



Star Thistle: The Invasive Weed of the Foothills by Jennifer Rodgers

You can't miss it – you're driving around El Dorado County in the early summer, and you think, "Wow, it's still so green and pretty in the hills." Get a little closer, however, and you will see that it is not the green growth of our native grasses; it is the bolting stage of star thistle! (bolting stage, pictured left¹)



According to a report by Forest Health Technology Enterprise Team, "star thistle is present in 23 states, having the largest, contiguous infestations in California (about 15 million acres), Idaho (about 3 million acres), Oregon and Washington (about 150,000 acres each). It is estimated to spread at the rate of about 6 percent per year" (*Biology and Biological Control of Yellow Star Thistle*, p.6). And spread it does! Each year you find more and more star thistle taking over pastures and any open sunny space where it can grow. Not only is it taking over our native plants, it also reduces wildlife habitat and foraging, can be toxic to horses, and it is *no fun* to hike through!

So what can we do to rid ourselves of star thistle, at least on our own properties? For your average homeowner with some acreage, the three main methods of control are: hand-pulling, mowing, or herbicide use.

First, a word about timing. Timing is key when using any method. Eradicate the thistle before it sets seeds and gives you even more to kill in a few months. A large star thistle plant can produce over **10,000 seeds** and over **90%** of seeds can germinate one week after seed dispersal. Seeds can stay viable for about three years. You can see how fast and easy it can spread. The best time to get any weed is before it flowers. By summer, most star thistle plants are flowering so it is important to remove them before that time; the earlier, the better.

Hand Pulling – Getting out there and just pulling the thistle is recommended for small areas of infestation. Do your best to detach the entire plant above ground, and as much of the roots as you can pull. Root growth is very rapid and can extend to over 3 feet below ground, which it makes it extremely difficult to get the entire root. You will most likely need to do a few rounds of pulling as seeds germinate from previous plants. But the sooner you start, the better, and eventually you will see fewer and fewer patches of star thistle. You will find that once you start to recognize the plant in its various stages, you will be able to spot a seedling from almost anywhere. Pull it out, and there is one less thistle to contend with!

Mowing – is another method to control star thistle if you have too much to pull. The difficulty with mowing is, again, timing. If you mow too early, the plant might be able

to recover and continue to grow. If you mow too late, it could have already seeded. The best time to mow is between May (after bolting) and June (before flowering). Steep hillsides are difficult or impossible to mow. In that case, an herbicide is necessary.

Herbicide use – is a final option when others do not work. The most effective herbicide has the active ingredient, Clopyralid, which was once only found in Transline (a product that needed a special permit for use in California). A new product with Clopyralid has been developed in recent years, Star Thistle Killer by Monterey. This herbicide is a post-emergent, meaning you must spray



active plants. The best time to spray is the beginning stages of growth (rosette stage, pictured left²) to bolting. Again, if it flowers, it has started to set seeds and you are wasting your spray (and time). January through late April is the best time to spray. The smaller the

plant, the less chemical you will need to use. You can spray again for the second wave of seedlings that come up, which could be anywhere from late summer to early fall. There are no grazing restrictions after spraying so animals do not need to be relocated. Most grasses are tolerant of the product except alfalfa and clover. As always, read the entire label before use. One 8 oz. bottle will cover 32,000 sf, or ¾ of an acre.

Almost any infestation of star thistle will typically take *at least* two years to get the plant under control since it can seed so fast and easily. Once you have eradicated it from an area, try planting a cover crop so it is not so easy for it to try and move in again. Come into the Nursery so we can answer any other questions you have. If we all work on killing star thistle, we can stop it from spreading into our beautiful native pastures; wildflowers and poppies are so much prettier!

¹ Image by Cindy Roche, Bugwood.org

² Image by Steve Dewey, Utah State University, Bugwood.org

Some Star Thistle Facts:

- Star Thistle is believed to be native to somewhere in Eurasia, between south-central Europe and the Middle East; and originally came to the US from contaminated alfalfa seed (via South America) in the 1800's.
- It can be toxic to horses if enough is ingested. They can develop 'chewing disease,' a neurological disorder in which the horse gets mouth ulcers.
- Biological control is an option that is still being researched. There are two main insects, the hairy weevil and false peacock fly, that have shown to reduce seed production.