota because of the limited yellow starthistle acreage. Cultural control methods such as grazing, mowing, burning, cultivation, and maintaining competitive forages can be used in conjunction with herbicides to keep yellow starthistle from establishing in North Dakota.

**If you find this weed, report it
to your local weed officer.**

HELP STOP THE SPREAD

For more information on this and other topics, see: www.ag.ndsu.nodak.edu



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