TIPS FOR A BEAUTIFUL, HEALTHY LAWN

GROW A HEALTHY LAWN WITH THESE ECO-FRIENDLY PRODUCTS

Slow-release and organic fertilizers	Organic fertilizers (Ringer Lawn Restore, Dr. Earth Lawn Super Natural Organic Lawn Fertilizer, E.B. Stone Nature's Green Lawn Food, Bradfield Luscious Lawn Organic Fertilizer), Vigoro Lawn Fertilizer
To kill immature grubs (azadirachtin)	Safer Brand Grub Killer concentrate (for hose-end application)
Beneficial nematodes *(Heterorhabditis bacteriophora* or *Steinernema glaseri)*	Buy nematodes from your nursery or garden center, which will order them for you if they are not in stock. Or, order them online.
Mechanical dandelion puller	Fiskars UpRoot Weed and Root Remover
Soil analysis laboratories	Ask your nursery or garden center for a recommendation, or contact your county agricultural extension office (see http://ucanr.edu/County_Offices/)

PLANTING A NEW, MORE DROUGHT-TOLERANT LAWN

Start out with the right seed or sod

- For lawn species that need less water than traditional turf varieties, see the list of preferred grasses for California inside.
- Do some research before you decide what grass species to plant. See the list inside, and two helpful publications from the University of California: www.ipm.ucdavis.edu/PMG/r785900111.html, and www.ipm.ucdavis.edu/TOOLS/TURF/TURFSPECIES/index.html. Choose a mixture of grasses suited to your climate and the conditions in your yard.
- When installing sod, be sure to choose sod that has been propagated in conditions similar to your own.
- Consider having your soil professionally tested so you can choose grass that matches your soil's texture, pH, and salt and nutrient levels.

Prepare the soil before you plant

- **Don't work the soil when it is very wet.** You can damage its structure.
- **Break up all dirt clods into fine particles and remove pebbles and stones.**

Check out some of the excellent sources of information on keeping your lawn healthy, such as the University of California Integrated Pest Management Program, www.ipm.ucdavis.edu/PMG/menu.turf.html, and Beyond Pesticides, http://beyondpesticides.org/lawn/factsheets/index.php?pid=295.

- **Thoroughly mix soil layers of different textures,** down to at least six to eight inches, before planting. Poor soil preparation can cause poor drainage and weaken the turf.
- **Check for low spots by irrigating.** Smooth out or fill in areas where you see puddles (very important if you are seeding a lawn).

Water a new lawn with care

- Until grass becomes established, **keep the soil in your newly planted lawn thoroughly moist,** but not too moist. Too much water can wash away seeds or drown young plants.

COMBATTING WHITE GRUBS AND THE URBAN WILDLIFE THAT LOVES TO DIG THEM UP

If your lawn appears to be dead in patches or feels spongy, or if raccoons or possums have been rolling up your turf like a carpet, you might have white grubs. Or you might not!

Drought can cause grass to go dormant or die in patches. Dog urine can cause yellow spots in a lawn. Hungry birds, moles, raccoons, opossums, and skunks may dig in the turf looking for tasty grubs, but they might not find them. Before you take action against grubs, you should verify their presence in several places.

Identifying grubs

White grubs are an immature stage of several kinds of beetles that feed on grass roots. Grubs are C-shaped, up to an inch long, and often white with a brown head and three pairs of legs.

Dig around grass roots where you suspect grubs. In late fall through spring, look for whitish to yellow, wrinkled, C-shaped grubs. Look for yellowish-brown adult beetles in early to mid summer. You probably won't see damage from grubs on the surface of your lawn until June or later—when the grubs have grown into beetles and finished eating for the year.

Controlling grubs

- The best approach to grub control is to maintain a healthy lawn without using insecticides. Be sure your lawn is well drained and not compacted. Healthy lawns can recover more easily from white grub damage.
- Plant warm-season native grasses (see *Some Preferred Grasses for California*), which are more tolerant of white grubs than cool-season ryes or fescues.
- If you do end up with a large grub infestation (more than six grubs per square foot of lawn), products with azadirachtin can be used to control immature grubs. Apply these products early in the season when grubs are small and close to the soil surface. Mow the lawn before applying, so that the maximum amount of material will reach the root area. You may need to reapply.
- Don't treat in mid spring or later, when you find dead patches of turf. By this time grubs have done all their damage for the season and are ready to stop eating. Remove the dead grass, loosen the soil, and reseed the area.

Control grubs with beneficial nematodes

- Apply beneficial nematodes (*Heterorhabditis bacteriophora* or *Steinernema glaseri*) in late spring before adult beetles emerge, or in mid summer to early fall. Nematodes must be applied when the soil temperature is between 60°F and 90°F and the soil is moist. Nematodes need moisture to move around in the soil and to prevent their bodies from dehydrating. Water the soil before and after application, but don't soak the area. Apply nematodes in early evening to minimize damage from sunlight. Avoid using fertilizers two weeks before and two weeks after the application.
- Buy nematodes from your nursery or garden center, which will order them for you if they are not in stock. Or, order them online. To make sure nematodes are alive, place a small quantity of the nematode-containing material in water and watch closely to see if they are moving. Nematodes are very small, so you may need a magnifying glass to see them.

For more information about lawn pests in California, see: www.ipm.ucanr.edu/QT/lawninsectscard.html. For more information about beneficial nematodes and how to apply them, see: www.ipm.ucdavis.edu/TOOLS/TURF/PESTS/innem.html.

WWW.OURWATEROURWORLD.ORG

Common home and garden pesticides are found in stormwater runoff, treated wastewater, and in local waterways, sometimes at levels that can harm sensitive aquatic life. **Our Water Our World** is a joint effort by water pollution prevention agencies, participating retail stores, and pesticide distributors and manufacturers—working together to reduce the risks associated with pesticide use.

Our Water Our World fact sheets and store displays educate residents about less-toxic pest management. For the rest of the series of fact sheets, visit **www.OurWaterOurWorld.org**. Look for the ***Less Toxic • Eco-friendly*** tag next to less-toxic products in participating stores and nurseries. See the *Pesticides and Water Pollution* fact sheet for information on active ingredients in common pesticides that may cause water quality problems.

Pest control strategies and methods described in this publication are consistent with integrated pest management (IPM) concepts, and are based on scientific studies and tests in actual home and garden settings. Use suggested products according to label directions and dispose of unwanted or leftover pesticides at a household hazardous waste collection facility or event. For more information on pesticide disposal, visit **www.earth911.com**. No endorsement of specific brand name products is intended, nor is criticism implied of similar products that are not mentioned.

For more information, contact:

Bio-Integral Resource Center (BIRC), 510.524.2567, www.birc.org

University of California Cooperative Extension Master Gardeners in your area

University of California IPM website, www.ipm.ucdavis.edu

Paper content: 25% post-consumer waste, 50% recycled content. Printed with soy-based ink.

March 2016