



Redwood Barn Nursery

1607 Fifth Street Davis, California

“Weeds everywhere! Where did they come from?”

March 2023

Gardeners are feeling overwhelmed by weeds. City crews are out mowing in parks and greenbelts. Farmers are waiting to get into their fields to till and plant. Redwing blackbirds are enjoying the robust fields of mustard for nesting sites.

During a winter featuring no less than ten atmospheric river storms (so far), it's been pretty hard to get out in the yards and parks and farms. Waist-high grasses and mustards and wild radishes now border the fields and roadways. Ryegrass, awful for allergy sufferers, is preparing to bloom. Foxtail barley, whose seeds can cause life-threatening harm to pets, is not far behind. Thistles are stretching, getting ready to bloom and cast their seeds into the wind. Bedstraw is clambering up and over and into shrubs and rose bushes and ground covers, little white flowers beginning to show and the Velcro-like seeds not far behind.

Pull them? Chop, mow, or wield machetes? Spray?

If you are using a control product, choose the least toxic alternative that will get the job done effectively and efficiently. Consider the impacts on non-target organisms and possible adverse impact on the environment. Broad-spectrum herbicides, for example, can reduce diversity unless they are applied in a very targeted manner. Read and follow the label directions. You can consider non-chemical alternatives such as smothering, woven fabrics in some situations, and “mechanical removal” (weed eater, mower, hoeing, hand-pulling). Some orchards locally have taken to using “controlled grazing” by sheep or goats.

Safer weed sprays?

Several weed sprays have come on the market that are promoted as being safer alternatives. Problem is, most of them just burn off the leaves. That kills some weeds, but most just re-grow. Online discussions tend to veer away from labeled products, touting household ‘remedies’ and making dubious claims. If something hasn't been tested and labeled as an herbicide, it isn't known to be safe for you or for the environment.

A common example is vinegar, or concentrated forms of acetic acid. Vinegar, which can be made naturally, is 5 – 7% acetic acid. It just burns the leaves at best. Synthetic acetic acid is sold in 20% or even 30% strength. This is very dangerous to your eyes and skin!

Manual removal is more labor-intensive. But with a better understanding of weed management principles and practices, effective strategies can be created.

- Identify the weed species.
- Determine the adaptive strategy of the weeds that are increasing.
- Learn the life cycles to figure out when you'll get best results.
- Do a survey to establish the baseline of the population.
- Note changes over time: which species are increasing?



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You need to know what you have so you can figure out how this weed is outwitting us. Typical weed adaptations and examples include:

- Massive fecundity (makes lots of seeds, often after a very short growth cycle). Example: spurge.
- Vigorous vegetative spread and self-propagation: bermudagrass, field bindweed.
- Storage organs that allow the plant to survive extreme weather conditions: nutsedge.
- Rosette growth habit with lots of potential growing points ready to re-sprout after cutting or mowing: dandelions.

Most weeds can be controlled most readily in the 4 to 6 leaf stage.

So, that was several weeks ago, and it was pretty wet out there!

What to do now?

- Get the weeds mowed or chopped down before they flower and the seed matures.
- If it's a species with a vigorous growth stage which tangles on other plants, work to get it cut or smothered now before it starts to climb up onto other plants (field bindweed, bedstraw).
- If it survives from one season to the next by storing energy in rhizomes, bulbs, or a dormant crown, smother it before it sprouts. Otherwise, you'll need to chop the plants relentlessly as soon as they come up (oxalis, bermudagrass). But a deep mulch can suppress many perennial weeds, as long as it's continually applied at the sight of any new growth. Your goal with these types is to prevent photosynthesis as thoroughly as possible.

If you're hand pulling weeds, here's a bit of good news: as grasses enter their flowering stage, their roots begin to die back. That oat grass or foxtail plant you couldn't pull in January? It should pop right out of the ground now and the soil is nice and moist for pulling. Also, it's ok to just leave them there to dry out and decompose.

Key weed management periods

1. Fall rains.

Many weed species germinate in October or November with the first rains. Most of what you're seeing right now came up last fall. Next fall you can mulch heavily in areas where you've had weeds before, to prevent those seeds from sprouting. In your vegetable garden you can plant cover crops in fall (fava beans, annual ryegrass, oats with peas, etc.) to grow faster than the weeds and shade them out.

Top-kill herbicides can be somewhat effective on young weeds on a sunny day, or you can just hoe, pull, or mow them.

Note that some, such as bedstraw (aka cleavers, or 'velcro weed') can continue to germinate even in colder winter conditions. I have seen seedlings as late as December. That's one of the reasons this one is such a problem.

2. Spring. The second major period of weed growth begins in spring when the crabgrass, spurge, and oxalis sprout, and when bindweed and bermudagrass begin to regrow from



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the stems. These are all temperature dependent, usually emerging in April. Heavy mulching at that time, and repeatedly if needed, can suppress them. They will all be growing rapidly when the weather warms, so early management is key. If all else fails, hoe them off relentlessly or the problem will just get worse.

3. Start of summer. The third major period is when the soil warms to the mid-60s in May. Many of our summer weeds sprout then and grow very rapidly, setting a lot of seed within just several weeks after they germinate. Examples are redroot pigweed and purslane. They're soft and succulent and easy to control with chopping or hoeing when they're young, but they can get away from us quickly.

Cover the soil!

Nature abhors a vacuum. You often have weeds growing because you have bare soil. There are plenty of plants that will outcompete and shade out many types of weeds. Relandscaping an area significantly reduces the population of weeds in your yard.

Spreading arborist wood chips several inches deep over unplanted areas and around shrubs, trees, and larger perennials helps to retain water, builds the soil, and keeps weed seeds from sprouting. Or fill the void with greenery!

Consider plant installations to suppress weeds.

Grasses that spread by rhizomes and which can be mowed at long intervals can readily suppress the growth of many annual, and some perennial weeds.

- The fine fescue grasses are well-adapted to lower-water landscapes, have good drought recovery, and can shade out many herbaceous weeds. Creeping red fescue can be used in light shade, and dwarf forms of hard fescue in full sun. Repetitive overseeding can be done during fall and winter rainfall to establish a dense stand.
- Two of our native fescue grasses (*Festuca rubra* and *Festuca idahoensis*) have varieties with dark green or silver-grey foliage and soft texture.
- Some sedges have been tested as lawn alternatives and may achieve sufficient density, especially with periodic mowing, to suppress weeds. Use caution: these tend to be a permanent decision.
- Our native deer grass, *Muhlenbergia rigens*, is a large clump-forming grass that can be planted 4 to 5 feet apart.

There are ground-covering woody plants, basically shrubs with prostrate growth habits, which can be effective at suppressing weeds once established.

Examples:

- *Artemisia Powis Castle*. This hybrid sagebrush has silver-colored leaves that are highly aromatic. The plant spreads rapidly to several feet across, and to a height of about 2 to 3 feet, with sufficient density to deter weed growth.
- *Baccharis Twin Peaks*. Low-growing variant of our native coyote brush. Winter flowers aren't showy but are very attractive to beneficial insects.
- *Myoporum parvifolium*. Australian ground cover that grows flat along the ground. Pretty white or pink flowers are very attractive to bees.



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- Rosemary. The common kitchen herb from the Mediterranean region is a very tough, drought tolerant landscape shrub. For weed suppression, select the intermediate-height spreaders such as Irene or Benenden Blue. Lovely lavender-blue flowers in winter.
- Native sages: *Salvia clevelandii*, *S. sonomensis*, *S. 'Poza Blue'*. These are large shrubs with sprawling growth habits that can very effectively shade out weeds. Spring flowers attract bees and butterflies. Very drought tolerant.

Making it work:

Larger plants installed on 3 to 6' centers are easier to establish than small, rooted cuttings. The wider spacing allows for manual weed management (hoeing, careful spraying) between the plants as they root in and start to grow. Thick mulch such as arborist wood chips can be installed for further weed suppression.

Sidebar: common bedstraw (*Galium aparine*)

Aka cleavers, Velcro weed, and many other common names.

Probably native, considered edible, but can quickly overtake a whole garden bed. The leaves and stems (and seeds) stick to clothing and skin and can cause skin irritation.

Adaptive traits: the clever seed dispersal strategy, germination in cold soils, and running/climbing growth habit make it a real nuisance.

Common bedstraw can sprout at lower temperatures than many other weed seeds. Seedlings come up with the first fall rains, and as late as March. This makes it well adapted to cover areas where you have successfully controlled other winter weeds!

- Reducing the seed load by removing plants before they mature (March) is important.
- Seedlings are very easy to kill in the early growth stage when it just creeps slowly across the ground, which lasts for several weeks.
- Simply cutting or hoeing them off at ground level after they've sprouted, smothering with mulch, or spraying with a weed killer will be very effective October through January.
- The top-kill "organic" weed killers can work, though they may require more than one application and are most effective when sprayed on a sunny day. Systemic weed killer usually only requires one application. Read the labels carefully.

Noting where you had bedstraw last year and monitoring for seedlings through the early part of the rainy season can reduce the workload considerably. Those plants that you're dealing with now actually sprouted several weeks ago. Now longer days and warmer temperatures have



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triggered them to enter the stage where they climb, grow vigorously, and flower and seed profusely.

3 – 4 inches of coarse mulch will smother existing weed seeds and prevent them from sprouting. However, any seed that alights onto that mulch will sprout and grow roots readily through it to the soil below, and those plants will have the whole area to themselves! So, monitor for several weeks after you spread the mulch.

The key time to have a hoeing party is about November, with a follow-up in February. That will focus on the seedlings. Tops of plants that got past those events should be chopped down before they go to seed, which means a follow-up visit in March.

Bottom line:

Know the weed's strategy to develop your own.

Note the timing: prevention and early action is much easier than remedial action later in the season.



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Rosemary Benenden Blue. Doing triple duty in the landscape: showy flowers in winter attract bees, aromatic leaves are used in cooking, and the dense, spreading growth habit suppresses weeds.



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Bedstraw (*Galium asparine*) is one of our most annoying weeds. Seedlings sprout anytime October through February. Seedlings shown here germinated in December and have just begun to spread outward. This stage is easy to control! Get them soon as they're already flowering and will be dispersing seeds soon.



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Bedstraw ready to flower. Each plant produces a few hundred seeds, sometimes thousands, and the hooked hairs on the seed help it attach to anything passing by. More information here: <https://ipm.ucanr.edu/PMG/PESTNOTES/pn74154.html>



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Is it a weed?

Mustard is one of the most common non-native flowers in California. Thought to have been introduced by the Franciscan padres in the 1700's, it has spread throughout the coastal and interior valleys of the state. While it crowds out native grasses in the wild, it also creates habitat for red-winged blackbirds and the flowers attract beneficial insects. Pull it? Leave it? A weed is just a plant where you don't want it!