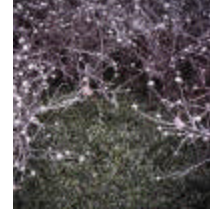


Weed: Yellow starthistle (*Centaurea solstitialis* L.)

Family: Asteraceae (Sunflower family)

Images:



Brief Plant Description: (Summarized from Healy, E. and J. DiTomaso, Yellow Starthistle Fact Sheet, http://wric.ucdavis.edu/yst/biology/yst_fact_sheet.html)

The seed leaves (cotyledons) are oblong to spatulate, 6-9 mm long and 3-5 mm wide, base wedge-shaped, tip +/- squared and glabrous. First few rosette leaves typically oblanceolate. Subsequent rosette leaves oblanceolate, entire to pinnate-lobed. Terminal lobes largest. Later rosette leaves to 15 cm long and are typically deeply lobed +/- to midrib and appear ruffled. Surfaces +/- densely covered with fine cottony hairs. Lobes mostly acute, with toothed to wavy margins. Terminal lobes +/- triangular to lanceolate.

Mature plants have stiff stems, openly branched from near or above the base or sometimes not branched in very small plants. Stem leaves alternate, mostly linear or +/- narrowly oblong to oblanceolate. Margins smooth, toothed, or wavy. Leaf bases extend down the stems (decurent) and give stems a winged appearance. Rosette leaves typically withered by flowering time. Largest stem wings typically to ~ 3 mm wide. Lower stem leaves sometimes +/- deeply pinnate-lobed. Foliage grayish- to bluish-green, densely covered with fine white cottony hairs that +/- hide thick stiff hairs and glands.

Flower heads ovoid, spiny, solitary on stem tips, consist of numerous yellow disk flowers. Phyllaries palmately spined, with one long central spine and 2 or more pairs of short lateral spines. Insect-pollinated. Flowers mid-summer to fall. Corollas mostly 13-20 mm long. Involucre (phyllaries as a unit) ~ 12-18 mm long. Phyllaries +/- dense to sparsely covered with cottony hairs or with patches at the spine bases. Central spine of main phyllaries 10-25 mm long, stout, yellowish to straw-colored throughout. Lateral spines typically 2-3 pairs at the base of the central spine. Plants are mostly self-incompatible.

Achenes (seeds) +/- barrel-shaped, +/- compressed, laterally notched at the base. Pappus bristles slender, stiff, unequal. Two types of achenes are produced, both glabrous, ~ 2-3 mm long, with broad bases. Outer ring of achenes dull dark brown, often speckled with tan, lack pappus bristles, often remain in heads. Inner achenes glossy, gray or tan to mottled cream-colored and tan, with slender white pappus bristles 2-5 mm long.

Current Wyoming Distribution: Teton County, Jackson, Wyoming at the Spring Creek Equestrian Center. One plant is all that has been found.

How did it get to Teton county? Based upon its location at the Equestrian center, we suspect it was brought in with horses. Possibilities include but are not limited to: contaminated feed or hay or mud from a horse trailer, truck, shoes, or clothes.

Historical Wyoming Distribution: Yellow starthistle has been previously collected twice in Wyoming. The first specimen was found in 1947 in Platte County, Northwest of Wheatland, in an alfalfa field (exact location uncertain). The second was collected in 1959 approximately 1.5 miles south of Thermopolis in a carrot field (exact location unknown). Both specimens are in the Rocky Mountain Herbarium at the University of Wyoming.

Origin: The center of origin of yellow starthistle is believed to be Eurasia, where it is native to Balkan-Asia Minor, the Middle East and south central Europe.

National Distribution: In the United States, yellow starthistle is currently a serious problem in California, Oregon, Washington, and Idaho. However infestations have been found in every other Western State. Plants have also been found but are not a serious problem throughout the Eastern U.S.

Reasons for Concern: Yellow starthistle is toxic to horses, reduces forage availability, and may cause mechanical injury to grazing animals. Infestations can also decrease wildlife habitat quality and native plant and animal diversity. Yellow starthistle has also been shown to utilize a high percentage of available soil moisture, resulting in soil water deficits in subsequent years. It can also deter human activities due to the spiny nature of the flower heads.

Legislative Status: Yellow starthistle is not currently designated as a Noxious and Prohibited weed in Wyoming. However, it is on the 2003 Declared List for Big Horn and Washakie Counties. Nationally, the information in the following table is from www.plants.usda.gov :

This plant is listed as a noxious weed by the U. S. federal government or a state, and may be known by one or more common names in different places. Click on a place name to get a complete noxious weed list for that location.	
<u>Arizona:</u>	
yellow starthistle, St. Barnaby's thistle	Prohibited noxious weed
yellow starthistle	Restricted noxious weed
<u>California:</u>	
yellow starthistle	C list (noxious weeds)
<u>Colorado:</u>	
yellow starthistle	Noxious weed
<u>Idaho:</u>	
yellow starthistle	Noxious weed
<u>Montana:</u>	
yellow starthistle	Category 3 noxious weed
<u>Nevada:</u>	
yellow starthistle	Noxious weed
<u>New Mexico:</u>	
yellow starthistle	Class A noxious weed

North Dakota:	
yellow starthistle	Noxious weed
Oregon:	
yellow starthistle	"B" designated weed
yellow starthistle	Quarantine
South Dakota:	
yellow starthistle	Regulated non-native plant species
Utah:	
yellow starthistle	Noxious weed
Washington:	
yellow starthistle	Class B noxious weed

Control Methods: For eradication, hand pulling bolted plants before seed production is an effective method for small infestations. This species has no ability to reproduce asexually from the roots, so only getting a couple of inches of the taproot is acceptable. However, any plant that is cut or breaks off above the soil surface is likely to grow new stems from buds in the leaf axils. The most effective herbicides for yellow starthistle are picloram (Tordon) applied at 0.25-0.38 pounds acid equivalent per acre (1-1.5 pints product per acre) and clopyralid (Transline) applied at 0.18-0.38 pounds acid equivalent per acre (0.5-1.0 pints product per acre). The low rates of both herbicides are effective when yellow starthistle plants are small.

Additional Notes: Yellow starthistle is an annual plant that reproduces solely by seed. Seeds may germinate following the first fall rains with subsequent flushes throughout the spring. Seedbank turnover is typically rapid with few seed surviving more than three years. However, a small percentage may survive for up to ten years in the soil. Although Wyoming has remained free of yellow starthistle for many years, rapidly expanding development is likely to increase the probability of yellow starthistle coming into Wyoming. It is likely to first appear in heavily disturbed areas, roadsides where annual weedy vegetation dominates, and livestock and horse feeding areas where animals and hay are brought in from other Western States.

ADDITIONAL LINKS:

USDA NRCS Plants Data-Base - [Centaurea solstitialis](#) Page

U.C. Davis [Yellow starthistle](#) Page