



University of California / Agriculture and Natural Resources

Yolo County Master Gardeners

70 Cottonwood Street, Woodland, CA 95695

530-666-8737 mgyolo@ucdavis.edu <http://ceyolo.ucanr.edu>

HOW TO REMOVE A LAWN

If you wish to remove your thirsty lawn and replace it with drought-tolerant landscaping, you must first determine what type of grass you have: cool season or warm season.

Cool season grasses (such as fescue, bluegrass, and ryegrass) can be easily removed. Stop watering over the summer and dig out the turf. If you prefer not to dig out roots, you can also use one of the methods recommended for warm season grasses.

Warm season grasses (such as bermudagrass, St. Augustine grass, and zoysia grass) have extensive root systems that must be killed, and can survive for a long time without water.

Any of the following methods can be used to kill warm season grasses. The method you choose will depend on the time and labor you can invest, as well as your comfort in using chemicals.

SOLARIZATION

Solarization heats the soil by covering it with a clear plastic tarp for four weeks or more during the hottest part of the year. Solarization works best in areas with high summer temperatures, on lawn areas that have sufficient sun exposure.

This method not only kills grass but can also improve soil structure, increase nitrogen availability and reduce some species of nematodes and soil borne diseases. Be aware, however, that this method takes longer for some grasses and may not work on weeds with deeply buried roots and rhizomes such as field bindweed. If you are trying to kill bermudagrass, you will need to solarize the soil for at least six weeks.

To solarize effectively, choose a sunny, windless day in the hottest part of the year (June-August in the Central Valley) and follow recommended procedures:

- Mow the grass close to the ground as possible, about ½ inch, and remove clippings to create a flat surface that will allow the plastic tarp to lie smoothly against soil.
- Wet soil thoroughly to a depth of at least 12 inches.
- Immediately cover the soil with a 1.5 to 2 mils clear plastic tarp that has been treated with a UV inhibitor to slow its breakdown. If you are removing bermudagrass, extend the plastic 2 feet beyond the bermudagrass runners to insure the infested area is covered.
- Bury the edges of the plastic with soil to keep it as close to the soil surface as possible.
- Keep water off the plastic as this will lower the surface temperature.
- Check the plastic for punctures to ensure the cover will maintain highest temperatures. Seal holes with clear plastic tape and check periodically for new holes.
- Leave the plastic in place for 4 to 6 weeks or longer, depending on the type of grass you are trying to kill.
- Remove the plastic and get rid of the dead grass unless you wish to leave it for mulch.
- Plant soon after removing the plastic, being sure to avoid deep cultivation (more than 3 inches) that might bring weeds to the surface that were buried too deeply to have been exposed to temperatures high enough to kill them.

SHEET MULCHING

Sheet mulching uses layers of organic materials that smother the grass while breaking it down into soil nutrients. Although similar, the procedures for removing cool season grass, such as fescue and bluegrass, and warm season grass, such as bermudagrass, differ slightly.

Prepare the Site

- Mow the grass as low as possible and leave it on the lawn.
- Flag your sprinkler heads if you plan to retrofit your sprinkler heads for drip irrigation.
- Water the ground to a depth of 3 inches.

Edge for Erosion Control

- Using a flat-edged shovel, cut the lawn 8-12 inches away from concrete sidewalks or driveways to a depth of 3 inches to avoid runoff.

Add a Weed Barrier and Layer with Compost and Mulch

If you are removing cool season grass (fescue, bluegrass):

- Cover the area with sheets of cardboard or 12 layers of newspapers. Overlap these materials at least 6 inches so no light penetrates and wet down to keep them in place.
- Place 1 inch of compost--fully decomposed organic materials--on top of the barrier layer.
- If you are installing drip irrigation, place it on top of the compost.
- Add mulch (6 inches of grass clippings, straw or leaves or 3 inches of wood chips).

If you are removing warm season grass (bermudagrass):

- Cover with 4 layers of cardboard (do not use newspaper), being sure to overlap sheets at least 6 inches so light can't penetrate the barrier. Wet down cardboard to keep it in place.
- Add 8 inches of grass clippings, straw, or shredded leaves or 5 inches of wood chips.
- Do not add compost when trying to kill bermudagrass because it may help stimulate its growth.

If you are removing either type of grass:

- Water the sheet mulched area if there is no rain to give it the moisture it needs to decompose. Keep the area moist, but don't saturate it. Once the grass is dead and the organic materials have decomposed, the area is ready for planting.

Plant

- Punch or cut holes in the cardboard and place your plants in the soil under the mulch or wait until the cardboard and paper have decomposed to plant.
- If you are sheet mulching bermudagrass or other warm season grasses, it will take longer to kill them than to kill cool season grasses. You may need to wait 6 to 8 months before planting the area. Bermudagrass control may require repeated application.

NONSELECTIVE HERBICIDES

Bermudagrass and other warm season grasses can be controlled by applying a nonselective herbicide, such as glyphosate, over the entire area. A post-emergence translocated herbicide, glyphosate kills plants by moving down into the root system in addition to killing top-growth.

For best results, apply the herbicide when grass is actively growing, not drought stressed, using the following procedure:

- Water the area well and wait until the grass reaches a height of about 6 inches so it will have enough leaf surface area to quickly absorb the herbicide.
- Spray the grass evenly with herbicide, being careful not to spray other plants in the area. Be sure to read and follow the directions on the herbicide's label and to wear protective clothing. Avoid spraying on windy days or if rain is predicted within 24 hours.
- Avoid disturbing the sprayed area for 7 days and wait 2 weeks for the entire lawn to die. Water and wait for new growth. Reapply glyphosate to new growth. You may need to do the complete cycle three times.
- Once all grass and weeds are dead, mow at a low setting, cutting just above the soil line.
- Rake up clippings to help loosen debris on the soil surface.
- Dig out dead grass or use a sod cutter for large areas and remove the waste.
- With well-established perennials such as bermudagrass, retreatment may be necessary to kill plants that have sprouted later from underground parts after the site is irrigated. Spot treatment of scattered re-sprouted bermudagrass may be required for a year or more after the initial major application of glyphosate.

REFERENCES

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn74145.html> - soil solarization

<http://www.ipm.ucdavis.edu/TOOLS/TURF/RENOVATE/comkill.html>

<http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7453.html> - bermudagrass

http://ucanr.edu/sites/scmg/Lawn_Replacement/Grass_Removal_Methods/www.riverfriendly.org

http://extension.oregonstate.edu/lane/sites/default/files/documents/lc731sheet_mulch_lasagna_composting.pdf

<http://www.bayfriendlycoalition.org/LYL.shtml>

Dreistadt, Steve H. *Pest of Landscape Trees and Shrub: An Integrated Pest Management Guide*. 2nd ed. Agricultural and Natural Resources Publication 3359, 2004.

Written by Mardena Creek, Yolo County Master Gardener.

Reviewed by John Roncoroni, Weed Science, Napa County, and Steve Dreistadt, Statewide IPM Project.

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