

Ear to the Ground

Bimonthly Newsletter of UCCE Master Gardeners of Monterey Bay

March/April 2015



Who We Are

The University of California Master Gardener Program provides the public with UC research-based information about home horticulture, sustainable landscape and pest management practices. It is administered by local University of California Cooperative Extension (UCCE) county offices that are the principal outreach and public service arms of the University's division of Agriculture and Natural Resources.

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The Plant Doctor

By Steve Tjosvold

Environmental Horticulture Farm Advisor

UC Cooperative Extension

A column that describes and discusses the management of current plant diseases, pests and disorders found in Monterey Bay Area landscapes and gardens.

Why Don't Those Seeds I Planted Come Up?

(Adapted from UC Pest Note "Damping-off Diseases in the Garden")

With the advent of spring comes the planting of seeds. In the field, garden, or planter box, seedlings often fail to come up, or die soon after they have emerged from the soil. Seeds may rot before they germinate, shoots may be decayed before they emerge, or stems of seedlings may be attacked near the soil line, causing young plants to collapse. These diseases often are collectively referred to as "damping-off," and may be caused by a number of soil-inhabiting pathogens.

Species of the soil organism Pythium are most often responsible for damping-off, but several other pathogens, including species of Rhizoctonia, Fusarium and Phytophthora, can also cause decay. Decay is most likely to occur when old seeds or seed pieces are planted in cold wet soil, and is further increased by poor soil drainage, the use of green compost and planting too deeply.

The first evidence of damping-off is the failure of some plants to emerge. If seeds are attacked before they germinate, they become soft and mushy, turn dark brown, and decay. They may have a layer of soil clinging to them when they are dug up because the soil is interwoven with fine, threadlike fungus growth. Germinating seedlings shrivel and may darken. If seedlings are attacked after they emerge, stem tissue near the soil line is decayed and weakened, usually causing plants to topple and die. When only roots are decayed, plants may continue standing but remain stunted, then may wilt and eventually die. As seedlings get older, they become less susceptible to damping-off pathogens.

Garden pests such as cutworms, earwigs, flea beetles, snails and slugs, and root maggots may also damage seedlings in the garden. It's important to distinguish the damage done by pests from damping-off injury. Damping-off is controlled primarily through good sanitation,

New UC Master Gardeners of Monterey Bay Website

We've just launched a new website! The address is: mbmg.ucanr.edu/. It features information on upcoming gardening events by UC Master Gardeners and other community organizations, as well as links to lots of great gardening information.

Check it out and bookmark it to come back frequently for updates!

UC Master Gardeners of Monterey Bay Events

Smart Gardening Fair

April 4

Hwy 1 and Rio Rd., Carmel

Boot Camp

June 6

Cabrillo College Horticulture Facility

Irrigation Class

March 21 - 10 am to Noon



at the UCCE Demo Garden

Meadow Class

April 11 - 10 am to Noon
at the UCCE Demo Garden

For more information on these events,
visit mbmg.ucanr.edu.

UC Master Gardeners of Monterey Bay Hotline

Have a garden question, call or visit our
Gardening Hotline

9 am to noon M-W-F
at UCCE, 1432 Freedom Blvd.,
Watsonville
831-763-8007

or
email your questions to:
Hotline@mbmgs.org

Myth or Fact

Wildflowers are starting to bloom in glorious bursts of colors in our woodlands, hedgerows and meadows.

Wildflowers make great bouquets.

Myth - All wildflowers are protected by California law with a \$500 fine for violation. For every one wildflower picked, one hundred less will bloom next year.

The term wildflower has a specific definition.

Myth - The term is not exact. Native species, exotic, introduced species, imported or naturalized are much better descriptors.

Wildflowers are just that - wild.

Fact - A wildflower is an uncultivated variety or a flower growing freely without human intervention.

CONTRIBUTORS

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- Steve Tjosvold, UCCE Farm Advisor
- Susan Brown, UC Master Gardener
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Figure 1. Rotted and unhealthy roots of seedlings caused by damping-off fungi such as Pythium, Rhizoctonia, or Fusarium.

been reported to reduce damping-off.

Plant when temperatures are favorable for rapid seedling growth. Shallow planting will speed up germination outdoors if conditions are marginal. Planting too deeply can delay germination and emergence of the seedling and increase damping-off problems. If



Figure 2. Rotted and unhealthy roots of seedlings caused by damping-off fungi such as Pythium, Rhizoctonia, or Fusarium.

you want to start seedlings before temperatures are favorable, start them in the greenhouse or other protected areas and transplant them into the field when temperatures get warmer. Do not transplant into cold, wet soil. Use only the highest quality seed available. Use light sprinkler irrigations to encourage germination and emergence, and do not overwater. After plants emerge, thin them so that there is good air circulation among the plants. Avoid putting on too much nitrogen fertilizer. Avoid planting the same crops in the same place year after year.

Sanitation is important because spores of the organisms that cause damping-off can survive in dust, planting medium or soil particles in flats and pots. To reduce survival of the pathogens, remove and discard diseased plants and sterilize containers. Use new, disease-free potting soil and clean flats and pots. If reusing containers, wash off all adhering soil particles and then dip in a weak bleach solution for 1 minute (1 part bleach to 9 parts water) and then rinse with water.

Don't Grow Crazy, PlantRight!

Most of the plants used in gardens and landscaping do not invade or harm wild-land areas. But a few vigorous species can - and do - escape into open landscapes and cause a variety of ecological problems. They displace native plants and wildlife, increase wildfire and flood danger, clog valuable waterways, degrade recreational opportunities and destroy productive range

and timber lands.

When an aggressive plant is introduced to a new environment, the predators that would normally limit their growth in their home environment may not be present. This allows them to proliferate, spread and take over natural habitats.

Invasive species are one of the greatest threats to biodiversity worldwide, second only to habitat destruction. And the economic cost is as significant as the ecological cost: in California, more than \$82 million goes to fighting invasive plants every year. A much-cited paper by Cornell researchers estimates the economic impacts of invasive species to be \$120 billion a year. If divided equally through the 50 states, the cost to each state averages \$2.4 billion annually - and given California's size and resources, the actual impact is likely greater.

It is widely agreed that prevention is the most effective and resource-efficient way to combat the spread of invasive plants. To learn more about how you can prevent the spread of invasive garden plants, go to PlantRight.org. PlantRight is a leader in the effort to prevent horticultural invasive plants and suggesting alternatives to these plants.

Their website lists invasives by region, their environmental impacts and the benefits of "Planting Right."

Ask Master Greenjeans

Question: What is sheet mulching?

Sheet mulching, also known as lasagna composting, can improve soils in a short period of time. It is an excellent, inexpensive way to convert a lawn into a vegetable or drought tolerant garden. Information for this article came from the following sources;

- 1) extension.oregonstate.edu/lane Sheet Mulch-Lasagna Composting
- 2) <http://www.chelseagreen.com/content/9-simple-steps-to-sheet-mulching>
- 3) <http://www.patternliteracy.com/books/gais-garden/how-to-the-ultimate-bomb-proof-sheet-mulch>
- 4) <http://www.sustainablelafayette.org/converted-our-lawn-in-one-weekend-with-sheet-mulch>
- 5) <http://www.theinformedgardener.com> - Dr. Chalker-Scott The Myth of Paper-Based Sheet Mulch

The article in sustainablelafayette.org highlights a family who converted their lawn with sheet mulching during one weekend using the lasagna method, a technique for amending soils because that mimics a natural soil building process that does not require heavy machinery or chemicals.

As stated in the Oregon State University article, all compost needs carbon, nitrogen, oxygen and water to break down the organic materials into a good growing medium. The basic technique involves placing alternating layers of carbon materials and nitrogen materials directly onto the soil. The alternating layers should be fairly equal to allow for equal decomposition.

Continue to add alternating layers of carbon and nitrogen until the final height is reached, about 18 to 36 inches. As the material

decomposes, more layers can be added, always ending with a carbon layer, such as straw, shredded paper leaves, and/or mulch. This is the "blanket" that discourages flies from laying eggs on exposed nitrogen material such as table scraps.

Sheet mulching is a slow process. There is little heat reaction from the microorganisms to speed the process along. A bed is complete and ready to plant when the layers have decomposed to the point the original materials smells like fresh soil.

There are several advantages to sheet composting. They are:

- It is easy way to expand a garden with minimum amount of equipment or materials.
- It can be done a little at a time, on a small or large area.
- It can be used to improve soil or add to existing beds.

The ultimate bomb proof method steps are:

- Mow your grass or other vegetation to the ground. Remove perennial weeds and tough plants like blackberry, bindweed, morning glory and quack grass.
- Add soil amendments as determined from a soil test.
- Water the area thoroughly. This will help the decomposition process.
- Add newspaper or cardboard as an organic weed barrier. It is recommended to lay cardboard from appliance boxes because it is easier to spread them into layers on the ground. Make sure to have a four to six inch overlap to prevent weeds from coming to the surface. If you have poorly drained soils, you might refer to Dr. Chalker-Scott's web page about the informed gardener. She recommended using wood chips instead of cardboard on poorly drained soils.
- Add alternating layers of organic compost. You can add sheet composting by alternating with layers of nitrogen rich materials like grass clippings with carbonaceous materials like weed-free straw.
- Add the final top mulch layer, at least three inches thick. Water thoroughly once again.

In each issue, Mel Crudge, who's been a Master Gardener since 2012, will answer one or more of your gardening questions. Please submit to hotline@mbmgs.org.

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