

# The Garden Spade

November 2019

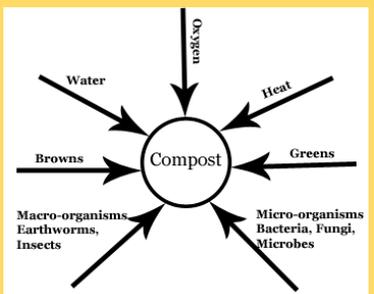
“Reliable, Responsive and Relevant Information for the Missouri Gardener”

## Composting Tips

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

A great way of improving garden soil is by adding compost. Regardless of the quality of your soil, it can always benefit from adding it but with every compost pile, there can be mishaps that occur.

Compost is partially decomposed organic matter. A finished compost is dark, easily crumbles and has an earthy aroma. When decomposition is efficient, a finished product can be done in several weeks.



For efficient break-down of organic matter to occur, many factor come into play.

To have a good compost pile, you need a good ratio between “browns” and “greens”. Leaves, newspaper, twigs, dried grass clippings, hay or straw, old potting mix, corn stalks are considered browns. Green materials include vegetable scraps from the kitchen fruit peelings, coffee grounds, young weed (no seed heads), green grass clippings and manure. When composting, layer browns and greens. A good rule of thumb is six inches of brown carbon

material to one inch of green nitrogen material. It is recommended that the pile reach five feet high and five feet deep.

### COMPOSTING TIPS

- Use smaller pieces in the compost pile. They break down faster.
- Avoid composting mature weeds with seeds and diseased plant materials.
- Keep grease, fat, meat scraps and bones to a minimum due to varmints.
- Locate the compost bin in a shady spot near a water supply. Shade helps the compost retain moisture.
- Put the compost pile near the garden site so you will not have to transport it.

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AN EQUAL OPPORTUNITY/ACCESS/  
AFFIRMATIVE ACTION/PRO-DISABLED

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# Composting Tips

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

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- Keep your compost aerated! If you are composting with a tumbler, make sure you turn it whenever you add new materials. If you are composting with a pile, be sure to turn the contents so that the pile breaks down effectively.
- Don't let the compost completely dry out but don't keep your compost too wet so that it gets soggy and starts to stink. Keep compost as moist as a wrung-out sponge.
- For faster composting, turn the compost pile every few days.

## COMPOST DELIMMAS AND SOLIUTIONS

|   |  |
|---|--|
| <b>Rotten odor</b> <ul style="list-style-type: none"> <li>• Putrid smell or rotten egg smell</li> <li>• Can result from anaerobic conditions</li> <li>• Can result from excess moisture</li> </ul>      | <ul style="list-style-type: none"> <li>• Turn pile</li> <li>• Add dry porous material (browns)</li> <li>• Over kitchen scraps</li> </ul>   |
| <b>Ammonia odor</b> <ul style="list-style-type: none"> <li>• Too much nitrogen (to many greens)</li> </ul>  | <ul style="list-style-type: none"> <li>• Add high carbon material (browns)</li> <li>• turn pile</li> </ul>   |
| <b>Low temperature in compost pile</b> <ul style="list-style-type: none"> <li>• Pile too small, cold weather</li> <li>• Too dry</li> <li>• Poor aeration</li> <li>• Lacks nitrogen (greens).</li> </ul> | <ul style="list-style-type: none"> <li>• Make pile bigger</li> <li>• Add water</li> <li>• Turn the pile</li> <li>• Add greens or manure</li> </ul>   |
| <b>High temperature in compost pile</b> <ul style="list-style-type: none"> <li>• Pile too large</li> <li>• Insufficient ventilation</li> </ul>  | <ul style="list-style-type: none"> <li>• Reduce pile size</li> <li>• Turn pile</li> </ul>  |
| <b>Pests: raccoons, rats, insects and other critters</b> <ul style="list-style-type: none"> <li>• Presence of meat scraps, fatty foods, or rotten foods</li> </ul>                                      | <ul style="list-style-type: none"> <li>• Remove meats and fatty foods</li> <li>• Cover with sawdust or leaves</li> <li>• Turn the pile</li> <li>• Compost in an animal-proof bin</li> <li>• Use vermicomposting for food scraps</li> </ul> |



Picture courtesy of grownative.org

## Native Plant of the Month: Gray Goldenrod

*Solidago nemoralis*

**Herbaceous perennial**

**Height:** 2 to 3 feet

**Flower:** Yellow

**Bloom time:** July to October

**Comments:** Found in prairies, glades, savannas, and woodlands. Full sun and tolerates poor dry soil and heat. Attractive to pollinators. Also makes a good fresh cut flower or dried flower for arrangements.

**Information sources:** Grownative.org

# November Gardening Calendar

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

## Outdoor Flowering Plants and Ornamentals

- Prevent frost cracking or sunscald by wrapping trunks with commercial tree wrap or painting the south and southwest facing sides of the trunk with white latex outdoor paint. Young, thin barked trees such as maples and many fruit trees are especially susceptible.
- Take a walk through your garden as the fall season winds down. Take time to reflect on the successes and failures of your garden this year. Make notes in your gardening notebook for new things to try, and things to fix next spring.
- Check guide wires around newly planted trees to be sure hose sections still cover the supporting wires or ropes so they will not damage the trunks in windy weather. Six months after planting, remove supports.
- Inspect trees and shrubs for bagworm capsules and the silvery egg masses of tent caterpillars. Remove and destroy them to reduce next year's pest population.
- Tidy up perennial plants. Remove any diseased foliage around plants that may provide disease inoculum for next year.

## Vegetable Gardening

- Have garden soil tested for fertilizer needs every three to five years.
- Fall tilling, except in erosion-prone areas, helps improve soil structure and usually leads to soils warming up and drying faster in the spring, thus allowing crops to be planted earlier.
- Rhubarb plants that are 4 years old can be divided and transplanted. A site prepared by deep digging and incorporating compost will pay off with a good yield in upcoming years.
- To prevent insects or diseases from over-wintering in the garden, remove and compost all plant debris.
- Remove all cages and wires from the garden. Spray with 10% bleach to sanitize especially if disease was an issue in the garden this year.

## Fruits and Nuts

- Keep mulches pulled back several inches from the base of fruit trees to prevent bark injury from hungry mice and other rodents.
- Fallen, spoiled or mummified fruit should be cleaned up from the garden and destroyed by burying.
- Mulch strawberries for winter with straw. This should be done after several nights near 20 degrees, but before the temperatures drop into the teens. Apply straw loosely, but thick enough to hide plants from view.
- Diseased or problematic limbs on fruit trees may be marked with spray paint now for identification during pruning later in the dormant season.

## Time to Review Your Landscape for Improvements

Ask yourself these questions...

Are your trees overgrown, branches too low for mowing, or shrubby causing blind spots around your driveway?

Landscapes need revamping every so often. Do the shrubs in front of your house need pruning or replacing?

Are there low spots that collect too much water?

Do dry, arid spots exist throughout the season?

Would these areas benefit from an irrigation system?

Are plants shaded too much? Would they benefit from being moved?

Has your groomed perennial beds gotten too hairy? Would they benefit from thinning?

Is the lawn looking thin and in need of reseeding?

What went well this season? What did not go so well?

# Hydroponics: An Option for Gardening in Winter and Spring

Juan C. Cabrera, MU Extension Field Specialist in Horticulture

You had a great time gardening this year. With Thanksgiving around the corner, you realize that you won't be gardening until next spring. Fear not! You can adapt hydroponic systems to grow your plants indoors.

Hydroponics is the practice of growing plants without soil and only using water, nutrients, and a growing medium. The word hydroponics is formed from *hydro-*, which means *water* in Greek, and *-ponics* from the word *ponein* which means *labor*.

## Advantages over field crops

- All year round production
- Efficient use of water and nutrients-recirculating solutions
- Higher yields per area
- Crops are ready in shorter time
- No need to own land to grow crops

## Disadvantages

- Higher initial investment
- Knowledge curve: learning a new system

All hydroponic systems operate on the basic principle of having the roots of the plants in contact with a well aerated nutrient solution. What makes each type of system different is how they bring the roots in contact with the nutrient solution. The types are deep water culture (DWC), nutrient film technique (NFT), drip, ebb and flow, and aeroponic systems.

If you are growing indoors, don't forget to give the plants at least 12 hours of light. LED and fluorescent light sources are ideal because they emit low heat and you can place them close to the plants. A timer will be useful to make sure the lights turn on and off automatically.

## Nutrient film technique (NFT)

The plants are on net pots on the NFT tray (Figure 1). The nutrient solution is pumped on one end of the tray through drip emitters. The tray is sits at an angle so the nutrient solution flows to the other end of the tray and drains back to the nutrient solution tank. The roots are in contact with a thin film of nutrient solution. The main disadvantage of this system is that if the pump fails the plants can wilt quickly. This system is ideal for leafy greens and herbs.

## Deep water culture (DWC)

This system is cheap and easy to install. The plants are floating on a raft (usually foam or polystyrene) and the roots are in contact with the nutrient solution (Figure 2). The air pump and air stones keep the water oxygenated. This system is ideal for leafy greens and herbs.

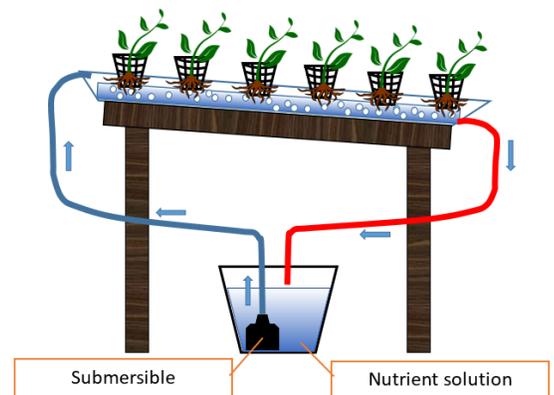


Figure 1. Nutrient film technique (NFT) system

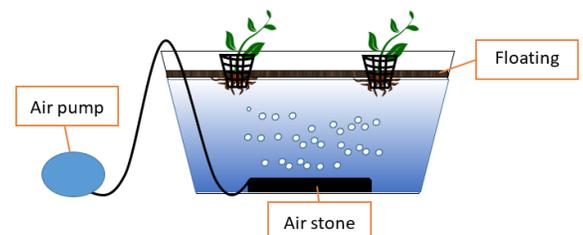


Figure 2. Deep water culture (DWC) hydroponic system.

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# Hydroponics: An Option for Gardening in Winter and Spring

Juan C. Cabrera, MU Extension Field Specialist in Horticulture

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## Drip

Also known as drip, Bato bucket, or Dutch bucket systems (Figure 3). The plants are supported by soilless media (expanded clay pebbles, coconut coir, or perlite) that has low water retention capacity. Nutrient solution is delivered through drip emitters. As opposed to the previous systems, a timer is required to set the irrigation duration and intervals. It is important that you test and make adjustments to determine appropriate duration and timing of the irrigation. This system is ideal for vine crops such as tomatoes, cucumbers, eggplants, and melons. These crops need to be trellised and trained upward for easy access and monitoring.

## Ebb and flow

The difference between this system and the drip system is the way the water is delivered to the plants. In ebb and flow systems, the plants are on a tray (Figure 4). The tray is flooded with nutrient solution then drained.

## Aeroponics

The roots of the plants are sprayed with a mist of nutrient solution (Figure 5). This system requires a timer to manage how often the roots are sprayed.

You do not need specialized equipment to have your own hydroponic system. You can build your own system using recycled materials! (Figure 6) Have fun and let your imagination run wild. Contact your local extension agent if you have further questions.

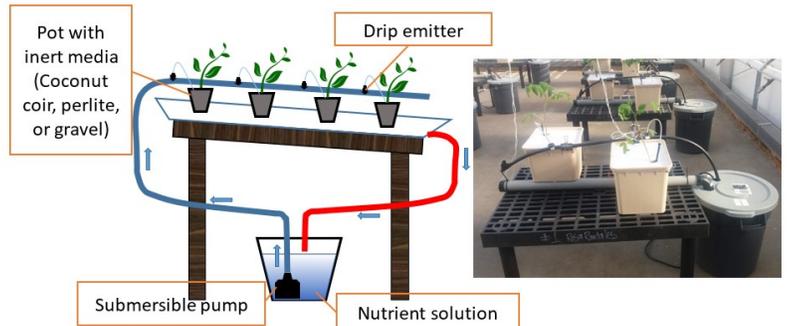


Figure 5. Drip hydroponic systems: Drip (left) and Bato bucket (right).



- Figure 4. Ebb and flow system

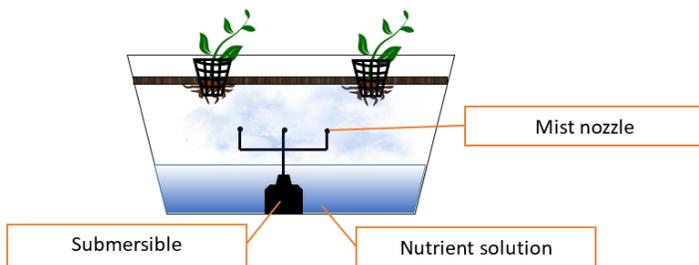


Figure 5. Aeroponic system



Photo: Wikipedia



Photo: Andrew Reardon

Figure 6. Homemade hydroponic systems

# Poppies

Katie Kammler, MU Extension Field Specialist in Horticulture

There are many types of poppies both perennial and annual. Annual poppies are commonly seen in gardens and come in many shades of pink, red, purple, white, and bicolored. They can be single or double with luminous, papery petals. They bloom early to mid-summer.

The flowers start as fat buds that hang down like a shepherd's crook, becoming erect as they open to reveal the tightly packed petals. The plants are self-fertile, pollinated by bees. They can be used as cut flowers and will last longer if the cut stem is cauterized before putting it in water. After a few days, the petals fall off and leave a large round seed capsule. They turn brown as they mature and contain hundreds of tiny seeds. The dry capsules are used in floral arrangements and crafts.



Poppies work well in mixed flowerbeds. They can also be grown in larger containers that provide enough room for development. They need full sun and well-drained soil. They rarely need staking and have few pest problems. Aphids will occasionally be a problem. As annuals, poppies are typically direct seeded in the desired location in either early spring or late summer/fall to germinate the following spring. They will also self-sow once you have grown them successfully. Seeds germinate better in cool soils so seeding in the fall is ideal. They are hard to transplant because they have a weak root system. Thin out seeded plants to about a foot apart.

Popular ornamental varieties include:

- 'Black Widow' has deep purple, fully double flowers.
- 'Cherry Glow' has large, scarlet petals and decorative seed heads excellent for use in dried arrangements.
- Double Raspberry Blush 'Plaza de Rito' is a deep pink double flower with a frilly center.
- 'Flemish Antique' has fully double flowers in shades of red, rose and striped creamy white.
- Fluffy Ruffles is a mixture of 'Crimson Feathers', 'Rose Feathers' and 'Swansdown', all having deeply lacinated petals resembling a pompom in crimson, rose and white.
- 'Frosted Salmon' has orangy-pink petals that fade along the edges with age.
- 'Hens and Chickens' produces one main pod surrounded by masses of smaller pods giving the impression of a mother hen and chicks.
- 'Swansdown' is a white *laciniatum* type.
- 'Venus' is a *laciniatum* type with large fringed petals of rosy red with white on the underside at the base of the petals.
- 'White Cloud' is a *paeoniflorum* type with extra-large, pure white double flowers.



Poppies are native to Europe and Western Asia and has a long history of use, from medicinal to ornamental to food. Certain varieties contain the narcotic alkaloids, which are the active compounds in opium and many refined opiates such as morphine and codeine. Most of the medicinal opium in the world is produced in India and Turkey. The edible seeds are widely used in baked goods such as bagels, muffins, and cakes. The seeds are also 40-50% oil and can be processed in to cooking oil or used in oil-based paints.

# Upcoming Events

## November 2019

**2 Perry County Master Gardener's Garden Seminar** at the Perryville Higher Education Center from 8:00 a.m. to 12:30 p.m. Keynote speaker: Caleb Melchior will talk about "Garden Open Today". Other topics at the seminar: Soil Testing, Intro to Beekeeping, Growing Vegetables in our Ever Changing Weather Patterns, Woodland Wonders, Houseplants, and Blue Birding 101. Walk-ins welcome. Cost is \$10.

**8 Marketing for the Small Farm Conference** at the Cape Girardeau Public Library in Cape Girardeau from 9:30 a.m. to 3:30 p.m. To register, contact Mike Crowden at 573-225-2440 or email [crowdenm@LincolnU.edu](mailto:crowdenm@LincolnU.edu)

## Upcoming Events in 2020

**Great Plains Growers Conference and Trade Show** slated for January 9-11, 2020 in St. Joseph, MO. Check out the website for more information. <https://www.greatplainsgrowersconference.org/>

**33rd Annual Midwestern Herb and Garden Show** in Mt. Vernon, IL for February 14-16, 2020.

### **Spring Master Gardener Training in Potosi, MO.**

Dates and times will be set based on trainees preference. 11 weeks of training including 30 hours of core training. \$200 per trainee. From April until June 2020. Sign up by January 15 by contacting Katie Kammler at 573-883-3548 or [kammlerk@missouri.edu](mailto:kammlerk@missouri.edu)

*Click on blue underlined link to be taken to a corresponding website...*

## At a Glance: Lavender

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

### **Lavender, *Lavandula spp.***

Uses: Aromatic, culinary, and medicinal

Type: Bushy, half-hardy semi-evergreen, 12-36 inches tall

How to use it: Leaves and flowers are highly aromatic. Most lavender is used for scenting potpourri/sachet mixtures. When used in culinary, use it sparingly as a little goes a long way.

Comments: Lavender will grow in Missouri but it is not the ideal place for it. We are too wet. Consider raised beds in full sun for adequate drainage in heavy clay soils. Varieties to consider: 'Hidcote', 'Munstead', 'Phenomenal' or 'Provence'.

### **Lavender Lemonade**

- 1 tablespoon of dried lavender flowers
- 1 cup white sugar
- 2 cups of boiling water for the infusion
- 1 1/2 cups freshly squeezed lemon juice
- 2 to 3 cups of cold water
- Place lavender flowers in a medium bowl. Pour sugar over the flowers. Use your fingers to gently rub the flowers into the sugar.
- Pour 2 cups of boiling water over sugar and stir until sugar has melted. Cover and let infuse for 30 minutes.
- Strain lavender flowers out of the syrup. Pour into pitcher. Stir in lemon juice and water. Taste and adjust for tartness by adding more sugar. Add ice and enjoy!

# Rubber Plants

Kelly McGowan, MU Extension Field Specialist in Horticulture

Rubber Plant (*Ficus elastica*) is one of the most popular indoor plants and makes a nice addition to any home décor. These are readily available at garden supply centers but are often received as either a gift or part of a funeral arrangement which carries with it sentimental value.

Rubber plants prefer bright, filtered light but can do well in the low light situations of most homes. Rubber plants do well with normal household temperature and humidity levels. They will also appreciate spending summers outdoors if protected from wind and direct sunlight such as placing on a covered porch or patio. The broad, flat leaves can be a dust collector and should be gently wiped clean every few weeks. Watering should be done only when the top inch of soil is dry to the touch. Over-watering can cause problems, including death, with many types of houseplants so take care to only water when needed.

Perhaps the biggest issue with rubber plants is that they tend to get tall and leggy. Normally, they have one main stem that continues to grow taller, often outgrowing their allotted space in the home. One way to deal with this issue is by a process called air layering. Air layering is a plant propagation technique that involves establishing a new root system along the main stem of the plant. This involves making a wound by removing a shallow strip of bark about an inch wide around the stem (a potato peeler works well for this). Apply rooting hormone to the wound, cover the entire area with moist sphagnum peat moss, and then cover with plastic wrap. Bread twist ties work well to hold the plastic in place around the stem. Clear plastic is helpful to monitor for new root growth, which should begin in about a month. Once you see new root growth develop, cut the stem just below that area and plant in soil. The lower portion will eventually grow new foliage, but be patient because this may take a while. This process also works for other types of houseplants, such as dracaena (see photo). For more information on air layering, visit <https://extension2.missouri.edu/g6560#Layering>



Air Layering Examples



## *The Garden Spade*

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*Each month there is a title picture on the front cover of the newsletter. This month: Aromatic Aster*