Master Gardener
University of California Cooperative Extension

The Curious Gardener

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In This Issue

UC CE

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Ornamental Pond in Your Landscape?

Article and photos by Julie Lowrie, UC Master Gardener of Placer County

You're a confident experienced gardener who would like to try your hand at some new plant varieties. In that case, consider including a landscape feature incorporating still water or moving water creating soothing sounds; aquatic plants; and fish if you like. Aquatic plants cultivated in a water garden or ornamental pond environment offer vast ranges of colors, textures, shapes, and sizes of flowers and leaves from which to choose and arrange, complimenting your existing terrestrial landscape. Adding a pond to your residential landscape can bring you pleasant water sounds; enhance the visual aesthetics of your surroundings; and establish a new ecosystem attracting water-loving insects, wildlife, and amphibians to your yard.

A water garden for a patio.

Pond sizes can range from small wine-barrel-sized patio container ponds to large acre-sized earthen ponds or swim pond hybrids. Pond depths will vary significantly depending on the pond's style, type, and nature. This article provides a brief overview of three significant factors, location, lighting, and depth, that may impact your decision to include a pond in your syard. You can learn more about those additional factors here. It is recommended locating your pond in a place with maximum viewing range; easy access to clean, prune and remove vegetative detritus to effectively maintain it; and close enough to utility outlets should you choose to install mechanical pumps or filters, or wish to use a pond vacuum to clean your pond.

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The best location should receive approximately five to six hours of sunlight in order not to limit your selection of hardy or tropical water lilies (*Nymphaea*). The majority of aquatic plants need adequate exposure to sunlight so they can photosynthesize for best performance in your pond. Avoid situating your pond under or close to trees to avoid tree root issues and minimize your pond maintenance chores. Leaf decomposition increases the nutrient load increasing algal growth in the pond with some leaves shedding toxins, such as tannins from oak leaves. Over time, tree canopies and roots will continue to grow, increasing the risk of root invasion and increased shading over the pond.

Another critical factor is water depth. Varying depths maximize aquatic plant selection and cultivation. If deciding to install a larger pond, planting beds or bogs (more extensive area of shallow water where emergent aquatic plants may be installed creating a natural filter for the pond) should be considered during the planning phase and designed at the appropriate pond depth levels for the contemplated aquatic plants. Most aquatic plant varieties are emergent marginals that grow in shallower water depths, anywhere between zero to six inches of water from the plant's crown (where the plant meets the soil. Submersible aquatic plant varieties, such as underwater grasses (*Vallisneria, Sagittaria*), and tropical, and hardy water lilies (*Nymphaea*) may be planted at depths of one to four feet of water, dependent on the actual size of the plant at the time of planting.

In conclusion, remember that a pond is not just a treat for your senses, but actively encourages biodiversity, attracting beneficial aquatic insects and creatures that require water to complete their lifecycles.

References

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BotLat Corner

Pass-along Plants

by Peggy Beltramo, UC Master Gardener of Placer County

Spring weather, finally, and I am out in my garden welcoming back those plants that took the winter off. Many of the plants are what I call "pass-along" plants—the ones that can be divided or propagated easily and were shared with me. I picked two of my favorites and you can think of others that you greet as friends in your garden.

My father-in-law shared his forget-me-nots, a fitting common name for a pass-along. Its BotLat name is *Myosotis sylvatica*. This genus name comes from the Greek words—*mus*, meaning "mouse" and *ous*, meaning "ear", due to the shape and size of the leaves. Its specific epithet, *sylvatica*, indicates its preference for a forest environment. So, a forest-loving, mouse-eared beauty.

Another favorite pass-along plant, is a lacecap hydrangea from my Aunt Dorothy. She always had cuttings of it, propagating on her ironing board, to share with friends. She even shared it with the Huntington Garden. The BotLat name for this plant, is *Hydrangea macrophylla*. The genus name *Hydrangea* comes from *hydr*o, meaning "water" and *aggeion* meaning "vessel", in reference to the cup-like capsular fruit. There are many varieties of hydrangea and they propagate readily from stem cuttings. The specific epithet comes from the Greek words *makros* meaning "large" and *phyllon* meaning "leaf", referring to its very large leaves.

Remember, that plants are called "pass-along" because they reproduce or divide easily. Forget-me-nots seed politely in my garden, but the link above indicates that they are invasive plants in some midwestern states. Be careful what you accept from friends. You don't want be sorry later!

Integrated Pest Management for Weeds

by Ann Wright, UC Master Gardener of Nevada County

Weeds—these harbingers of spring can be tough garden pests, challenging even the most seasoned gardeners. There are many ways to manage these unwelcome plants that crowd our new seedlings, sometimes harboring harmful insects and diseases.

Integrated Pest Management (IPM) offers several choices in managing weeds. Familiar to many gardeners, IPM helps gardeners solve pest problems using a process that minimizes risks to humans, animals and the environment. IPM includes as pests, plants, vertebrates, invertebrates, pathogens, or other unwanted organisms that may harm water quality, animal life or other elements in the ecosystem. A science-generated, decision-making process, IPM first requires observation and correct identification of the pest, followed by an assessment of the numbers or amount of damage caused by the pest. Guidelines are available from IPM sites to help gardeners decide which strategy or combination of strategies to enlist—such as biological, cultural, physical or chemical controls. On-going monitoring is also essential in management of pests, to determine if the strategy to control the pests actually worked.

First, it's critical to identify a pest—in this case, weeds. So, what is a weed? In simple terms, a weed is a plant that grows where you don't want it to grow, competing with vegetables or ornamentals for space, light, water and nutrients. Weeds can be annuals or perennials and can be characterized as persistent and competitive, some with seed that can survive in the soil for a long time.

To identify which weed may be invading your space this year, there are a number of online tools available to help. The UC IPM website Weed Photo Gallery, places weeds into four categories: broadleaf (herbaceous, flowering); sedges (perennial grassy-like plants that grow in shallow water or very moist soil); grasses (narrow leaves with parallel veins and small, inconspicuous flowers); and aquatic plants (plants that grow in water for at least part of their life cycle.) Each category includes a tutorial with pictures describing each type. The UCANR Weed Research and Information Center (WRIC) has a weed identification tool which also assigns characteristics of weeds including broadleaf, grass like, and woody (trees, shrubs and sub-shrubs).

Bermuda Grass. Photo courtesy of UCANR

Once the weed is correctly identified, and with help from IPM sites, management of weeds may be considered. Options include biological, cultural, mechanical/physical and chemical controls. Below is a brief summary, with the understanding that much more information is available from references and educational websites (UCANR or other universities).

Tool choices for weeding—a mechanical method of control. Photo by Ann Wright.

Biological control of weeds is the use of a plant's natural enemies, such as parasites, fungi, pathogens, or nematodes to control the weed. As an alternative to chemical means of control, the use of bioherbicides has gained some momentum over the past 20-30 years, particularly for large land managers. However, biological agents require state permitting and these choices are not readily available for home gardeners.

Cultural controls are considered practices that reduce the establishment of the pest, or interfere with reproduction and survival. For instance, changing irrigation practices to a particular area can reduce pest problems since too much water can be an invitation to more weed growth and disease. As an example, bermudagrass (*Cynodon dactylon*) is dependent on moist soil to spread. According to the pest note for bermudagrass , withholding summer water to dry the stems, followed by careful raking of the area two or three times during the summer will help bring the rhizomes to the surface where they can be removed. However, if water is applied or rain falls, the weed will quickly regrow. For this difficult weedy pest, a combination of IPM options may be required to get rid of the weed.

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Mechanical and physical controls kill pests directly, such as pulling and removing weeds, adding mulch, or solarization. Weeds that reproduce by seed are generally easier to remove manually than weeds such as bermudagrass that reproduce vegetatively from stolons and rhizomes.

Conventional mulching involves applying a thick layer (6 to 8 inches for weed control) of straw, wood chips, leaves or other covering to an area as a barrier against weed growth. Avoid placing the mulch right up to the trunk or base of the tree or plant. Mulching has a number of other benefits, but suppressing weed growth is one huge benefit. Sheet mulching is an alternative that involves layering solid materials over an area to help control weeds or turf. This is accomplished by mowing or cutting the vegetative growth very short, covering with a layer of mulch, then adding a layer of cardboard, or other solid barrier, then covering the cardboard completely and thickly with another layer of straw, leaves or woodchips. Mulches can be applied any time of the year, and control can be extended as long as additional mulch is added over time.

Soil solarization is a non-chemical method of pest control that may help control many weeds by means of a combination of moisture and heat from the sun. Plastic sheeting, 1 to 4 millimeters thick, is used to cover an area of weedy growth that has been trimmed as short as possible. The area to be solarized is only the weeds the gardener wants to control—not the surrounding ornamentals or vegetables. The UCANR IPM Pest Note on Solarization offers more information about using soil solarization to control pests.

Chemical control for weed management is the use of herbicides, and should be used only when other approaches or combination of approaches is not effective. The UCANR Quick Tips for Weed Control states, "most weed problems can be managed by hand-weeding, mulching, good garden or landscape design, keeping lawns vigorous and competitive, and using other non-chemical methods." Herbicides (weed killers) are pesticides designed to control undesirable plants. When using herbicides, follow label directions precisely. Otherwise, products will fail to control the weeds, may damage desirable plants, or can limit your ability to replant in that area. Applying too much herbicide in an area also wastes money and can lead to it running off site and contaminating creeks and streams."

Integrated pest management for weeds offers a variety of choices for control. Identification of the weed is the first step—then, prioritize management strategies. What weeds need to be dealt with first, and which can wait? On-going monitoring will indicate the need for further interventions. Seek guidance for management from IPM references, and consider the options for control that are consistent and achievable for the home garden.

References

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Save the Date!

UCCE Nevada County Master Gardeners

Spring Plant Sale

Saturday, May 7, 2022
9 am to noon

Demonstration Garden
1036 West Main Street
Grass Valley (on NID grounds)

Nevada County Demonstration Garden News

by Ann Wright, UC Master Gardener of Nevada County

Many of the winter activities in our Grass Valley Demonstration Garden have centered around storm clean-up. As a result of the fierce snow storm in December, several trees in the garden were broken, including major damage to an oak in the meadow area. There was also considerable damage to the orchard, and plenty of debris to remove. Teams have tackled much of the work, knowing that by spring things will be looking fresh again.

The cottage shed has been re-sided, and one side awaits the artistry of our own Jo Hathcock to paint a lovely mural which will be unveiled later. This will add color and interest to the whole garden. New gravel will spruce up the walkways.

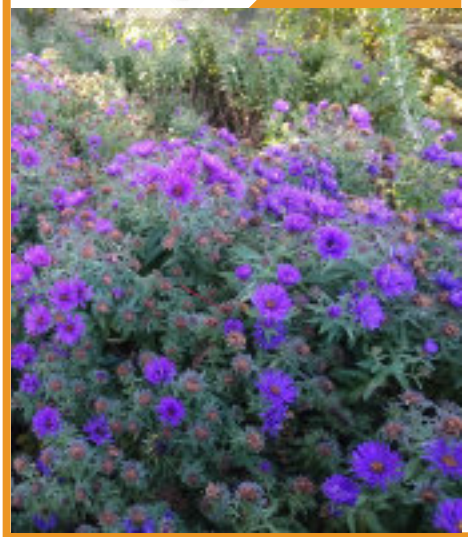
December's fierce storm damaged the orchard trees. This Empire apple split down the middle. Photo by Teri McConnell, MGNC.

A new interpretive signage project has been given the green light by the MGNC Board. A committee of Master Gardeners has met several times to start the design process and text for the signs. A professional interpretive sign company is being used to produce the signs, and work has already been done on signs with information about plant selection (Right Plant, Right Place), waterwise gardening and beneficial insects. It is hoped that new signs will start to be seen in the garden later in 2022.

Plans are in place for our spring plant sale in May, and seed planting will begin soon. The hoop house will soon be the center of spring activity in preparation for the sale.

Aster 'Purple Dome' Purple Dome Michaelmas Daisy

by Laurie McGonagill, UC Master Gardener of Placer County



Looking for a late summer to mid-fall blooming perennial when many flowers are drooping or spent? Try the aster 'Purple Dome,' also known as the Michaelmas daisy. This aster is a relative of the native which grows in our area, but its flowers and leaves are more abundant. *Aster* 'Purple Dome' is a dwarf variety—growing to about 18 inches—with a mounding habit. This cultivar has blooms with many deep purple petals and sunny yellow-gold centers which attract pollinating insects. The purple dome aster is easy to care for. It prefers sun but will grow with some shade. It is not prone to mildew and even tolerates wet soil. It looks fine with low water but spreads rapidly with more. You can divide it every other year if you wish. Cut it down to its base in winter. The new growth of deep green and purple red is exciting to watch. It starts close to the ground in winter and grows over the months to finally send up stalks of buds which burst into bloom in late summer. It is a must-have in the garden, startling with charming blooms just as you'd given up hope for color!

References:

- *Purple dome Michaelmas daisy.* UC Davis Arboretum and Public Garden. n.d. https://arboretum.ucdavis.edu/plant/purple-dome-michaelmas-daisy
- Casey, Christine. *Five Great Asters for the Fall Bee Garden*. The Bee Gardener, UCANR. October 6, 2016. https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=22266

Evaluating Fire Damage on Trees

Article and photos by Nicole Harrison, Master Gardener of Placer County

How we prepare for fire can mean the difference between dead trees and trees that are resilient to fire. In an evaluation of a fire damaged tree, there are a few key things to consider.

The first and foremost trait required of a tree for resilience is bark. Thick bark results in more resistance to fire. Thicker bark protects the cambium layer of tissues underneath. Did the fire completely surround the tree or did it move from one side to the other preventing an intense burn on the leeward side? Were there grasses, shrubs or a flammable pile of demolished pinecones (squirrels), at the trunk of the tree. How much fuel kept the fire burning at the base of the tree?

Cross section of coast live oak, ponderosa pine and Douglas fir show differences in bark thickness.

Secondly, soil moisture content is a factor. Trees surrounded by lawn and in well irrigated areas generally have foliage with a higher moisture content. This higher moisture content will increase the temperature required to cause the foliage to ignite and protect the buds underneath. Was the tree exposed to high temperature in the canopy and is the canopy still green or resprouting?

Measuring the live remaining crown can be helpful in determining survival. Many times the foliage may have been singed and dead, but if the underlying buds are still alive and viable, the tree will likely survive. The twigs can be examined through binoculars to see how much of the tree is still alive.

Cavities in trees from old wounds make a place for fire to get inside the tree. In October, while working in the Caldor fire, I noticed smoke seeping from a cavity in a large ponderosa pine. It was a small opening, such as an old branch failure or woodpecker cavity. The fire passed through the area about August 30th. The tree had been smoldering for more than 2 months slowly burning the structural cells inside the tree. This can happen on the main trunk of the tree or in large branches.

Prepare your landscape and trees before fire season. In natural areas, remove grasses, leaf litter, and debris from the base of trees to keep potential fuels away from the trunk. The thinner the bark of the tree, the further away you should move the fuel. In the landscape, irrigate heavily during fire season. After a fire, you can evaluate which trees are likely to survive based on how the fire acted on the site and the species. Once you have decided which trees are likely to survive, evaluate risk of failure and what the tree might strike if it did fail. When in doubt, call a qualified consulting arborist.

Lawn area, above: Trunks are charred but moisture content within the foliage was high enough to prevent ignition. Trees will likely be fine. Below: Natural area with drought stressed trees and low moisture content within the foliage caused ignition throughout the canopy. Trees are likely all dead.

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- Mullen, Luba. *How Trees Survive and Thrive After A Fire*. National Forest Foundation: Your National Forests Magazine. Summer/Fall 2017. https://www.nationalforests.org/our-forests/your-national-forests-magazine/how-trees-survive-and-thrive-after-a-fire
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- *Fire Effects Information System* (FEIS). USDA. February 3, 2021. https://www.feis-crs.org/feis/

Unusual Edibles: Chinese Water Chestnuts

By Julie Lowrie, UC Master Gardener of Placer County

Chinese water chestnut (*Eleocharis dulcis*) is a perennial member of the sedge family. It thrives in the margins of ponds, bogs, or other shallow water areas and grows by rhizomes ending in corms. It is winter hardy to USDA Zones 9-11, and is primarily grown for the agricultural production of the dark-brown corms. Unlike a tuber, a corm has only one growing point located at its top. The corms are referred to as "chestnuts" even though they are actually aquatic vegetables. They are sweet, crunchy, tasty little delights you've likely encountered in many Asian dishes. Processed or raw corms of Chinese water chestnut can be found on your grocer's shelves or in the fresh vegetable aisles. Not only are they nutritious and delicious in meals, but a 2021 scientific study also reports that extracts of *Eleocharis dulcis* have shown antibacterial activity against various strains of bacteria, suggesting further research into its potential medicinal properties.

Chinese water chestnut is often used in aquatic plant designs of residential ornamental ponds due to its beautiful, erect, narrow, emerald green eye-catching foliage. It has the added benefit of minimal pest or disease issues. Although flowering is rare, the blooms appear at the top of its bladeless leaves as brown spikelets, calling back to its sedge family. The corms can be harvested in late autumn after the plant is dormant and should be cleaned, dried, and brushed or peeled before consumption.

UC Master Gardeners of Placer County
invite you to our indoor/outdoor

Garden Faire

free home gardening event

Saturday, April 9, 2022
9 a.m. to 3 p.m.
Maidu Community Center
1550 Maidu Drive, Roseville
FREE ADMISSION

Come grow with us!

Master Gardener — University of California Cooperative Extension

City of Roseville California — Environmental Utilities

Sponsored by Roseville Environmental Utilities
Presented by UC Master Gardeners of Placer County
http://pcmg.ucanr.org | (530) 889-7388

Things to see and do:

- Hands-on demonstrations
- On site Master Gardeners
- Info on bees, butterflies, and chickens
- Succulents to plant
- Garden art and plants for sale
- Composting advice
- Crafts for kids
- Food trucks
- Door prizes

Talks by experts:

- Randy Oliver, Honey Bees and Beekeeping
- Kevin Marini, Vegetable Gardening Tips
- John Shannon, Water Leak Detection

This event will comply with COVID-19 protocols in place at the time of the event

Underground Renegades: Voles and Moles

By Jan Birdsall, UC Master Gardener of Placer County

With the advent of spring come buds on the trees, blooms on various bulbs and the small size rodents and mammals of the garden. In this article, we will talk about voles and moles. These two in particular will have you on your knees trying to determine paths of destruction and areas of vulnerability. In naturalized areas, they can improve soil by aeration and mixing nutrients, but run afoul of gardeners when their habitat of mounds, holes or tunneling damages flower or vegetable gardens as well as lawns. In deterring voles and moles, stick to research-based answers.

Vole, above; vole burrow entrance, below. Photos by Jack Kelly Clark.

First, identify the precise pest you have. California vole, *Microtus californicus*, is one of six found in California and the most likely in our area. Voles or meadow mice are five to eight inches in length at maturity with small legs, ears and tails. They have a high rate of reproduction. This rodent eats or gnaws on many types of vegetables, landscape plants and fruit trees including roots and bark. One effective deterrent is to modify their habitat by removing weeds, ground cover and litter. More of their characteristics, behavior and ways to deter them are outlined in this UCANR IPM pest note and at this website.

Broad-footed mole, above, photo by Jerry P. Clark. Mole mound, below, photo by Larry L. Strand. Mole surface burrow, right, photo by Rex E. Marsh

Moles, *Scapanus spp*, destroy roots and create unsightly messes in the pursuit of their primary food sources—worms, ants and grubs. They like loamy soil that is moist as a result of rain or irrigation. Moles have extremely large front feet in proportion to their bodies with no external ears and poorly developed eyes. Efficient mole deterrents are “harpoon” or “spear” traps. You can learn more here and at this UCANR IPM website.

Workshop and Events Calendar

In the midst of the current coronavirus (COVID-19) pandemic, the top priority of UC Master Gardeners is the health and safety of our communities.

Please Visit Our Websites for the Most Up to Date Information

Nevada County: ncmg.ucanr.org
Placer County: pcmg.ucanr.org

March

March 12
10:30-11:30 am
Dealing With Deer
pcmg.ucanr.org

March 12
10:00 am
Functional Irrigation
ncmg.ucanr.org

March 19
10:00 am
Totally Tomatoes
ncmg.ucanr.org

March 26
10:30-11:30 am
Planning Your Vegetable Garden
pcmg.ucanr.org

March 26
10:00 am
Gardening for the Birds
ncmg.ucanr.org

April

April 2,
10:30-11:30 am
Container Gardening
pcmg.ucanr.org

April 2
10:00 am
Container Gardening
ncmg.ucanr.org

April 9
10:00 am
Weeds: The Good, Bad, The Ugly
ncmg.ucanr.org

April 9
9:00 am – 3:00 pm
Garden Faire
Maidu Community Center
1550 Maidu Dr., Roseville
pcmg.ucanr.org

April 16
10:00 am
Growing Herbal Teas
ncmg.ucanr.org

April 30,
10:30-11:30 am
Planning for Pollinators
pcmg.ucanr.org

April 30
10:00 am
Waterwise Gardening
ncmg.ucanr.org

May

May 7
9:00 am – noon
Spring Plant Sale
1036 West Main Street
Grass Valley
ncmg.ucanr.org

May 8
10:00 am - 4:00 pm
Mothers Day Garden Tour
pcmg.ucanr.org

May 14
10:30-11:30 am
Managing Vertebrate Pests
pcmg.ucanr.org

May 14
10:00 am
Softwood Propagation
ncmg.ucanr.org

June

June 4
10:00 am
Planning a Year-round (Almost) Cutting Flower Garden
ncmg.ucanr.org

June 4
10:30-11:30 am
All Things Tools
pcmg.ucanr.org

June 11
10:00 am
Shade Gardening
ncmg.ucanr.org

Location Information

Workshops may be presented in person or virtually via Zoom and locations may change due to weather or other circumstances. Please always check our web-sites for the most up-to-date information.

All Nevada County workshops start at 10:00 am. Early season workshops are generally held at the Elks Lodge in Grass Valley, 109 So. School Street. Later season workshops are held at the Demonstration Garden on the NID Business grounds, 1036 W. Main Street in Grass Valley. The alternate venue is via Zoom.

Placer County workshops start at 10:30 am and may be held via Zoom or in person at the Loomis Library, 6050 Library Drive, Loomis.

About Master Gardeners

Our mission as University of California Master Gardener volunteers is to extend research-based gardening and composting information to the public through various educational outreach methods. We strive to present accurate, impartial information to local gardeners so they have the knowledge to make informed gardening decisions in regard to plant choices, soil fertility, pest management, irrigation practices, and more.

The Master Gardener volunteer program was started in the early 1970s at the Washington State University. Farm Advisors became overwhelmed by all the incoming calls from home gardeners and homesteaders so they trained volunteers to answer these questions and the "Master Gardener Program" was born. The first University of California Master Gardener programs began in 1980 in Sacramento and Riverside counties. The Nevada County and Placer County Master Gardener Programs began soon thereafter in 1983.

Serving Placer and Nevada Counties for Almost 40 Years

Production Information

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Have a Gardening Question?

Contact Us!

Placer County Residents

Call our Hotline

530.889.7388

Nevada County Residents

Contact us through our website or Facebook

Master Composter Rotline

530.889.7399

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All information presented pertains to the climate and growing conditions of Nevada and Placer Counties in California.