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**Gardening Information Late November
through mid-December**

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If you refer to the online TOG Planting Guide you will see that TOG does not advocate planting in that six-week period from mid-November through the end of December when our overnight temperatures go from cool to downright cold. There are a few notable exceptions to that rule. Now is an ideal time to plant garlic so if you are interested read Bridget's article below. Wildflower seeds that need winter stratification in order to germinate in late winter or early spring can also be planted now. (Some say penstemon seed ought to be sown in December!)

Mild conditions are predicted for this La Nina winter, but all the same you might start collecting and sorting frost blankets for the below freezing nights we are bound to get in December and January. Losing plants that you have nursed through the ravages and droughts of summer due to a few frosty nights can be deeply frustrating. Visit the TOG shop at our monthly meeting to get a great deal on extra wide and extra thick frost blanket.

Even though you are barely starting to get good growth on your winter vegetables now, is a good time to start planning your summer garden. If you plan to grow your own tomato starts, then take a little time now to research the varieties you will be planting and order the seed in early December. You will want to start your seeds late in December in order to get 6-8 weeks of growth before transplanting them outside around Valentine's Day. This may seem awfully early to old-timers, but the recommended time for transplanting tomatoes was moved back from March 15 to February 15 a number of years ago. If are purchasing seed for tomatoes, why not think about other seeds that you will want to start indoors in January or February such as peppers, eggplants and basil and order them along with your tomato seed?

PLANT GARLIC NOW!

by Bridget Barber

Right now is the perfect time to start garlic plants in the soil. Garlic has a very long maturity, taking almost 9 months to form a full head from the cloves that you planted in November, so getting it in the ground this month is imperative for a May/June harvest.

Each head of garlic grows from a single clove. The best growing conditions are a loamy, compost-rich soil with good drainage. Garlic is a fantastic addition to your garden,

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Beth McCullough
Member at Large

Board Meetings are open to all members and are held the first Tuesday of the month. Our next Board meeting is on December 5, 2017 at 5:30 pm. Please contact Mohye through our Facebook page for venue if you would like to attend

TOG SHOP

Frost cloth -12' wide
\$1 per foot

Home
Composting DVDs \$5

20 years of *TheComposter*
Archived on CD -
available for a donation to
TOG

Spin diggers \$6

Compost
cranks \$40 (*Heavy-duty tool to mix
compost*)

working effectively as a bug repellent. All the winter brassicas benefit from garlic companion planting, however, it should not be planted near beans or peas, the legume family, as they do not fare as well when garlic is present in the adjacent soil. Garlic is a fantastic companion plant for spring crops like eggplants and tomatoes, so thinking now about where you will be planting those crops will help you determine where your garlic should be.

CompostBioBin \$40

Planting Guides (laminated) \$7

*Shop by appointment
or at
the monthly meetings.*

Planting instructions:

Make a furrow about 2 inches deep and put a single clove, flat end down at the bottom of the hole and cover lightly with soil. The garlic should send up a shoot in about the first month of being planted. It likes a sunny spot with a consistent water supply but not too wet. Obviously garlic is a bulb; it's important to realize the biggest clove in the head of garlic sitting on your kitchen counter is going to produce the strongest head in your garden. Use the smaller ones for cooking and save the really big ones for planting to have the best chance of success.

Keep watering all through the winter- that shoot will be green and grow steadily as the spring comes on. It will send out an edible scape, which is a thick shoot, in the springtime. In late May your garlic will be ready for harvest and the leaves will fall over much like onions. Dig up the head, allow it to dry in a shady, not too hot place, and braid four or so together for handy hanging storage.



Plant garlic cloves pointed end up, flat end down.

You are cordially invited to:

TOG's Annual pre-Thanksgiving Potluck

Tuesday, November 21

Doors open at 6:00 pm

Supper served at 6:30 pm

At St. Mark's Church, 3801, East 3rd St.

(one block east of Alvernon, 2 blocks south of Speedway)

We meet in the Geneva Room. To find us, park in the rear and follow the covered path on the east side of the courtyard all the way back to the SE corner of the courtyard.

Please bring:

- One of your favorite home-cooked dishes featuring organic ingredients to share with other guests. Bonus points if your recipe includes ingredients you have grown organically yourself.***
- A card listing the ingredients of your dish in consideration of those with dietary restrictions or allergies.***
- Your own plate and flatware.***

This year TOG will provide: turkey, some vegan alternative entrée and apple cider.

During dessert a panel of gardening experts will field your questions.

This year's panelists are:

- *Lorien Tersey, urban farmer specializing in the propagation of herbs*
- *Tom Pew, long-time organic gardener, expert in soil microbiology and proponent of AACT (Actively Aerated Compost Tea) whose business, Merlin Organics, is making it possible for clients to maintain expansive lawns without the use of chemical fertilizers or pesticides.*
- *Robin Roche, entomologist. Bring him your insect related questions, including how to prepare them for human consumption.*

TOG Lecture Notes, October 17, 2017

More about Composting

Master Composter, Jim Lootens, spoke about the fine art of composting. Jim has been experimenting with compost making for about 30 years, never doing it the same way from year to year. Jim started making compost at a time when environmentally minded households were composting as a way of diverting masses of organic waste from municipal landfills. Gardeners like Jim soon realized that this garbage management practice was actually yielding a valuable garden amendment burgeoning with those microscopic organisms that form essential relationships to growing plants. Today composting is a celebrated cornerstone of organic gardening practice.

The Roles of Carbon and Nitrogen in Compost

- **Amino Acids (NH₂-COOH plus other variable side chains) are the building blocks of proteins that plants need for growth and for manufacture of DNA.**

- **Carbon:** Cellulose ($C_6H_{10}O_5$)_n is a carbohydrate, and provides fuel for the bacteria that heat up your compost piles.

Carbon to Nitrogen Ratio

Most plant materials contain more carbon than nitrogen. An exception would be tender living plants; lettuce has a C:N Ratio of .05:1. On the other end of the scale wood has a C:N ratio of 50:1. Initial compost is smack dab between with a C:N ratio of 20 to 30 carbon to nitrogen, a ratio that supports the types of microbes that decompose plant matter.

Making a New Compost Pile

Assemble green and brown waste in a pile or bin measuring at least 3' x 3' x 3'.

By volume brown materials (carbon rich) should be two or three times your green materials (nitrogen rich). Fallen leaves are a major source of brown waste in most parts of the country but here in the desert we usually need to get our browns from other sources. Newspaper is cellulose and therefore brown, but if you use it make sure to shred it well so that the micro-organisms can get to it. A folded newspaper added to a compost pile might not decompose for years. Dried out pine needles are an acceptable source of brown waste, but be aware that they have a protective coating that resists decomposition, so if you use pine needles stomp on them to break them up into small pieces before adding them to your pile. Green materials include any recently alive plant material such as food scraps and plant clippings but also coffee grounds, tea leaves, and manures of vegetarian animals. Do not add meat, dairy, oil, or even eggshells as all of these will attract pests.

Inoculate your new pile. When building a new pile remember to inoculate it with micro-organisms that will immediately start decomposing your material. A shovelful of compost from your last pile would be a great source of these beneficial organisms, but if you don't have that on hand then a shovelful of good garden soil will suffice. Inoculation is especially important if you are composting in a tumbler or other system in which your materials are not in contact with the soil.

Monitoring Temperature and Moisture. If you have done everything right, (layered a good sized mass of greens and browns of a correct ratio, inoculated your material, and have wet the materials down so that the moisture content is about that of a wrung-out sponge) then your pile should heat up quickly and in three days the temperature of the pile will peak at 140 degrees F. The outside layer of the pile will remain at the ambient temperature; this peripheral material provides insulation for the activity in the center. Most seeds and plant diseases and other pathogens are killed at 140 degrees F.

Do not turn compost every day and especially not while it is heating up. You can use a compost thermometer to keep track of the temperature at the center of the pile or you can get a rough idea of how well it is heating up by inserting a metal bar into the center of the pile while holding the other end in your bare hand to gauge the heat within. The pile will cycle through different temperatures and the various temperature ranges are ideal for the growth of different species of decomposing micro-organisms. You can turn your pile once it has reached peak temperature, and you should sprinkle water on it if it seems dry (do not flood the pile). Make sure when turning the pile to incorporate the drier materials on the outside of your pile.

If you continue to add green materials, water and air to your pile, it will go through additional heating cycles. If your pile is decomposing too slowly, add manure, cottonseed or alfalfa meal to heat things up. Avoid horse manure as it is likely to contain viable weed seed, including that of the dreaded Bermuda grass. Chicken manure is especially high in nitrogen and will heat up your pile quickly. If some items are slow breaking down then you may not have cut them fine enough. Broccoli stalks, for instance, need to be chopped into small pieces so that the micro-organisms can get to the softer core.

Finishing Your Compost

Your compost is finished when you can no longer identify the materials that you put into it. Most gardeners like to screen their compost by letting it gently fall through a frame on which they have stretched hardware cloth. Using half-inch screen is sufficient for more gardening purposes, but you may want to screen at a quarter-inch if you are using compost as a potting soil ingredient. Reserve non-composted material to inoculate your next compost pile.

As you screen your compost you will encounter some macro-organisms, including earthworms, grubs and even cockroaches. These are all excellent decomposers so do not be alarmed by their presence in your compost pile. Gardeners who keep chickens know that the large grub of the green fig beetle is a favorite treat for chickens, but if you don't have chickens consider reserving the grubs for addition to your new pile. These grubs do not kill plants; they will eat the roots of dead plants but not the roots of live ones. The fruit flies or fungus gnats that you see dancing in the air above your compost pile are actually eating gas rising from the compost pile. These are harmless and provide food for hummingbirds.

Other Forms of Composting

Direct Burial - This works best if you already have earthworms in your soil. Blend your kitchen scraps and bury them, but not too close to your garden plot.

Actively Aerated Compost Tea - To maximize your compost and to quickly multiply its population of beneficial microorganisms, make AACT. Combine a good handful or two of recently finished or almost finished compost with nutrients such as molasses (2 Tbsps.) kelp meal and a nitrogen source (cottonseed or alfalfa meal) in a net bag (a nylon stocking will do). Suspend that bag in a large bucket of unchlorinated water and brew for 12 to 24 under aeration achieved with a pair of air stones or an air pump. If made under aeration, compost tea is safe and virtually free of pathogens. (Pathogens thrive in anaerobic conditions.) **Resources:**Peaceful Valley sells parts for making a compost tea brewing system. Our local company, Eco-Gro, sells a convenient zippered net bag.

Worm Composting (vermiculture) uses worms to speed up composting of fruit and vegetable scraps. The Community Food Bank holds semi-annual *Wormania* classes where you can learn the basics of vermiculture and also purchase the space-saving equipment and red wiggler worms you will need.

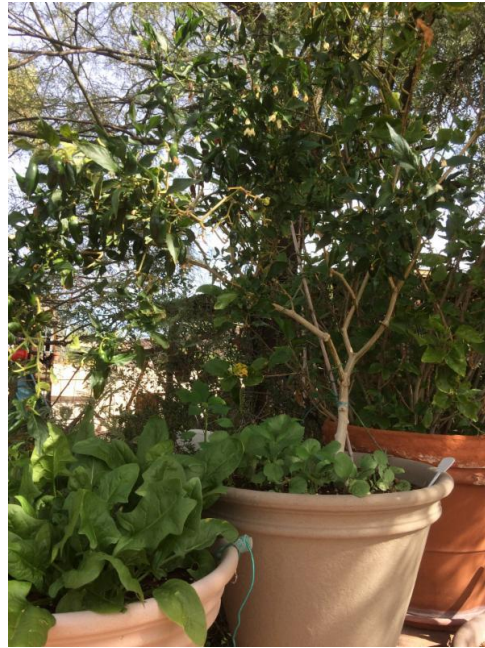
Bokashi is a fermentation process that uses anaerobic bacteria to break down a variety of materials that are too stinky or pathogenic to safely include in an open air compost pile. EM1, a formula of anaerobic bacteria, is combined with rice bran hulls, water and molasses, and then added to a Bokashi bucket of full of food scraps. The specialized bucket and its lid are designed to seal the bacterial activity from air. Using this method you can safely compost feces, meat and even bones. The finished product is safe to add to a conventional compost pile and in fact that is the best use of it.

Container Gardening

Mohyeddin Abdulaziz

November 2017

It is probably difficult to find a house without a pot with something growing in it! Pots for growing plants in them come in different shapes, sizes and colors and made of a variety of materials like clay, wood, plastic, glass, resin, fabric, etc. Most of these pots are used to grow flowers, herbs, cactus and succulents. I grow these plants in pots, but I also use pots to grow edibles like vegetables and fruit. This article will focus on why I use containers to grow vegetables and fruits, how I do it and what I grow.



*In Mohye's container garden
annual vegetables share space
with perennials and trees*

Container gardening is not meant to be a replacement for in-ground gardening but can be a viable alternative where access to suitable growing land is not available or is limited.

We have plenty of space for in-ground gardening and raised beds and I use these gardening methods. At the same time, I do plenty of gardening in containers. I find container gardening a lot of fun, easy and flexible. It also allows me to grow a great variety of things almost year round! Gardening for me is not only for food production, which is important, but it has its therapeutic values. I enjoy arranging and rearranging pots and moving them around either for protection or for aesthetic reasons. I appreciate the opportunity to

experiment with planting different things from different places and the diversity that brings to my garden!



Citrus growing in pots

So what vegetables and fruit do I grow in containers? I have successfully grown a lot of greens, lettuces, spinach, arugula, kale, radish, carrot, bok choy, chard, parsley, cilantro, etc. It is wonderful to have some parsley almost any day of the year without having to run to the market every time you need a spring or two! Or spinach or kale or some mesclun lettuce! Recently, in the last year or so, I fell in love of growing sprouts and micro greens! These nutritious super foods are very easy to grow year round in very small shallow pots! I use 12"x10" aluminum (roasting) pans for this purpose (I make some holes in them for drainage!) The larger plants I grow in pots include tomatoes, eggplants and peppers of all kinds – *jalapeño*, of course, serrano and my favorites, Peruvian Aji peppers and poblano! Isn't it great to be able get a couple of poblanos, stuff them with your favorite cheese and roast them and enjoy them with your favorite beverage anytime you want to? And the grandchildren love to harvest those tomatoes and strawberries! I even grew okra that got to more

than 6 feet in a pot and produced as much as those planted in the ground! And I've grown a variety of citrus plants (lemon, lime, blood orange) in pots and even a loquat! Citrus fruit production in pots is moderate, 2-3 dozen each plant but the loquat only produced a few!

I use large pots, 12" - 24" 15-20 gallon, for the larger plants and trees. Most of these are plastic or resin and some of them are double-walled which helps in controlling the temperature of the pots. In the summer I sometimes wrap the pots with burlap to protect the plants from the heat!



Window screen placed over drainage holes to keep potting mixture in and critters out

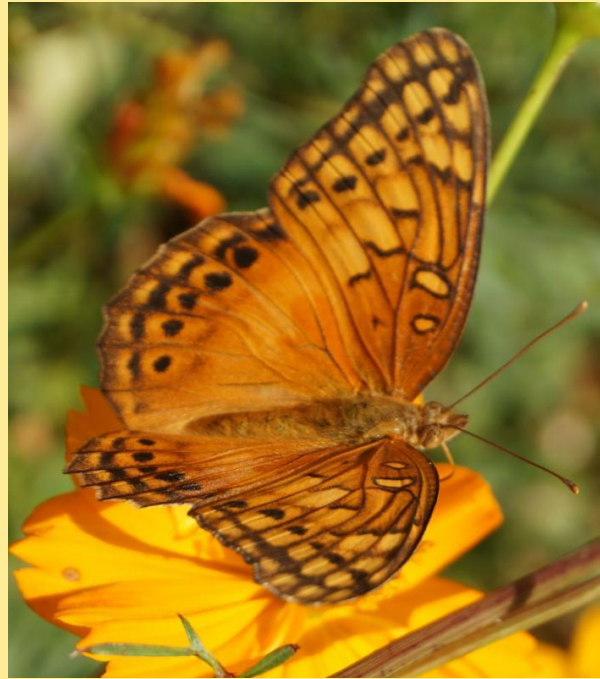
How do I plant and care for the plants in containers? In general containers must have good drainage. The pot should have many holes in the bottom and I started using a piece of window screen to cover the holes to keep the soil in and keep critters out! I prefer using excellent organic potting mix with a lot of compost and some vermiculite or perlite. I also put slow release organic fertilizer and some worm castings at time of planting. Because nutrients leach out

of the containers I regularly add compost and frequently compost tea, worm castings and kelp. I use organic alfalfa for mulch and for plants that need to grow vertically I use bamboo sticks or tomato cages.



Mohye's and Helen's grandchildren enjoy snacking straight from the garden


Happy gardening!



*A Mexican Fritillary Butterfly Nectaring
on Compost in Mid-November*



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