



# Heads UP!

From the  
Master Gardener Diagnostic Lab  
in King County

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*Billowing Shasta Daisies at their creator's\* home and gardens.*

*\*Who was the creator of the Shasta Daisy? Find the answer with the quote on page 3.*

## SHOULD I FERTILIZE? SHOULD I MULCH? WILL I GET COVID-19?

These big existential questions keep me awake at night... along with the cut worms and root weevils eating my primroses. But there are ways to get answers, at least to gardening questions, while still getting a good night's sleep.

First of all, growing plants need mineral elements from the soil in order to thrive. Gardeners call these **essential nutrients**. Some are called macro nutrients, because they are required in fairly large amounts. Others, called micro nutrients, are only needed in very small amounts. But all of the following (using their scientific symbols...C is Carbon, H is hydrogen, etc.) are required for plants to grow :

C H O P K N S Ca Fe Mg B Mn Cu Zn Mo Cl

You can memorize that list if you learn to say "C Hopkins Cafe. Managed by mine cousin Mosel".

When deciding whether plants need any of these nutrients, look at your plants. Do they look healthy and vibrant, or pitifully small and off-color? If the latter, they might need one or several nutrients on that list. The next step is to get a soil test taken (<https://kingcd.org/programs/better-soils/healthy-soil/>) if they are being offered. If not, most complete fertilizers will have all of those nutrients in the bag. Organic blends are best. In addition, most composts that are well rotted will also have most of those nutrients as well. Apply judiciously.

Sometimes newly-planted plants will look a little yellow. If you have incorporated not-yet-completely-composted organic matter (OM) into the soil, the micro-organisms that are doing the work may be robbing plant roots of nitrogen. Once the OM has completely composted, then those micro-organisms will die and release that nitrogen back to the plants. To ease the process, adding some nitrogen fertilizer to the soil can help the plants recover from their nitrogen deficiency more quickly.

Most woody landscapes, once established, don't need fertilizer at all. Most Pacific Northwest soils will slowly release nutrients to plant roots, especially if amended with OM. Periodically adding one to two inches of OM around plants will provide a slow release of nutrients over time.

In a vegetable garden, however, adding fertilizer early in the season will help those vegetables grow a good root system, build foliage, and set up the plant for robust fruit production. Organic vegetable fertilizer, and well-amended soils, can keep your garden robust and productive!

*"What is a weed?*

*A plant whose virtues have never been discovered. "*

*—Ralph Waldo Emerson*

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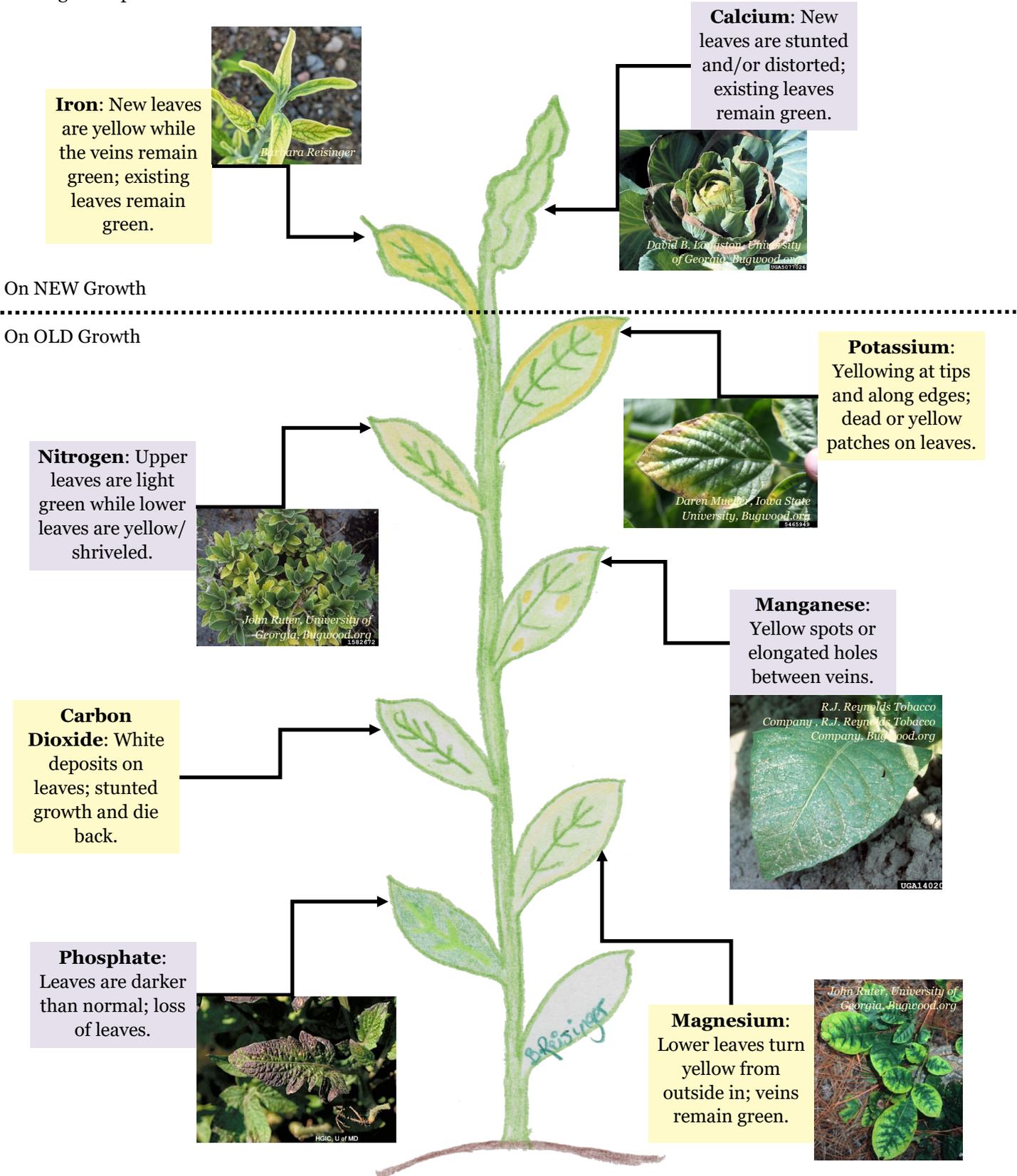
### SPECIAL POINTS OF INTEREST

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- Nerd's Corner
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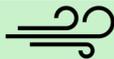
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# NUTRIENT DEFICIENCIES IN PLANTS

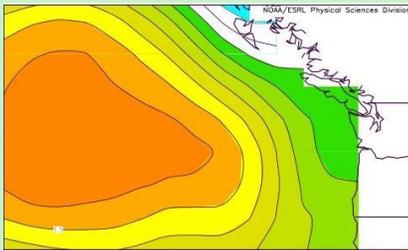
Feeding our plants with OM (see page 1) and ensuring that they have all their nutrients in correct balance is key to their success in rewarding us with blossoms, fruit, and beauty. Here is a quick visual study on typical nutrient deficiencies in home-garden plants.



## WEATHER STATION



If Covid-19 drove you to planting your garden early this year, and you thought your efforts would be supported by expected spring rain, you were sadly met with a 3-week dry stretch in April “almost unlike any other in the city’s history,” according to Scott Sistek with Komo News. And then, to add insult to injury, the BLOB (the BLOB is like the Pacific Coast’s marine heatwave; the arrival of El Niño in 2015 perpetuated this warmer water) comes back! Quite a good year to have started tomatoes early because, as BLOBs do, the resulting warm coastal waters have pushed May’s minimum temperatures into being several degrees above normal.



Last year our average temperature for April was 52 degrees, May rose to 59.5, and June brought us to 62 degrees. So far this year April has shown up at 51.8 degrees.

Rainfall last year totaled 2.21 inches in April, 1.45 inches in May, and .78 in June -all below normal. This April had a total rainfall of 1.73 inches, also below the norm of 2.77 inches.

One more weather factoid: Saturday, May 30th, 2020 was the darkest late-May day in 20 years due to extraordinarily low solar radiation.

Weather resources:

<http://www.climate.washington.edu/>  
<https://cliffmass.blogspot.com/>

## USEFUL WEB SOURCES!

- <http://gardening.wsu.edu/>
- <https://pnwhandbooks.org/insect>
- <https://pnwhandbooks.org/plantdisease>
- <http://hortsense.cahnrs.wsu.edu/Home/HortsenseHome.aspx>
- <http://pestsense.cahnrs.wsu.edu/Home/PestsenseHome.aspx>
- <http://mastergardener.wsu.edu/diagnostic-resources/>
- <http://extension.wsu.edu/king/gardening/fact-sheets/>
- <http://www.mgfk.org/>
- [Puget Sound Gardening Tip Sheet #2 Gardening Publications](#)

## RAISED-BED VEGETABLE GARDENING

Raised beds are ideal for growing most vegetables and the yield per square foot is often greater. You can concentrate soil preparation and fertility in small areas, make use of a higher percentage of the area with less room for weeds, and have a more efficient use of water. Finally, you will have drier, warmer soil sooner and longer for earlier spring planting and later fall production. Best of all, raised beds can be placed on hard surfaces, slopes, and rooftops to make use of space that would normally be considered unusable for gardens. Depending on how tall you make your beds, they can also be easier to plant, weed, and water.

Locate your raised bed garden for maximum exposure to sunlight. Less than full daylight exposure causes spindly, weak growth. Make use of containers or uncontained or framed raised beds. You can make a container out of most anything as long as it has a drainage hole and will hold a gallon or more of potting soil. Add a stake to support plants as needed. A raised bed should allow you to reach from both sides into the middle of the bed, fit the available garden space, and let you move around the ends.

Use commercial potting soils in containers, not soil from your garden. In uncontained and framed raised beds remove all grass and weeds, mix compost 4–6 inches deep with the native soils in the area of the bed, and add 2 inches of compost to the surface before planting to improve soil structure and drainage. Plan to replenish the beds every year or two with more fill and/or compost.

Containers require more frequent watering than plants in the ground. Many vegetable crops have rather shallow root systems, and, if the soil becomes too dry, their growth may be seriously limited. Most vegetable crops require 1 inch of water per week for optimum production so you may need to water once a day on hot days.

Plants in containers use up their nutrients quickly, so plan to fertilize using a balanced or complete fertilizer like 5-10-10 or 10-10-10, dry or liquid, during the growing season. Re-fertilize the soil if planting new seeds or a second crop after the first has been harvested.

Different vegetables need to be planted at different times. Reference the required soil temperature listed on each seed package. Follow guidelines and pay attention to the weather. Take the soil temperature with a thermometer between noon and 2 p.m. Insert the thermometer two inches into the soil where you plan to plant and record the temperature for several days in a row. For heat-loving vegetables such as beans, cucumbers, squash, and corn, the soil needs to be above 60 degrees and night air temps need to remain above 50 degrees.



Continued to page 3 . . .

*“Flowers always make people better, happier, and more helpful; they are sunshine, food, and medicine for the soul.”*

—Luther Burbank

Raised-bed vegetable gardening . . . continued from page 2

Try to buy your seeds from a Northwest seed company whose seeds can grow in our shorter growing season. Follow the seed package spacing and thinning instructions. If planting depth is not specified, a general rule is to plant two times as deep as the diameter of the seed. Plant seeds slightly shallower in clay soils and slightly deeper in sandy soils. Small seeds will need to be thinned after germination. Plant large seeds at the recommended spacing to avoid having to disturb them later. Make small plantings of crops two to four times during the season to have continuous harvest.

Most vegetables can be readily transplanted except root crops such as carrots, beets, and radishes. Harden vegetable plants for 4–7 days before transplanting them to your garden by leaving plants outside covered at night, removing covers during the day.

Regular removal of plant debris during the growing season is a useful preventive IPM method. Many plant diseases and some insect pests overwinter in gardens on dead plants or vegetables that were not harvested.

Tomatoes, sweet corn, and peas have better flavor and quality when they are picked at their prime maturity and prepared immediately. Winter squash, potatoes, and onions can be kept for several weeks or even months in a cool, dry storage room. Other vegetables such as cabbage, potatoes, and onions can be left in the garden for several weeks with little loss in flavor or texture.



Sue Howlett

#### Resources:

- ♦ *Home Vegetable Gardening in Washington* (Miles 2013, EMO57E), <https://s3.wp.wsu.edu/uploads/sites/2071/2014/04/Home-Vegetable-Gardening-in-WA-EMO57E.pdf>
- ♦ *Raised Beds* (Cogger 2012, FS075E), <https://extension.wsu.edu/benton-franklin/wp-content/uploads/sites/27/2014/04/Raised-Beds-FS075E.pdf>
- ♦ *Vegetable Gardening in Containers* (Masabni 2009, E-545), [https://extension.wsu.edu/chelan-douglas/wp-content/uploads/sites/43/2014/05/Container\\_Gardening1.pdf](https://extension.wsu.edu/chelan-douglas/wp-content/uploads/sites/43/2014/05/Container_Gardening1.pdf)
- ♦ *Pest Control in Home Vegetable Gardens* (Antonelli 2009, EM009), <http://www.whatcom.wsu.edu/gardenshare/documents/Pest-Control-in-Veg-Gardens-em009.pdf>

## BUG WATCH

Keep your eyes wide open for these pests in your garden: viburnum leaf beetle (larvae) and spotted wing drosophila (SWD) adults.



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<http://hortsense.cahnr.wsu.edu/Public/FactsheetWebPrint.aspx?ProblemId=767>



<http://hortsense.cahnr.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=2&PlantDefId=72&ProblemId=791>

## NERD'S CORNER:

### Two Broad-Leaved Evergreen Trees Worth Planting



Have you ever tried planting *Photinia*? Hah! There's one *Photinia* that isn't susceptible to the fungal disease that causes ugly leaves and early leaf drop. It's *Photinia serrulata* or *serratifolia*. It gets about 20 feet tall and wide, is evergreen, has bronze new leaves and beautiful white flowers in spring. It's a gem and worth trying if you can find it!



Another broad-leaved evergreen tree worth trying is the loquat, *Eriobotrya japonica*. This species is native to the cooler hills of south central China but is commonly grown in subtropical regions around the world, including US southern states. Seattle is also a good place to plant this tree. Though rare, it will thrive here, and a street tree in my neighborhood is over 40 feet tall and healthy!





## DEPARTMENT REPORT

Weevils, cutworms, and slugs.  
Oh my!!



Suz Nicol

Why must we try to grow primroses?!? Shredding the leaves might prove to leave more beauty in tact. Oh how does the poor primrose with its sweet, succulent, early, tender greens fulfill the fantasies of these chewers and raspers!

Prevention of the ruination must start EARLY for any chance of fantastic foliage and perfect blooms. Mark your calendars now!

## VERTICILLIUM WILT

Verticillium wilt is caused by a soilborne fungus that can remain in the soil for many years. When roots of susceptible plants grow near the fungus, the fungus infects the roots and grows upward within the water-conducting tissue or xylem into the trunk and branches. Sometimes the fungus enters through a wound in the aboveground parts of the plant. The fungus usually moves upward in the plant from an infection point. Look for leaves that abruptly wilt, die, or drop off one or several branches, on one side of the tree, or on the entire tree during the growing season. Diagnosis requires examination of branches for discolored streaking in the vascular tissues.

What can you do?

- Remove and destroy diseased branches pruning back to wood with no streaks.
- Remove and destroy severely diseased or dead trees, including the roots. Burn or put in the trash and do not compost. Always sterilize tools after pruning diseased trees and plants.
- Do not move contaminated soil to other areas in your garden because the fungus can survive in the soil for many years.
- Use nitrogen fertilizer sparingly. Water the plant properly.

Read the [August 2018 Heads UP!](#) article to learn more about all the plants that can be affected. In western Washington, this disease is especially common on maples, particularly the smaller ornamental maples. Wilting, dropping, yellowing, or stunting of leaves, especially over the entire tree, may occur simply because of poor care of the tree, and verticillium wilt may not be involved.

For more information:

Hortsense: *Verticillium Wilt*, <http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=12&ProblemId=4011>

*Plants Resistant or Susceptible to Verticillium Wilt*, [http://depts.washington.edu/hortlib/resources/ucdavis\\_verticillium.pdf](http://depts.washington.edu/hortlib/resources/ucdavis_verticillium.pdf)

*Verticillium Wilt in the Pacific Northwest*, <https://pnwhandbooks.org/plantdisease/pathogen-articles/common/fungi/verticillium-wilt-pacific-northwest>

## WEEDS TO AVOID AND PLANTS NOT TO WORRY ABOUT

GIANT HOGWEED VS. COW PARSNIP: [KNOW THE DIFFERENCE](#)

[Giant Hogweed](#) is GIANT. And NASTY because it blisters the skin. It is a “stay away” plant and report a sighting: <https://www.kingcounty.gov/services/environment/animals-and-plants/noxious-weeds/weed-identification/giant-hogweed.aspx>

Taken from [Hortsense](#): Superficially, giant hogweed resembles the native cow parsnip (*Heracleum maximum*), but there are two distinct differences. Cow parsnip is typically only 3 to 8 feet high, while giant hogweed grows 10 to 15 feet high. Also, the undersides of cow parsnip leaves have soft, wavy, shiny hairs. Giant hogweed leaves have stiff, dense, very short hairs on the underside.



Giant Hogweed

Cow Parsnip



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