



# Driftless Prairies: Native Ecosystems

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# Oxeye Daisy – *Leucanthemum vulgare*

Oxeye daisy (*Leucanthemum vulgare*) is a perennial, herbaceous, non-native plant growing 1 to 3 feet tall with showy white flowers. It was introduced from Europe as an ornamental plant and as seeds contaminating cereal crops. It has spread profusely across the world and is a non-native in 40 countries and every state in the U.S. Oxeye daisies survives in a wide variety of soil types, climates, and other environmental conditions. Frost and drought do not affect this plant.

The previous botanical name, *Chrysanthemum leucanthemum*, means “gold flower white flower.” The current name, *Leucanthemum vulgare* means “common white flower.” It also has several common names: bull daisy, button daisy, dog daisy, field daisy, goldens, marguerite, midsummer daisy, moon flower, and white weed.



A side view of oxeye daisy – not a view I see very often unless it's after I pulled it!



A top down view of Oxeye daisy. Notice how unique the leaves are.

These are easy plants to recognize. Their alternate clasping leaves are toothed and become narrower toward the top. The basal leaves are spoon-shaped. The white flowers are usually what catches my attention but very unique leaf pattern does as well when I'm doing my early spring spot check.



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A close up of the leaves of the Oxeye daisy.



This shows how all the first year rosettes are clustered at the base. These and the small seedlings are critical to remove.



A close up of the spoon-shaped basal leaves of Oxeye daisy.

## **Their Growth Habit**

Oxeye daisy spreads by seeds, by rhizomes, and by adventitious roots. The roots are shallow and grow rapidly, forming a dense mat that leaves no space for the native plants. If you pull up a large clump, it creates a good deal of soil disturbance as well as a shallow hole. Often when hand pulling, the individual stems easily break off from the main clump. If you leave one stem, you'll be back again!



Notice how the stems curve away from the main root system.





Here's a view of the adventitious roots. The lateral stems that touch the ground develop their own root system. Notice how far away from the main stem the one on the right has grown.



Another view of the incredible root creating system of Oxeye daisy.

Oxeye daisy has 2 growth periods – spring and fall – and germination occurs throughout the growing season. The report from the Washington State Noxious Weed Control Board states 90-95% will germinate at 68 degrees F. Fall is when most seedlings establish. First year plants will remain in the rosette stage until after a cold winter which initiates blooming. It is this rosette stage that certain foliar herbicides can be applied.

On average a plant can produce 1,300- 4,000 seeds and large, hearty plants have yielded up to 26,000 seeds! (Howarth and Williams 1968). These seeds are highly viable and can remain so up to 39 years although the percentage of viability drops after 6 years. Champness and Morris (1948) found one million seeds per 2.5 acres in ag fields and up to 4.2 million seeds per 2.5 acres in grasslands.

## **Control Options**

Control must be done immediately as these plants can spread quite rapidly. Grazing is not very effective. Horses, sheep, and goats will eat oxeye daisy and the viability of the seed is reduced when passing through the animal, but it is not killed. Cows and pigs generally avoid oxeye daisies. If a milk cow does eat it their milk has an off flavor to it.

Mowing does not successfully kill oxeye daisies. Like Queen Anne's lace, it will prevent the mowed bloom from setting seed, but the plant will survive and bloom again only at a height short enough the mower blades have no effect.

Prescribed burns aren't effective either. The disturbance and open spaces resulting from burns make this management tool ineffective and could lead to further infestation.

Daisies are resistant to many herbicides but I have had good luck with Garlon® mixed with bark oil on first year plants in the rosette stage. Once in bloom, hand pulling is the best control with the caveat that one has to get all the seedlings around it and not miss one of those stems that has curved out and away from the initial group. Fortunately, they are easy enough to identify since they have an interesting purple striped pattern.

grown. [/caption]



Another view of the incredible root creating system of Oxeye daisy.

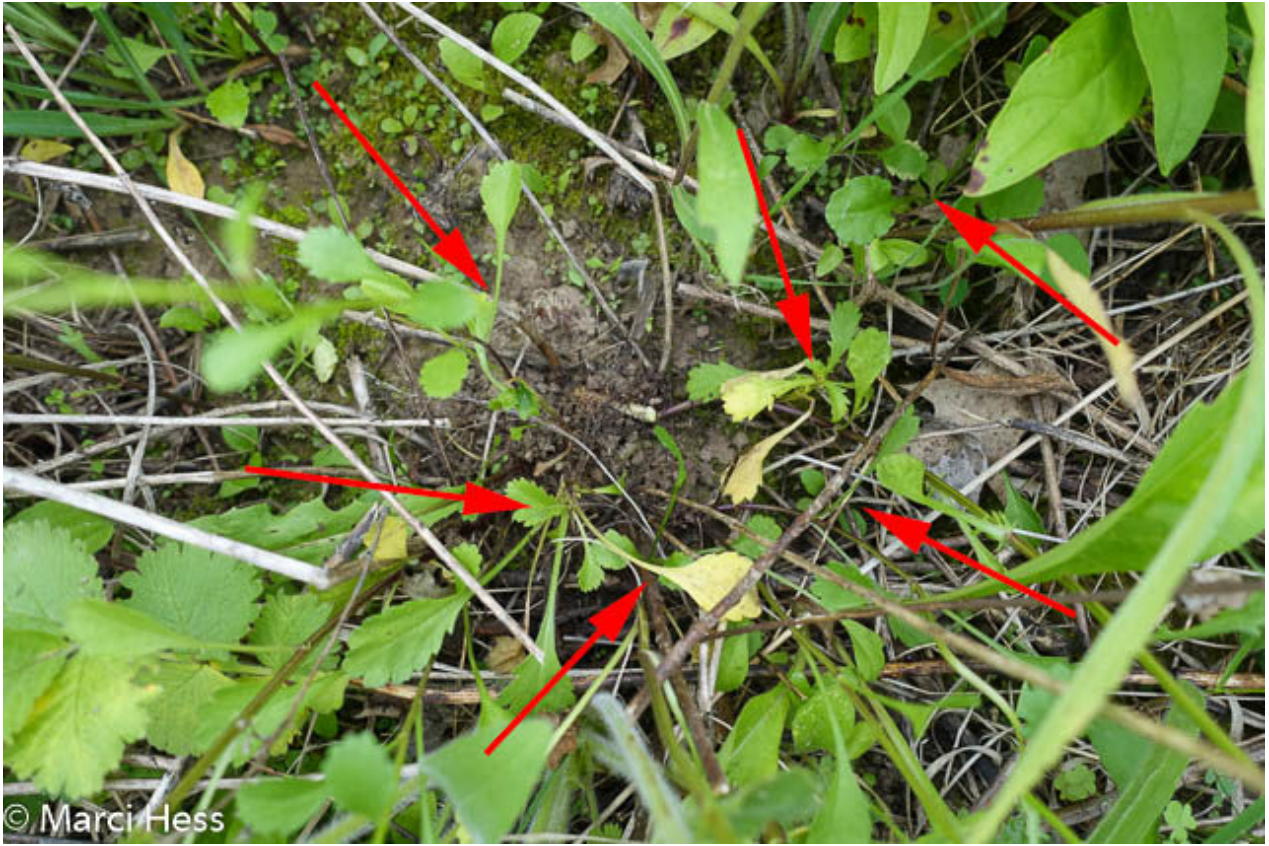
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Another view of the number of seedlings “hiding” after pulling the main plant. Be sure to get them all!

If I find hand pulling results in too much soil disturbance, another technique I’ve used successfully with the large clumps is to cut them low to the ground and spritz with triclopyr (Garlon 4®) in bark oil. I use this same technique with *Hypericum perforatum*, Common St. John’s wort.

One last word of caution – if you’re buying pre-mixed, pre-

packaged seed Oxeye daisy could well be in the mix. Be sure you know each species in the mix and source your seeds from a company specializing in native plant restoration.

## References:

Chapness, S.S. and K. Morris. 1948. The population of buried viable seeds in relation to contrasting pasture and soil types. *Journal of Ecology* 36: 149-173.

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