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*We want to hear from you!  
Send your submissions for  
the newsletter to*

*[ymastergardener@gmail.com](mailto:ymastergardener@gmail.com)  
by June 15<sup>th</sup> for the next issue.*



# Yellowstone Master Gardener



## NEWSLETTER

Volume 10, Issue 2 • April/May/June 2021

### Cheri Pattee: Gardening With Purpose

by Bess Lovec

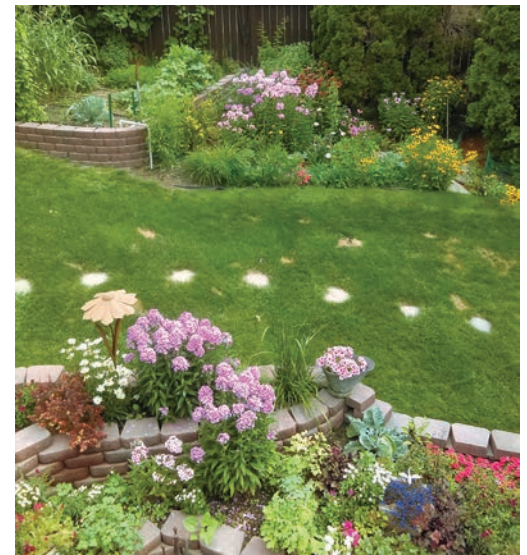
Cheri completed Level 1 a few years ago, then immediately put that knowledge to work, landscaping for the yards of four apartment buildings plus her family's bare yard. Their tenants even have a 4'x48' garden plot. She's received numerous notes from renters on what a difference the grounds make in their experiences living there. Cheri's work demonstrates how landscaping affects lifestyles, human relations, and yes, business.

No longer a member of Master Gardeners due to the amount of work involved in caring for five yards, Cheri was a member for about three years. She enjoyed volunteering at the Zoo, and attributes Julie Halverson (deceased) who also volunteered there as her greatest gardening teacher. Cheri's husband also volunteered at the Zoo, although he didn't take the Master Gardeners' course. Level 2 occurred during the year when Cheri was too busy doing yard work to attend. She emphasized that her absence from the program in no way reflects the quality of the program. What she enjoyed most about the program was friendly communication among participants and the help she gained from learning. She only has "glowing recommendations" for Master Gardeners' classes!

Her greatest challenge? Staying ahead of weeds and grasses in perennial beds. She would like to see some help on how to weed from standing, since arthritis is a frequent companion. Her goal for summer 2021 is to divide perennials to create more space between plants.



Cheri's 32-pound watermelon



Cheri's garden landscape

Through this process, she fosters future gardeners, as two daughters-in-law, her granddaughter, and granddaughter-in-law take perennials from the thinned beds. She might add to her herb collection, too.

Some of her favorites include California poppies (grown on a rock mound where they reseed themselves), hibiscus, peonies, and delphiniums. For long-term investment, her preference leans towards perennials instead of annuals. Strangers often ask about their vast collection of shrubs, flowers, and trees.

Her vegetable/fruit beds produce eggplant, beets, tomatoes, beans, cucumbers, cabbages, squash, and a 32-pound watermelon. Trellises, a square-foot planter, and hot rock gardening cater to different plant needs.

*continued on page 2*

# Meals On Wheels Tulip Planting

by Elizabeth Waddington with information from Rayanne Schuler

Mary Davis, Joyce Hendricks, Debbie Werholz, Sherry Doty, Sharon Wetsch, and Rayanne Schuler planted up 480 tulips in 240 pots in early February. They were delivered by 17 volunteer Meals On Wheels drivers.

Because Rayanne also delivers one Meals route, she was able to see the smiles when the surprise flowerpot was brought to the doors along with their expected food delivery. The men were precious... "For ME?" they said with a smile. One darling little lady just cried with joy and another said her favorite thing was to watch things grow. The small gesture elicited more stories as the weeks went on. This seemingly micro-project impacted so many seniors who have been shut in for a year.



Look for other opportunities to collaborate with community partners. Master Gardeners always like to get a little 'dirt' under their fingernails!

**RECIPE** submitted by Elizabeth Waddington

## Fruit Coffee Cake

from *Washington Farmers' Markets Cookbook and Guide*  
by Kris Wetherbee, Maverick Publications, Inc., @2000

### Ingredients:

- 2 cups flour
- 1½ cups sugar
- 2 teaspoons baking powder
- ½ cup margarine
- 2 eggs
- 1 teaspoon vanilla
- ¾ cup milk
- 3 cups fresh fruit – plums, apples, peaches, bananas, strawberries



### Directions:

Work flour, sugar, baking powder and margarine into crumbs in a mixer or food processor. Set aside 1 cup for topping. Add eggs, vanilla, and milk; mix well. Pour batter into a sprayed 9x9" pan.

Arrange sliced fresh fruit on top; be generous, no, really, be generous! Cover with crumb topping. Bake at 350° for 45–55 minutes or until done.

Note: We made as a birthday cake using fresh rhubarb and ½ whole wheat flour – yum!

**CHERI PATTEE** continued from page 1

Landscape bricks, liners, drip sprinkling, and heavy edging materials help the mechanical aspects of their yards, although they used chemicals to eventually rid themselves of virginia creeper. In their commercial properties, they created a fence with arborvitae and clematis. Other successful plants there: potentilla, dwarf blue spruce trees, and barberries. She doesn't know why Alberta spruce died. I suggested a chart of what plants are where in her home grounds for future sale of the property.

I heard our buyers drooled on that when the real estate agent whipped it out. Plus it gives the next caretakers of our labor of love a chance to become good stewards.

Cheri noted that her career as a paralegal didn't contribute to her gardening skills, but gardening definitely helped her deal with the stresses of being a paralegal. Pay attention to boundaries is her advice for future gardeners, plus fearlessly try new things. "It's a lifelong hobby that is rewarding."

# Clematis Vines

by Ann Guthals

An unassuming, almost hidden member of my garden that brings great joy when its lovely flowers quietly appear is my clematis vine. A member of the Ranunculaceae family, clematis is a woody perennial vine with many wild species and domestic, cultivated members as well. The genus name clematis comes from the Greek word “klemma” meaning vine-branch. Wild clematis in North America ranges from southern British Columbia and Alberta south to New Mexico.

Being a vine, clematis requires a support to grow on. In the wild that would be fences, bushes and trees (sometimes the vine completely covers its support). In the garden that could be a fence, a trellis, even a shrub or a tree. The domesticated clematis peacefully co-exists with its supports – my vine grows up amongst my grape vine and does not seem to interfere with the formation of grape leaves or fruit.

The flowers are interesting in that what looks like petals are actually sepals – there are no real petals. There are separate male and female plants. In the wild after flowering, the styles of the female flowers elongate and groups of them look like beige puffballs.

My garden clematis grows to the height of my deer fence each year but in the neighborhood, the wild vines scale evergreen trees up to 20 feet high.

Clematis plants have deep root systems so when planting them, dig a deep enough hole to accommodate the roots. Make sure the plant gets at least 6 hours of sun a day and mulch around the plant to cool the roots. Clematis does okay in alkaline soils.



*Clematis viticella*  
'Jackmanii'



I remember pruning the vine the first couple of years but after that it has done well with only occasional pruning or trimming. I believe my vine is a *Clematis viticella* 'Jackmanii,' a cultivar originally developed in 1862.

I would certainly recommend clematis as a low-maintenance beautiful addition to a garden.

Sources:

Wikipedia

“Gardening Australia” online

*Plants of the Rocky Mountains* by Linda Kershaw, Andy MacKinnon, Jim Pojar, 1998

*Wildflowers of Montana* by Donald Anthony Schiemann, 2005

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## Your Feedback Matters

The newsletter committee sent a request in January for your comments on nine topics through an online survey.



What were the results, you ask? First, and most noticeable is your paper snail mail copy of the newsletter for all of 2021. (Thank you, Amy and crew!) The preference was for a printed copy but if you feel strongly about saving trees (paper) and squids

(ink) you should let us know. On the flip side, we are supporting the USPS.

Some folks search out their gardening answers through the internet so we will continue to include websites when we have used them extensively for article research. Others find their information through books and we will still include a book review and occasional pertinent movie review. The length of articles and size of the



newsletters seemed to be satisfactory. Upcoming articles, seasonally selected, include reader-requested topics of companion planting, crop rotation, spiral gardens, and more.

Look for an occasional “special issue” newsletter that highlights a single topic. Your input may be requested, and the committee always welcomes your writing and ideas.



## Gentle Reminders

If you had trouble with grasshoppers last year, you may want to purchase Nosema locustae (NoLo Bait) or Eco Bran as a preemptive deterrent to apply along your perimeter from April through June during which nymph grasshoppers emerge. Note that Nosema harms the caterpillars of butterflies and moths but does not affect birds, fish or mammals. Eco Bran is a non-organic insecticide containing the chemical carbaryl and is a non-selective poison and will kill beneficial insects as well as a few grasshoppers. For more information, please see *Grasshopper* article in 2020 October-December newsletter issue.



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## Last Freeze/Frost Dates

Nearest Climate Station	Altitude	Spring Spring Frost	Fall Fall Frost	Growing Season
<b>Billings, WTP, MT</b>	<b>3097'</b>	<b>May 14</b>	<b>September 25</b>	<b>133 days</b>

Last and first frost dates are 30% probability • Calculated using 1981-2010 Climate Normals • Summer solstice: June 20

### What are frost dates?

A frost date is the average date of the last light freeze in spring or the first light freeze in fall.

The classification of freeze temperatures is based on their effect on plants:

- Light freeze: 29° to 32°F (1.7° to 0°C) – tender plants are killed.
- Moderate freeze: 25° to 28°F (3.9° to -2.2°C) – widely destructive to most vegetation.
- Severe freeze: 24°F (-4.4°C) and colder – heavy damage to most garden plants.

Resist the urge to clean up your gardens until after temperatures are constantly above 50°F. Many butterflies, bees and other pollinators are currently overwintering in the dead leaves and hollowed out stems of last year's plants. If you clean out your garden during low temperatures, you may literally be throwing away this year's butterflies, bees and other beneficial pollinators.



## Question to Dr. Bob

by Corry Mordeaux

### How can I check for winter damage of my shrubs?

You'll have to wait for warmer weather to see most damage on the trunk and branches. But you can check the flower buds now. Snip off some shoots containing flower buds of the plant in question and bring them into the house. Place them in a vase of water in a warm spot. This will allow frozen tissue to warm and the cells to become active. After several days, cut the buds open. If they're brown or black inside, they're dead or severely injured and wouldn't have produced good flowers. If the inner tissue is green or whitish-green, the buds were sound. Figure your percentage of damaged buds and you'll get an idea of the amount of injury on that plant. Be sure to check plants of different species and different exposures because not all plants have the same sensitivity to winter cold.

Remember, this is just a rough test of the actual damage. Some damage that occurred last winter to the shoots and trunk may not show up until June and some buds may still be damaged later on this Spring. Fluctuating extreme high and low temperatures put a lot of stress on plants.

Dr. Bob's wisdom lives on.

# Planting Your Garden

by Amy Grandpre

The best start for a successful garden begins with a garden plan. A garden plan is invaluable not only for record purposes, but for allowing you to see possible mistakes in planning before you plant. It also keeps you moving in the right direction as you plant.

Be sure to include in this record how much of each vegetable was planted and the varieties of each. At the end of the year you can quickly determine if you needed more (or less) of a particular vegetable, and you have a place to jot notes on how each of the varieties performed for you. You also now have a record of where in the garden each variety was, so that you can be sure to rotate that crop to a different area of the garden to keep down pests.

To glean as much as possible from our short growing season, it's also good to know which plants are hardy/cool season, half hardy or warm season. You don't have to wait till the May 15<sup>th</sup> last frost date to plant everything, as **hardy/cool season** vegetables can survive freezes if hardened off properly. These vegetables can be planted as much as three weeks before the last frost date so by April 24<sup>th</sup> you could plant:

Beets • Cabbage • Carrot • Swiss Chard • Chives • Horseradish • Kale • Lettuce • Onion • Parsnip • Peas • Rhubarb • Spinach • Turnip



The **half-hardy** vegetables, which are not as cold resistant as the cool season crops but can handle



light frosts, can be planted two weeks before the last frost date. By the end of April, you could plant:

Broccoli • Brussels Sprouts • Cauliflower • Celery  
Kohlrabi • Parsley • Potato • Radish • Chinese Cabbage

Then the **warm season** crops, the ones that will take no frosts or freezing temperatures. You could squeeze these in earlier than May 15<sup>th</sup>, but just be ready to cover these if a frost is threatening. These are the mainline garden plants:

Sweet Corn • Cucumber • Eggplant  
Muskmelon • Okra • Peppers  
Pumpkin • Summer Squash  
Tomato • Watermelon  
Green Beans • Winter Squash



To get even more from your growing season window, do successive plantings. This involves planting at intervals a few weeks apart, to extend harvest over many weeks instead of one crop all at once. This system is great for faster maturing vegetables such as lettuce, spinach, radish, and even green beans.



If you are interested in really fine tuning your earliest planting dates, download "Can I Grow That Here" from the MSU Publications website:  
<https://store.msuextension.org/Departments/Publications.aspx>

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## MISSION STATEMENT

The mission of the Yellowstone County Master Gardener newsletter is to "educate and inform," not to advocate or persuade. The Newsletter Editorial Board takes no position endorsing or opposing, approving or disapproving, any of the assertions or arguments in the contributed information. Information submitted to the newsletter is for your interest only.

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# Time For Pruning Fruit Trees

by Amy Grandpre

Most gardeners are aware of the need for pruning fruit trees but are a bit hesitant to get started... wondering just what to do and when?

The time to start pruning your fruit tree really begins when you plant the tree. Weak and poorly placed branches should be removed, and if there is a V crotch competing for leader dominance, this as well should be addressed and pruned to the strongest single leader. Failure to prune at planting time results in more difficulty and “major surgery” to the tree later on.



The objective of pruning is to allow for proper formation of the main branches called scaffold branches. If more than one branch originates from a single point on the trunk, prune out all but the healthiest, sturdiest one. Spacing of the scaffold branches should be about a foot apart along the main trunk. Ideally, if you looked down from the top of the tree, the branches would be spaced to look like the spokes of an old covered wagon wheel.

Once the tree reaches the fruiting stage, it needs to be lightly pruned annually to remove watersprouts that arise on the trunk and on the main branches and as well as any suckers that have sprouted from the base of the tree.



Older trees become tangled with branches, so pruning smaller

branches that crisscross the interior of the tree will help reduce wounding as well as allow more sunlight to enter the middle of the tree, allowing the fruit to become larger and of better quality.

The best time for pruning fruit trees is in the early spring after severe winter weather has passed, but before new growth starts.

For more detailed information download “Pruning Fruit Trees in Montana” from <https://store.msuextension.org/Departments/Publications.aspx>

# Timeline For Decomposition

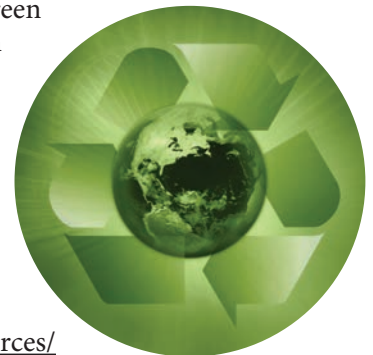
by Sheri Kisch

Many of the below examples of trash contain plastic components. Once in the water, plastic never fully biodegrades, but breaks down into smaller and smaller pieces, eventually being dubbed a “microplastic” which can cause problems for marine life that ingest it, which in turn we may ingest.

Apple core.....	2 months
Newspaper.....	6 weeks
Paper towel.....	2–4 weeks
Orange peel.....	2–5 weeks
Banana peel.....	2 years
Waxed/polyethylene milk carton.....	3 mo.–5 years
Plywood.....	1–3 years
Wool clothing.....	1–5 years
Cigarette butt.....	1–5 years
Plastic bag.....	10–20 years
Nylon fabric.....	30–40 years
Leather.....	50 years
Tin cans.....	50 years
Rubber-boot sole.....	50–80 years
Foamed plastic cups.....	50 years
Foamed plastic buoy.....	80 years
Aluminum can.....	80–100 years
Disposable diapers.....	450 years
Sanitary pads.....	500–800 years
Plastic beverage bottles.....	450 years
Monofilament fishing line.....	600 years
Glass bottles.....	1 million years
Aluminum foil.....	Does not biodegrade

There are many variables to consider in decomposition like what environment is it in, humid or dry? Is it in salt water, exposed to the elements, or in a landfill? What kind of residue is left behind? Green and brown yard and garden waste is better utilized in a compost pile.

It’s best to recycle as much as we can for our environment and world.



Sources:

<https://www.iucn.org/resources/issues-briefs/marine-plastics>  
<https://www.peacecorps.gov/educators/resources/timeline-decomposition/>  
[https://marinedebris.noaa.gov/sites/default/files/2018-Plastics\\_Fact\\_Sheet.pdf](https://marinedebris.noaa.gov/sites/default/files/2018-Plastics_Fact_Sheet.pdf)  
<https://plasticactioncentre.ca/wp-content/uploads/2019/04/HowLongDoesPlasticLast.pdf>

# Organic Gardening

by Ann Guthals

Gardening is a joyful, practical pursuit that can last a lifetime. There is nothing fresher and tastier than a carrot just pulled from the ground that did not travel 1,000 miles to get to your plate. The more you garden, the more you learn about how to successfully grow plants for food and ornamentation. Gardening in Montana is a complex, difficult task. We have a short growing season, capricious weather, clay soils, and the usual pests. Organic gardening is an effective approach to meeting these challenges, utilizing growing methods that create fertile soils and strong plants and that cause little harm to the environment.

What is the difference between organic and non-organic gardening? Put simply, organic gardening uses natural rather than synthetic chemical fertilizers and pest controls and utilizes certified organic seeds, and the emphasis is on building and nurturing the soil. Many of the other methods of growing organically, such as rotating crops, are common good practices for any type of gardening.

Why choose this method of growing your food and flowers? The reasons are numerous. The first and most obvious is that you nurture your soil and plants and deal with pests in a non-poisonous way. Fertilizing with organic matter and natural fertilizers helps create a complex, healthy soil, rather than sterile, chemical-dependent dirt. Building your soil is a sustainable, long-term activity rather than a short-term solution. Organic methods do not depend on products made from oil. Beneficial insects are encouraged rather than eradicated along with pests. There is evidence in organic farming that crops may have better nutrient content – the same may be true for your garden. Using less poison means healthier soil, ground water, humans, pets, and wildlife.

The monetary costs of organic gardening may actually be less than non-organic, as many of the soil builders are available locally and many organic gardeners save seeds. There would only be a rare need for purchasing pesticides (there are some that qualify as organic). Sometimes there are “sacrifice” crops that are “given” to pests such as flea beetles to keep them away from what you really want to eat, but the cost of the seed for such crops is low. If time is money, there is a higher investment in organic gardening as solutions can be more complex, but the pleasure you reap from the process is more than worth it.

Competition for your food abounds from insects, plant diseases, and weeds. Your garden is part of a living, dynamic



Ann's flourishing organic garden

ecosystem. Organic methods do have plenty of natural choices for dealing with pests. A sample list includes healthy soils, disease-resistant seed varieties, rotating crops to a new spot each year to avoid disease, row covers to exclude insects, hand-picking larger insects, mulching and intensive growing to exclude weeds, hand weeding, encouragement of beneficial predators, and, occasionally in special situations, use of natural insecticides such as pyrethrum. Just because you choose natural methods does not mean you have to sit back and watch the pests feast!

Plenty of sources exist for learning about how to garden organically and for procuring fertilizers and seeds. Two books I have learned from are *Rodale's Illustrated Encyclopedia of Organic Gardening* and *Gardening When It Counts: Growing Food in Hard Times* by Steve Solomon. The latter is not strictly organic, but provides information on both methods and thus can be helpful for an organic grower. There are several sources for organic seeds such as Seeds of Change from New Mexico, Native Seeds of Arizona, Seed Savers Exchange in Iowa, Irish Eyes in Washington, and Johnny's Selected Seeds in Maine. If you look up these seed sources on the Internet, you will find that many also have much information about organic growing. Fertilizers can be homemade and locally available (compost, composted manure, “green” manures which are plants that are grown over the winter then tilled into the soil in spring, and hand-mixed fertilizers from natural products – I use one from a recipe in *Gardening When It Counts*). Montana State University's Master Gardener class covers a wide range of topics on raising plants, including garden vegetables, with information on growing organically.

I never tire of the miracle of placing tiny seeds in the ground and watching beautiful plants grow and produce food. I hope you garden in some way, even in pots on a deck, so that you can share in this joy. And, of course, I hope your choice will be to garden organically.

# Beneficial Insects

by Ann McKean

Spring is upon us, and summer, with all its gardening joys and challenges, will be here before we know it. As we strive to live more sustainably, there are techniques we can employ to garden in sync with the natural harmony of nature. Along with practicing polyculture by planting a diverse group of plants, and companion planting (which is beautifully explained in the new book *Plant Partners* by Jessica Walliser. She has also written a book about *Attracting Beneficial Insects to Your Garden*), we can learn how to take advantage of the myriad beneficial insects all around us. As they become more readily available to the public, beneficial insects are getting more attention as a safe alternative to chemical warfare in the garden.

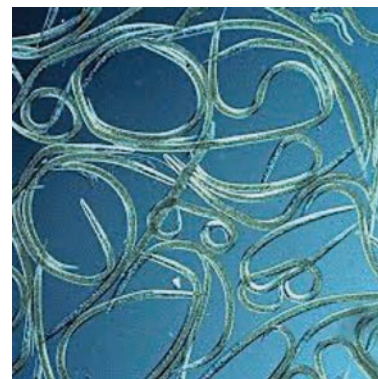
Diverse gardens (polyculture) are naturally healthier than a monoculture. They reduce the abundance of pests by reducing the quantity and proximity of a single target and they attract beneficial insects with a variety of food sources. When beneficial insects run out of insect pests to eat, they often turn to nectar and pollen to supplement their diet. In this way, they also become pollinators! Natives are a great way to attract beneficial insects, but many annuals, native and non-native, are also a quick and effective addition. Cosmos is one example of a popular and easy-to-grow annual attractant of many beneficial insects.

Beneficial insects include those as obvious as spiders, mantids, ladybirds, and lacewings, and some less well-known hunters such as soldier beetles, syrphid and tachinid flies and the rough stink bug (NOT to be confused with the invading brown marmorated stink bug which you must squish if you see it!). These beneficial insects eat a variety of pests including aphids, caterpillars, mites, thrips and mealybugs. Some of them are indiscriminate feeders and they will even eat each other.



There are also lesser-known insects which are equally helpful in the struggle to stay one step ahead of the ravenous pests

who invade and devour our favorite flowers and vegetables. Many of these are so small we will probably never see them. They include the braconid wasp which parasitizes the tomato hornworm by laying its eggs right on the caterpillar; then, when the eggs hatch, they consume the host. The tachinid fly is another miniature parasitic insect.



Nematodes

There are also microscopic beneficial nematodes which live in the soil and consume pests while they are in the larval stage of growth. Many of these can be purchased online and locally. Some beneficial nematodes are generalist feeders while others are species specific, so read the details when you are purchasing. I have successfully employed nematodes to reduce fungus gnat populations in my houseplants, and different nematodes to eliminate those nasty thrips in my roses. They outperformed the most deadly chemicals which I am ashamed to admit I was desperate enough to try in the past.



The key to this method of pest control is following best practices to maintain strong healthy plants, frequent scouting, early treatment, avoiding chemicals, and having a higher threshold of tolerance. Nature can be messy and our modern lifestyle doesn't always leave room for the patience that natural processes often require, but as the natural world increasingly struggles under the burdens of our collective choices, we each can make individual choices that support those natural processes instead of destroying them. Be patient as you try these ways of gardening and remember that whatever our definition of perfection is, nature's perfection is balance.

Sources:

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# What About Epsom Salts?

by Corry Mordeaux

For some time, I have wondered about the use of epsom salts (magnesium sulfate,  $MgSO_4$ ) in the garden to produce more fruit, bigger blossoms, as magnesium.

I recall that Dr. Bob Gough told us in Master Gardener class that magnesium was not good for use in your garden unless your soil was deficient in it. I also recall during a tour of DanWalt Gardens, the previous owner, Dan, told us that his roses did so well because he used epsom salts. Is there a true story? When doing an internet search, there are many YouTube clips on how to use magnesium and how good it is in the garden. There are few clips that are negative. Further search reveals that most scientific articles agree with Dr. Bob.

According to the Master Gardener Handbook, magnesium is important for chlorophyll development and plant respiration. Plants with a deficiency show a yellowing between the veins of the leaves. Apparently, calcium and phosphorus compete with magnesium to be taken up by plants with magnesium losing out. Our soils in most of Montana are not short on magnesium, calcium, or phosphorus. Sulphur is not a problem mostly due to acid rain and pollution. Unless the soil has been farmed hard, there should be plenty of magnesium to go around. Except for potting soil which would not have magnesium as most potting soils are not soil.

How do you know what your garden has? A soil test is in order which you should do anyway every so often. The YouTube clips indicate that magnesium stops end blossom rot, helps seed germinate, discourages pests, plants are bigger and greener, produce more flowers, etc.

Linda Chalker Scott, Ph.D. wrote in *Master Gardener Online* in Spring 2007 several findings. (1) No science could be found to substantiate claims of control of any pest species or disease. (2) Epsom salts does not help seeds to germinate. (3) Epsom salts when deficient in soils and when added can make leaves greener and return plant to better health. There is no evidence that epsom salts will induce plants to flower. (4) Epsom salts will not increase chlorophyll production. Dr. Scott concludes that there is an urge to use common household products as fertilizers



Roses at the DanWalt Gardens

and pesticides. However, any chemical in a landscape should carefully considered. She said “that it was irresponsible to advise gardeners to apply epsom salts without regard to soil conditions, plant needs, and environmental health”.

Another reference *Gardening. College of Ag, University of Saskatchewan, Feb. 2018* did not recommend epsom salts as it is unnecessary and potentially damaging.

Gardener Bob Vila writes in *10 Ways To Use Epsom Salt In The Garden* ([www.bobvila.com](http://www.bobvila.com)) a contradiction to most everything Dr. Scott wrote. Charlie Nardozi writes an article in the *Learning Library, Garden.org* that leans more to using epsom salts than Dr. Scott but only on peppers, tomatoes, and roses in a foliar application. He indicated that using epsom salts as a magnesium additive works best in soils that are slightly deficient in magnesium, soils that are alkaline, soils that are old “weathered” and acidic, and soils high in calcium and potassium (like most of our soils in Yellowstone County).

In all the articles, none really recommended adding epsom salts directly to the soil. Going through my collection of garden information, I found the following general instructions for peppers, tomatoes, and roses. Apply one tablespoon of epsom salts per gallon of water as a foliar spray every two weeks for a total of four applications.

If you are an adventurer, experiment with epsom salts and write to the newsletter with your results of using epsom salts.

# Lore Expectations

## Gardening with time-weathered tales, tips and superstitions

This article was first printed in USA Today, 1999  
submitted by Joy Culver

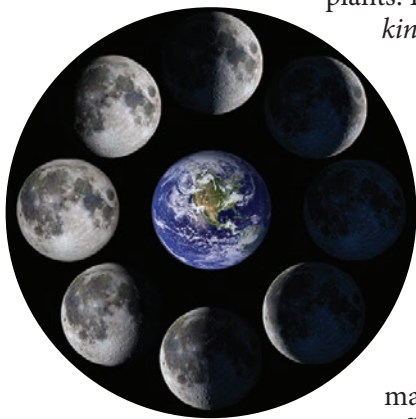
It's midnight in my garden of good and evil. Innocent plants being devoured by insatiable insects – the familiar story told by every farmer, gardener and nurseryman down through the ages.

That's why I'm digging in the dirt at this witching hour. Planting by the light of the moon, it is said, ensures heartier, pest-resistant posies. I'm not sure about the logic behind this, but like any frustrated bug battler, I'm willing to give it a shot. Let's hope the people next door aren't engaged in late-night neighborhood watch vigils. A lone figure with a shovel. Very suspicious.

Garden lore – a mingling of old wives' tale, superstition, grandma's hand-me-down notions and a good dose of good sense – has been with us since the first plot of earth was cultivated. Something happened, good or bad, and everyone looked for the curse or cure. The story was passed on, the method tried, and depending on success or failure, lore was born.

That's sort of the way it happens now, too, although it's like the game telephone: a tad unreliable.

Take planting by the light of the moon. That was printed as fact in a 19th-century gardening tome. Turns out it wasn't quite accurate. Planting by the *light* of the moon is pleasant enough, but it won't make much difference to the plants. Planting by a certain *kind* of moon will.



This old notion is actually rooted in science: sow seed and transplant only with a waxing moon, never a waning, moon. That's because the moon affects the earth's magnetic field, which in turn affects growth. The earth's atmosphere also is affected by the moon, so rain usually comes after a full or new moon – essential to new growth.

Other bits of lore I've tried aren't nearly so intricate. Attempting for years to rid my roses or pesky aphids, I doused them with soapsuds, sprayed them with scary pesticides, hand picked the little nasties off the buds, even imported ladybugs.



Then I tired garlic. A single clove of garlic planted beside a rose seems to do the trick. I learned this by reading a delightful little book, *Gardener's Lore: Plantings, Potions and Practical Wisdom*, by Maureen and Bridget Boland. In it, the authors swear by this unconventional method: "The roots will take up from the soil a substance from the garlic inimical to greenfly (aphids)... whatever it is the rose takes up from the garlic does not affect its own scent."

And then there are marigolds. For years, I resisted these common (read: ugly) little flowers. Then I had a chat with Mr. Heider, who owns a nursery up the road. He told me to try them. "They're as valuable in the dirt as if they were made of real gold."

Using them as edging plants around flowers and vegetables (potatoes and tomatoes benefit most) is indeed a wise move. Insects don't like the scent of marigolds, and roots' secretion kill nematodes in the soil.



It must be true. A fat woodchuck waddled up the other day to the herb garden, surrounded by lemon-yellow marigolds. He snapped off a blossom, specifically with the intent to snack. After one chew, he spat it out, moving on to the more palatable cinquefoil.

But my favorite piece of lore is a superstition I gleaned from a Parisian florist who grew extraordinary window boxes. She told me to never face into the wind when picking a plant or flower, never look back over your shoulder at the plant and never allow the blossoms or the leaves to touch the ground.

When asked why, she just smiled and shrugged in that very French way, murmuring something about gardeners not tempting fate.

Sound like a good notion.

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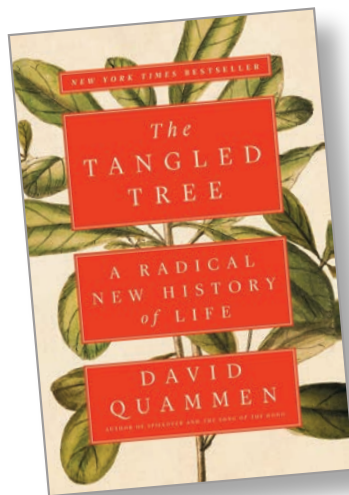
Editor's note: For more tales, tips and superstitions, read the *Garden Advice Or Myths* column published in the 2020 issues.

## The Tangled Tree: A Radical New History of Life by David Quammen

David Quammen of Bozeman, Montana, one of the most popular science writers living in the world today, published this tome about microbiology in 2018. Little did we know, at the time what tremendous influence the Covid virus would have upon the world! Fortunately I read this book with the help of a disciplined book club prior to coronavirus. So to experience this pandemic actually came as no surprise.

The New York Times calls David Quammen “our greatest living chronicler of the natural world.” He explains how recent discoveries in molecular biology affect our understanding of evolution and life’s history. In the mid-1970s, scientists began using DNA sequences to reexamine the history of all life. Horizontal Gene Transfer (HGT), or the movement of genes across species lines, provides clues to the fluidity of changes that can occur in living organisms. Viruses travel through HGT, and by understanding these molecular events, Quammen predicts the vital importance of science in managing potential global crises in public health.

He delves into the personalities of the major molecular and biology scientists, emphasizing Carl Woese, Lynn Margulis, and Tsutomu Wantanabe. Each brings distinct styles, training, and struggles to the current body of knowledge about antibiotic-resistant bacteria and viruses. The intense scientific information becomes easier to try to understand, thanks to the very



human struggles these scientists face in their quests for knowledge.

One of the major threads this book explores: What is the best symbol for life forms? In the past it has been a tree, and he traces that origin and how various scientists thought the tree might be structured. After ample explanation, Quammen justifies a tangled web as being a better symbol of life than a tree, due to the interconnectedness of all living things. After all, airplane noise affects animal reproduction, and Covid leapt across species.

Why does this matter to gardeners? Because we need to be constantly vigilant about rapidly spreading threats to our plant life, such as potato blight or Dutch elm disease. Environmental damage can accelerate molecular change, so new threats could emerge. What happens in your backyard garden could transfer to the agricultural community, ultimately affecting economics and/or our food supply.

Admittedly, this book is hardly a casual read. It takes some determination to experience, but the journey makes for some aha moments, such as, “the total mass of bacteria exceeds the total mass of all plants and animals on earth.” Plus I realize how little we do know and the importance of scientific research. I’m in no way surprised to know that Covid vaccines for humans may need annual boosters. Yet I’m excited to keep learning!

### Another Way To Read The Newsletter

Enjoy the Yellowstone County Master Gardener quarterly newsletter online! Share with friends and access recent editions in the archives. Find local interviews, interesting articles, tasty recipes, upcoming activities and opportunities, plant features, and more. Comment, share ideas, and encourage others to become a Master Gardener.

[www.YellowstoneMasterGardenerNewsletter.wordpress.com](http://www.YellowstoneMasterGardenerNewsletter.wordpress.com)

Please contact Corinna Sinclair if you have any questions. [crean.bean@yahoo.com](mailto:crean.bean@yahoo.com)



## Useful Online Links



### MASTER GARDENER

**Yard and Garden MontGuides** <https://store.msuextension.org/Departments/MontGuides-by-Category/AG/Yard-and-Garden.aspx>

**Submission of Samples** [http://diagnostics.montana.edu/physical\\_sample\\_submission.html](http://diagnostics.montana.edu/physical_sample_submission.html)

**Montana State Master Gardener Facebook** <http://www.facebook.com/MTMastergardener>

**Yellowstone Master Gardener Newsletter Blog**  
[www.yellowstonemastergardenernewsletter.wordpress.com](http://www.yellowstonemastergardenernewsletter.wordpress.com)

**Ask An Expert** <https://www.msuextension.org/>

**Yellowstone MG Newsletter Submissions** [ymastergardener@gmail.com](mailto:ymastergardener@gmail.com)

### YELLOWSTONE COUNTY MASTER GARDENER ASSOCIATION

**Facebook** <https://www.facebook.com/ycmga>

**Website** <http://www.ycmgamt.com/>

*For information on the Association, Master Gardener projects and volunteer activities, calendar of upcoming events, minutes of past Board meetings, etc.*

**Amazon purchases:** *By using the portal below, and then typing in Yellowstone County Master Gardener Association, 0.5% of purchases made through this portal will be donated to the Association. You can even have an app link to connect you instantly to the sign-in page. Please use this link when making Amazon purchases!*  
<https://smile.amazon.com/>

## Yellowstone Master Gardener

### Yellowstone County Extension Office

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Billings, MT 59107-5021

# Summary of Yellowstone County Master Gardener Association Quarterly Meeting (March 10<sup>th</sup>, 2021)

- **Metra update:** Brian Godfrey, Corry Mordeaux, and Amy Grandpre to meet with Ronny about the future of the Square Foot Garden at the Metra. They should have an update in the next meeting.
- **New Board member:** Michael Walz
- **MG Project Video:** Brian thanked Sherry for coordinating the Master Gardener Project Video.
- **Grants:** Brian applied for the WSARE grant but has not heard back from them. Corry may be pursuing a grant from the VFW. Amy has not heard the update on this.
- **Plant Select:** Sharon Wetsch stated the Plant Select Garden at the Zoo is a Master Gardener project and needs volunteers to help with the clean-up and garden maintenance.
- **Arbor Day:** Sharon said she has 20 volunteers to help with the Arbor Day project. Arbor Day activities will be held for two days this year. May 12<sup>th</sup> will be a work day at North Park when trees will be planted, trimmed and some park clean-up will be done. The main event will be held in September and will include the activities for kids. Sharon will check on dates and times and will give them to Amy to send out to the Master Gardeners. AnnaMarie said she is pulling out of working on the Arbor Day project.
- **BBQs/Potluck:** Group discussed future BBQs in this time of Covid. Amy suggested that everyone could bring their own food and socially gather. Brian said gardeners could drop off plants at the Metra for the plant exchanges and people can pick up when they want. Brian asked the Board to come up with ideas for future BBQs and plant exchanges.
- **Celebration:** Amy stated the celebration will not happen this year. We will host the celebration in 2022.
- **Master Gardener Table:** Amy will have seeds for the MG table in April.
- **Farmer's Market:** Tracey asked if the Farmer's Market will be happening this year. Amy said she did not know. Amy suggested we could set up tables at the satellite markets around town if the market does not happen downtown.
- **YCMGA meetings:** Brian said we need to be safe and continue our Zoom meetings for now.