



THE GARDEN SPADE



A monthly Gardening Publication of the University of Missouri Extension -- Southeast and East Central Regions

It Was A Garden Party!

By Jessica Griffin, Madison County Master Gardener

In September 2013, I attended the Master Gardening Convention in Springfield, Missouri. I must say, the Master Gardeners of Greene County did a fantastic job of pulling together the convention.

This year, my friend Lora and I drove a day earlier so we could attend the Baker Creek Heirloom Seed Company tour. We attended a workshop on seed saving. After



the presentation at Baker Creek, we ate lunch at the café on site and explored the animals and the central garden in the center of the village. We also rummaged through hundreds of seed packets in the main store and tried a huge cinnamon roll at one of the shops.

Friday night was the social at the new Botanical Center in Springfield. The center has a wide variety of display gardens, including the Winter Garden, the Butterfly House, the English Garden, and the Master Gardeners' Display Garden. This is a beautiful park. Saturday was the day of garden tours, with both full and half day tours. Our first stop was

a beautiful conifer garden by a member of the American Conifer Society. The garden also contained *paeonia*, clematis, and daphnes.

The second stop was one of my favorite gardens. I love the more blended look of cottage gardens, and this one was a delight. A beautiful fig tree, cannas, goldenrod, salvia, sedums, etc. surrounded chairs, screens, and country touches. The garden also contained a herb garden and a vegetable garden.

A beautiful shade garden with paths, sitting areas, and fountains was our next stop. Over 150 varieties of *hosta*, 60 Japanese maples, and 25 clematis were included in this beautiful garden. I loved how the couple used wood slices as some of the stepping-stones.



On the next stop, the garden was amazing. The tour of this house started with the waterfall at the front of the house. As you walked to the back, you are amazed by the ponds filled with koi and goldfish with the

January 2014

In this issue:

It Was A Garden Party!	1, 2
The Holly Family	2
January Gardening Calendar	3
Life Expectancy of Seeds!	3
Growing Giants	4
A Gardening Experiment	4
Cold Frame Gardening	5
House Plant Disorders	6
What's Happening!	7
Editor's Corner	8



University of Missouri, Lincoln University, U.S. Department of Agriculture & Local University Extension Councils Cooperating
EQUAL OPPORTUNITY/ADA INSTITUTIONS

It Was A Garden Party!

By Jessica Griffin, Madison County Master Gardener

figurines of Laafs (Scandinavian leprechauns). When you go through another gate, you see the back garden with a temple ruins with pillars, many plants and two huge tortoises.

During the fifth stop on the tour, our bus got stuck so we got to walk up to a farm that was owned by the same family for seven generations. What a beautiful area. The owner set out two picnic tables of peppers one sweet and one hot for us to try. The vegetable gardens were beautiful and huge. The owner uses pvc pipe with drilled holes for irrigation. *Hostas* galore surround the house and some of the other buildings.

The annual *Gomphrena* "Fireworks" was in full glory on the front of the old farmhouse. The owner's 1500 daylilies were not on display, but I imagine it would be beautiful to see in bloom.

The last tour was Hilltop Farms, a beautiful nursery. Their display shade garden with their

hosta collection was a sight to see. They also had beautiful display gardens near the house. Their plants were very healthy. Of course, this stop lended itself to the gardener's weakness and many of us, including myself, purchased several from the nursery.



Sunday was the day of classes, with a wide selection to choose from. As I love to grow a variety of my own food and seasonings, I took a Native Fruits class, a Berries class, a Kitchen Garden class, and an Herb Class. I learned a lot, took a lot of notes, and enjoyed the classes very much.

Next year will make my fourth year attending the conference, and I am starting to remember names and faces of the friends I have met. The convention will be in St. Louis next year on September 12-14. I encourage you to plan to attend – you will enjoy the experience!

The Holly Family

By Donna Aufdenberg, MU Horticulture Specialist

The Holly family gets much attention this time of year due to their bright berries in red and orange. Many people also admire their qualities as a evergreen used for greenery in holiday decorations.

Ilex is a large genus with more than 400 species of trees and shrubs worldwide. They can be evergreens that retain their leaves throughout winter or they can be deciduous in which they lose their leaves. Holly plants are also dioecious meaning that male and female reproductive parts are on separate plants. To ensure berries, a male and a female are needed to ensure pollination. Female hollies have



the berries. But keep in mind that not all varieties are interchangeable. Varieties have to flower at the same time for pollination to happen. The flowers on the plants are small, cup-shaped - rather inconspicuous and happen in late spring.

Holly plants grow well in zones 5, 6 and 7 so they work well in our area. The most common tree hollies are the American holly, Fosters holly and possumhaw. Shrub hollies include Chinese holly, Japanese holly, Inkberry, and winterberry.

If a holly is in your future, it is important to take the time to find out which holly is right for you and what male and female varieties will work together. The plants will thrive without a pollinator but berries are always nice!

January Gardening Calendar

By Donna Aufdenberg, MU Horticulture Specialist

Outdoor Flowering Plants and Ornamentals

- Gently brush off heavy snows from tree and shrub branches.
- To reduce injury, allow ice to melt naturally from plants. Attempting to remove the ice may damage plants further.
- Limbs damaged by ice or snow should be pruned off promptly to prevent bark from tearing.
- On warm days, check to see if any perennials have been heaved by freezing and thawing of soil. Firmly press down any that have lifted and cover with at least 2 inches of organic mulch.
- Plan herbaceous flower beds now. Changes can be made early in the spring.



Indoor Plants

- Wash the dust off of house plant leaves on a regular basis. This allows the leaves to gather light more efficiently and will result in better growth.
- Start new plants from cuttings to revive overgrown plants.
- Try not to over-water plants during the winter months. Always check the soil for dryness before watering.
- If plants seem to dry out too fast, make sure they are sitting away from areas near heat vents or draftier areas.

Vegetable Gardening

- Review your vegetable garden plans. Perhaps a smaller garden with fewer weeds and insects will give you more produce.
- As seed and nursery catalogs arrive, think of crops and varieties that you want for the upcoming garden season.
- Analyze last year's planting, fertilizing and spraying records. Make notations to reorder successful varieties, as well as those you wish to try again.
- Before ordering new seed, do germination tests on seeds to see if the seeds are still viable.

Miscellaneous

- Take time now to relax and read all of those horticultural magazines and garden books that were put aside during the busy holiday season.
- Draw a map of your garden and make copies of it. Beds usually stay in the same place year after year, but the crops rotate each year. Each year, take a clean copy of the plan and fill it in and use the back of the plan to record notes. Keep each year's plan in a three-ring binder for easy cross-checking of varieties, rotations, etc.
- It is time to start thinking FRUIT TREE MAINTENANCE. Plan to prune your trees and apply dormant oil in the next couple of months.
- When spraying fruit trees, make sure that you spray the whole tree and not just the part that you can reach.

Life Expectancy of Seeds!

Keep in mind that seeds are alive but are in a resting state until planting. Not all seeds have the same life expectancy. As seed gets older, the percent germination declines at varying rates depending on conditions and species.

Life Expectancy of seeds:

Lettuce and Greens - 4 years

Spinach, Beets, Carrots - 3 years

Broccoli, Cabbage, Cauliflower - 4 years

Beans and Peas - 3 years

Corn - 2 years

Cucumbers, Melons, Squash - 4 to 5 years

Tomatoes - 4 years

Peppers - 2 years

Onion - 1 year

Okra - 2 years



Growing Giants

By Katie Kammler, MU Horticulture Specialist

The ability to grow giant vegetables comes with bragging rights and they serve as attractions at fairs and festivals. There are some tricks that make a difference in growing the biggest vegetables around. Variety, soil, fertility, water, and competition play an important role.

The seed catalogs have been arriving in mass quantities in my mailbox since before Thanksgiving. Personally, I'm not quite ready to dive into them but for those of you that are, varieties are important if you want to grow big vegetables. The world record pumpkin weighed in at 2032 pounds and the world record watermelon weighed in at 268 pounds. One of the most determining factors for growing them to those massive weights is choosing a variety that has been bred to grow big. An example is Dill's Atlantic Giant Pumpkin. The seed for this variety comes from the top weighing pumpkins of the previous year. Generally, seed for giant varieties is going to be more expensive and they are bred for size, not necessarily great flavor.

Starting with the best soil available and full sun gives



Giant Pumpkin (435 lbs.) grown at Bradford Research Center in Columbia MO.

the plants a head start. Adding organic matter and incorporating it in the fall will help improve poorer soils. Fertilizer needs to be applied according to a soil test and then additional applications of liquid fertilizer are needed throughout the growing season for crops on top of the soil. Root crops don't need as much added fertilizer. Regular water of an inch and a half a week is required for vegetable crops.

Pest control is also a key factor.

Weeds need to be controlled so they don't compete with the vegetable.

Insect pests and diseases lead to stress on the plant. The biggest vegetables

will grow on the healthiest plants. Thinning the crop to one fruit per plant allows the plant to put all its energy into making that fruit the biggest.

The largest pumpkin I have ever grown weighed 81 pounds, back when I was in high school. That was plenty big enough for me because it was all I could handle. If you have had success with growing large vegetables, we would love to hear about your experiences and see pictures to share in future issues of the Garden Spade.

A Gardening Experiment

By Georgia Neil, Parkland Area Master Gardener

I love experimenting with my vegetable garden. This year I wanted to see if I could have ripe tomatoes at Thanksgiving.

We had a small wooden greenhouse in our garden left over from last year. It still had plastic on it, so I planted an early crop of tomatoes in it. After the last frost, we removed the plastic. Summer came and went, and as fall approached, my husband and I put plastic on the greenhouse again, leaving the same tomato plants in it from springtime. The

plants were still loaded with red and green tomatoes.

As the weather neared the 20 degree mark, I picked all the remaining tomatoes off my plants, bringing in nearly five plastic grocery sacks full. The green tomatoes slowly ripened, and I was very successful. We had ripe tomatoes at Thanksgiving time. And, as of mid-December, I'm still eating those delicious garden tomatoes. I must say, I was very happy and well rewarded with my experiment!

Inside Scoop - Cold Frame Gardening

Jeanette Hinze, Cape County Master Gardener

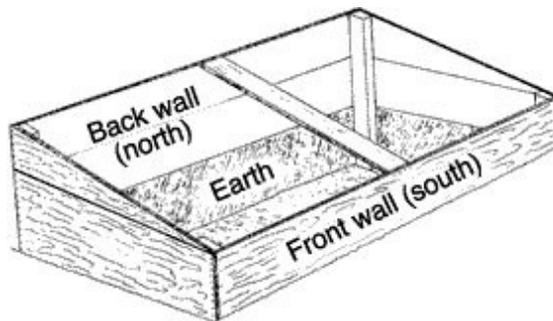
A cold frame is defined as an "outside glass-enclosed growing area used to get a jump on the growing season." Or, as another source puts it, "an ideal place to extend your season by a month or more on either end and in some climates, to grow plants right on through the winter." Some hardy vegetables such as radishes and lettuce are two examples of plants that can be grown in a cold frame during most of the year if you live in a mild climate.

Many who use this method of gardening do so to get an early start in the spring. You can sow seeds directly in the cold frame or use the cold frame to harden-off transplants such as tomatoes and peppers in their containers. Either growing method will require regular watering since cold frames dry out easily because of the solar heat that can be trapped inside. On sunny days, it's important to prop the lid open to prevent sunburn. On these days, temperatures can reach 85 degrees F. According to the MU Horticulture Guide G6965, the temperature difference between the outside and inside is not generally more than 5 to 10 degrees. In very cold seasons, the frame lid can be covered with a blanket or mat at night to help conserve heat which can be very important when temperatures are on the verge of dropping below freezing.

Because sunlight is important in providing energy for growth, the cold frame needs to be in a location with a southern exposure in order to receive the maximum amount of sunlight. Vegetables grown for their fruit need a minimum of 6 to 8 hours of direct light each day. Root crops like beets, carrots, radishes and turnips store up energy before they flower and do rather well in partial shade. Plants grown for their leaves

(lettuce, spinach, etc.) are most tolerant of shade and may even need shade for protection where the sun is hot and bright.

In addition to water and light, the soil is extremely important. The site should have good, natural drainage with no excess moisture underneath to prevent seedlings from rotting. To prevent excess moisture, use a thick layer of coarse gravel. According to a web site on organic gardening, Rodale's All New Encyclopedia of Organic Gardening instructs the grower who is setting up a permanent spot for a cold frame, to dig out the top 3 or 4 inches of soil inside the frame and replace it with a layer of coarse gravel and then put 6" of top soil back to ensure good drainage. The MU Guide G6965 also recommends putting a screen over the gravel to prevent the soil from falling down into the gravel.



The cold frame is basically a rectangular box with the back higher than the front by 4" to 6". This slant allows rain and snow to run off. The box is covered with a transparent roof (old glass panes or other transparent medium that can be raised and lowered. The

dimensions of the box should be at least 2'x4' to make it worthwhile, but no larger than 3'x6' so you can reach all the plants. For information on building a cold frame you can download a PDF file from MU extension's web site.

Other considerations for successful cold frame gardening would be: a location close to the house so you can check on it frequently; wind block protection; a thermometer conveniently placed inside the frame to monitor the temperature; and the addition of a plastic tunnel over the cold frame to increase protection and a variety of crops that can be grown.

House Plant Disorders

by Sarah Denkler, MU Horticulture Specialist

Use the following chart to diagnose house plant issues.

Problem	Cause
Brown or yellow leaf spots	Cold water
Brown or yellow leaf spots	Fungi
Browning of leaf tips or margins	Fertilizer burn
Browning of leaf tips or margins	Iron deficient (high pH); Magnesium deficient (low pH)
Browning of leaf tips or margins	Poor water quality - chlorine, fluoride, salt accumulation
Browning of leaf tips or margins	Spray damage from insecticides / oils or pollutant in air
Browning of leaf tips or margins	Too little water, lack of humidity
Cotton like masses on leaves and stems	Mealy bugs
Entire plant wilted	Exposure to cold temperatures
Flower buds drop before opening	Exposure to hot or cold drafts; temperature fluctuations
Flower buds drop before opening	Lack of sufficient humidity
Foliage is pale & weak; fail to flower; long internodes	Insufficient light
Foliage is pale & weak; long internodes	Lack of, or incorrect components of fertilizer
Foliage is pale and weak	Under watering, lack of humidity
Fuzzy, grey mold covering flowers, leaves & stems	Botrytis blight - <i>from excess humidity/ poor ventilation</i>
Gradual defoliation - <i>lower leaves yellow and fall</i>	Lack of, or incorrect components of fertilizer
Leaf edges brown and dry	Temperature is too high
Leaves drop continuously / new leaves small & curled	Possibly aphid or mite damage
Leaves drop continuously / new leaves small & curled	Damage from cleaning fluids, air pollution
Leaves yellowed between veins - <i>veins remain green</i>	Incorrect soil pH
Leaves yellowed between veins - <i>veins remain green</i>	Iron deficient (high pH); magnesium deficient (low pH)
Lower leaves yellow and fall; smaller leaves	Insufficient light
Mildew	Airborne fungus (<i>African violet / Begonia are susceptible</i>)
New growth wilted, or burned	Freeze or frost damage or exposure to cold draft
New growth wilted, or burned	Sunburn or temperature too high, exposed to hot draft
No Blooms	Lack of light
Older leaf yellow; small leaf; no blooms	Pot bound
Plant droops	Crown, stem or root rot
Plant wilted / stunted; fail to flower; new leaves burn	Fertilizer burn
Plant wilted; lower leaves yellow and fall	Under watering or root rot (too much water)
Plants stunted	Under watering or overwater
Rapid defoliation	Rapid change in temperature (hot or cold drafts) or light
Rapid defoliation; older leaves yellow; small leaf	Root Rot (too much water) or under watering
Silver or red blotches on foliage; spots	Sunburn
Small brown bumps on stems or foliage	Scale insects
small leaves, long internodes; no blooms; plant wilted	Under watering
Spotted foliage	Fungal infection; overwatering; air pollutants
Sticky spots on foliage	Primarily caused by aphids
Tiny white spots on leaves	Primarily caused by spider mites.



Group News - What's Happening

January 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6 Parkland MG, 6:30pm @ Memorial United Methodist	7 Poplar Bluff MG Meeting	8	9	10-11 Great Plains Growers Conference and Trade Show in St. Joseph, MO	
12	13	14	15	16 Cape Girardeau MG, 7:00pm @ Cape County Ext. Center Ste. Genevieve MG, 6:30pm @ Ste. Gen. Co. Ext. Center	17	18
19	20	21	22	23	24	25
26	27 Perry Co. MG 6:30 pm, Perry Co. Ext. Center	28	29	30	31	Contact your local Extension Center if you have questions about any event on the calendar.

February

- 3 - Parkland MGs 1st Monday at 6:30pm, Memorial United Methodist, Fmgtn, MO
- 4 - Poplar Bluff MG 1st Tuesday at 6:00pm at PB Ext Center
- 13 - Ste. Genevieve MGs 2nd Thursday, at 6:30pm, Ste. Gen. County Ext. Center
- 20 - Cape Girardeau County MGs 3rd Thursday at 7:00pm, Cape County Ext. Center
- 24 - Perry County MGs 4th Monday at 6:30pm, Perry County Ext. Center

Upcoming Events

- February 7-8, 2014 - Midwestern Herb and Garden Show in Mt. Vernon, IL
- February 8, 2014 - Perryville Master Gardener Garden Symposium
- April 10-13, 2014 - Dogwood Azalea Festival in Charleston, MO

If you have a horticultural related event for the calendar call 573-686-8064 or email it to Denklers@missouri.edu.

Editor's Corner

The Garden Spade is published monthly by University of Missouri Extension staff for individuals and families living in Southeast and East Central Missouri. This newsletter is provided by your local extension council.

Editors:

Katie Kammler, Horticulture Specialist

255 Market St., Ste. Genevieve, MO 63670

573-883-3548

Sarah Denkler, Horticulture Specialist

222 North Broadway Street, Poplar Bluff, MO 63901

573-686-8064

Donna Aufdenberg, Horticulture Specialist

304 High Street, PO Box 19, Marble Hill, MO 63764

573-238-2420

We welcome and encourage Master Gardener groups and individuals to submit items to the newsletter. We encourage the submission of any news such as upcoming volunteer opportunities, community events related to gardening, warm wishes or congratulations to fellow gardeners. We also encourage Master Gardeners to share experiences and write articles on timely topics.

All entries into the group news sections must be received by 4:30 on the 15th of each month for the following months news.

Email News to: kammlerk@missouri.edu, denklers@missouri.edu, or aufdenbergd@missouri.edu

Disclaimer: No special endorsement of mentioned products is intended, nor is criticism implied of similar products not mentioned.



Butler County Extension
222 North Broadway
Poplar Bluff, MO 63901

January 2014 Garden Spade