

**Yellow Starthistle**  
**The (Plant) Invader Among Us**  
Bear Valley Community Services District

Not from outer space, but an alien nonetheless, the yellow starthistle, *Centaurea solstitialis*, has infested over 15 million acres in California from the Oregon border to San Diego County (as of 2011). According to the Calflora Database ([www.calflora.org](http://www.calflora.org)), Kern County has listed more occurrence records (5751) of Yellow Starthistle than any other county. In BVS, pockets of Yellow Starthistle have been found in every area of the valley and as high as the upper elevations on Deertrail. Yellow starthistle is a rapid colonizer, forming dense stands, rapidly depleting soil moisture and displacing native flora. When ingested by horses, yellow starthistle causes a neurological disorder called "chewing disease" which is fatal once symptoms develop.

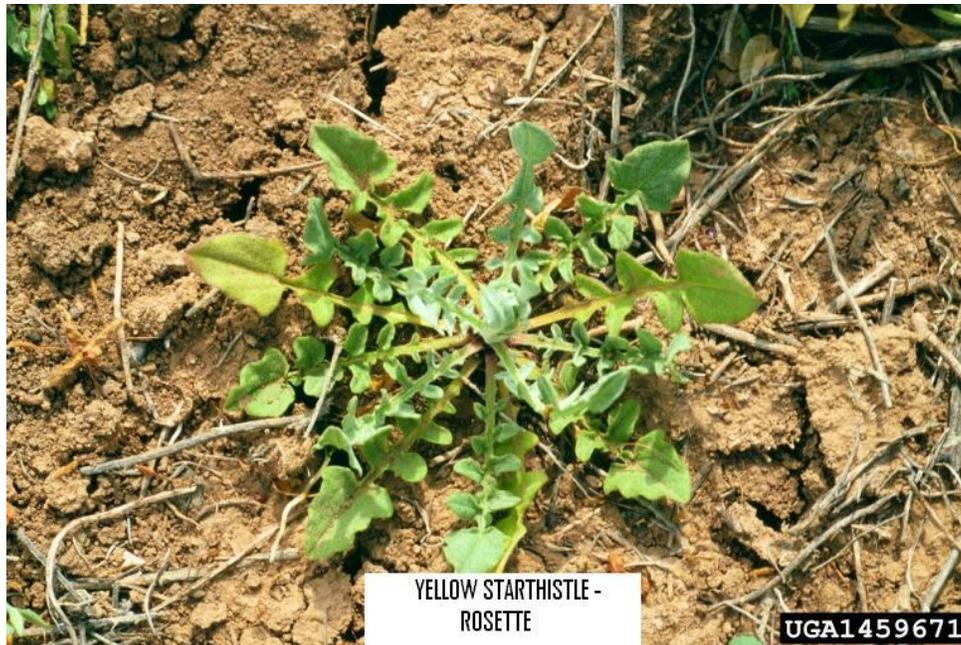
"Yellow starthistle is a major consumer of groundwater, costing the state millions of dollars in lost water for wildlife, agriculture and municipal uses. It can also reduce land value and reduce access to recreational areas." (DiTomaso et al., 2006) (Who wants to hike through a field of spiny starthistle?)

**Why Should I Care?**

It is the responsibility of each property owner to abate hazardous weeds (including YST) on his/her property. (BVCSO Ordinance 99-144) Even if you wanted a YST garden on your property, your neighbors, the equestrian community and the recreationists most probably do not want an infestation. One large plant can produce over 100,000 seeds. Don't wait for a million seeds to become airborne or ingested by birds to be transported long distances. The earlier in its growth cycle it is identified, the easier it is to remove. The tap root of a mature plant can extend to 6 ft.

**How do I Identify YST?**

Seedlings are dull green with leaves oblong to spatula shaped, about 0.25 to 0.4 inch long. Subsequent leaves form a rosette, with later rosette leaves growing to a length of 15 inches, typically deeply lobed. Generally, the upper and lower leaf surfaces are densely covered with stiff, thick hairs.



The mature plant is a gray-green to blue-green plant that ranges from 6 inches to over 6 feet tall. Stems are stiff, wiry and single in small plants, and openly branch near the base or above in larger plants. The leaves forming a rosette around the stem are typically deeply lobed, often appear ruffled, have toothed to wavy edges, and usually wither by bloom. All leaves are densely covered with white, cottony hairs.



Flowering occurs from June through December. Many small and narrow, bright yellow tubular flowers cluster into a round-to-egg-shaped flower head. At the base of each flower head are long, stiff spines. (The foregoing description summarized from University of California Statewide Integrated Pest Management Program: <http://ipm.ucanr.edu>) See photos in the accompanying figure, or visit the BVCSD office for additional photos.

### **How Do I Control the Spread of Yellow Starthistle?**

Yellow Starthistle cannot be controlled in a single treatment or single year because of the prodigious seed production and the fact that seeds can remain viable for as long as 10 years. (DiTomaso et al., 2006) The surest, most environmentally friendly way to control Yellow Starthistle is by cutting it off at ground level with a hoe or shovel. It will not re-grow from the root. If it has developed flowers, the plant should be double-bagged and taken to the Yellow Starthistle burn pit located at the CSD green waste area. Mowing is not recommended because the plant will sprout branches and flowers below the mower level.

An infestation too large for manual control can be sprayed with an herbicide. The University of California Integrated Pest Management Program recommends a strategic management plan consisting of a combination of control options including mechanical (*e.g.*, hand pulling, tillage, mowing), cultural (*e.g.*, grazing, prescribed burning, revegetation), biological (*e.g.*, insects), and chemical. For the private property owner, however, mechanical and chemical control appear to be the practical and economically viable options.

On the local market today is a clopyralid herbicide product ("Star Thistle Killer") that is appropriate for both pre- and post-emergent Yellow Starthistle control. It is available over the counter to homeowners for use on pastures and non-crop areas. While it may sound costly (about \$45 for 8 ounces), 1.5 teaspoons in 2 gallons of water treats about 1000 square feet (*i.e.*, about \$1.40/1000 sf). Other herbicides can be used, such as glyphosate (Roundup®) or a 2,4-D mixture (Weed B Gon®), at different plant growth stages.

## **Where Do I Find More Information?**

See references below or conduct a general web search. There is a plethora of material out there.

### **References**

DiTomaso, J.M., G.B. Kyser, and M.J. Pitcairn, 2006. Yellow starthistle management guide. Cal-IPC Publication 2006-03. California Invasive Plant Council: Berkeley, CA. Available at [www.cal-ipc.org](http://www.cal-ipc.org)

Calflora: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. [web application]. 2016. Berkeley, California: The Calflora Database [a non-profit organization].

Available: <http://www.calflora.org/> (Accessed: Aug 11, 2016).

University of California Integrated Pest Management Program, Agriculture & Natural Resources, accessed 2016. Yellow starthistle. ([http://ipm.ucanr.edu/PMG/WEEDS/yellow\\_starthistle.html](http://ipm.ucanr.edu/PMG/WEEDS/yellow_starthistle.html))