**August Visitors**
Phyllis King, Cape Girardeau County Master Gardener

It’s hot. It’s humid. The grass is usually turning brown and there are cracks in the yard. The birds have disappeared into the woods looking for nuts and berries and I assume, cooler digs. The cucumbers are spent and need to be pulled. Crabgrass is trying to take over the world, and nutsedge is a close second. So while it’s not the best month for weeds and weather, it has become one of my favorite flower gardening months because of all the visitors. It’s the month when everyone seems to show up for a sweet meal.

One insect I look for is the snowberry Clearwing Moth (a), which I didn’t know existed until about 15 years ago when one showed up in the zinnia garden. I had to take its picture and research the internet to find out what it was. Now I see them every year; not only on the zinnias, but also the butterfly bush and the garden phlox.

The butterflies are plentiful in August, they are everywhere! Great Spangled Fritillaries (B), Swallowtails (C) of several kinds, skippers galore and of course, Monarchs (D). They all come in for nectar from the flowers and shrubs.

There are creatures unknown to me. One day, I’ll look them up.

And, of course, we can’t forget the hummingbirds! Like the Monarchs, they have started

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on their migration south for the winter. We have been feeding them for several years now, and never tire of seeing and hearing them this time of year.

Various other visitors to the garden!

My Wildflower Garden
Robyn Dennis, Parkland Master Gardener

I have never gotten more gardening enjoyment with less effort than from my wildflower garden.

My wildflower garden did not have an auspicious start. It was basically a fine set of weeds at the end of my driveway. Not visible from the street apparently the area was never deemed worthy of any landscaping.

I had tons of other things to occupy my gardening time so out of desperation that first autumn, after I cleaned up the desolate area I had used as a vegetable garden all summer, I scattered the seeds from a box of “wildflower mix” from the garden center. My reward for that impulsive action was the most beautiful garden, and a mecca for butterflies and bees!

Wildflowers can beautify difficult areas where conventional garden plants do not thrive because the soil is poor or dry. Since the vegetable garden had not done well I figured I would give something a fighting chance. Wildflowers are opportunistic and tend to grow where they are planted. That was certainly the case for me.

Each Fall thereafter I have sprinkled some wildflower mix to keep things coming up, plus there is a lot of self seeding going on. If one kind of flower seems to be taking over I simply pull it up before it seeds. This year the poppies were amazing as well as the larkspur and the bachelor buttons! I can always count on the brown-eyed susans to provide a bit of color even through those dry spells we get every summer.

In this wildflower garden, sown of desperation, I have discovered new wildflowers and rediscovered old friends. I love that each morning there are new blooms to remind me that beautiful things come from the most unlikely beginnings. Happy Gardening!
Outdoor Flowering Plants and Ornamentals
- Keep newly planted trees and shrubs well watered.
- Clean up fallen rose and peony leaves. They can harbor disease and insect pests over the winter if allowed to remain on the ground.
- Think ahead! For dried winter arrangements, flowers with petals in bright yellow, orange, pink and blue colors preserve best. Red and purple become darker and less attractive; white flowers usually become buff or tan in a short time.
- During hot, dry August days, avoid deep cultivation in your flower beds. Loosening the soil under these conditions reduces water uptake and make plants often look much worse after cultivation than before.
- Continue spraying roses that are susceptible to black spot and other fungus diseases.
- Keep an eye out for spider mites on ornamentals! They love it hot and dry. An occasional strong jet of water can help dislodge those pesky mites.
- Avoid any temptation to prune shrubs and trees. Doing so will promote new growth that will not harden by winter which can lead to winter damage.

Vegetable Gardening
- Many herbs self-sow if the flowers are not removed. Dill and sage seeds fall around the parent plant and come up as volunteers the following spring.
- Harvest winter squash and pumpkins by cutting with 2 or 3 inches of stem; they’ll keep better in storage that way than if stemless. Keep cool and dry.
- Plant a winter cover crop to enrich your garden soil. Annual rye, red clover, and hairy vetch are good choices. Plan to incorporate before seed set!
- Fall vegetables can be planted until the 15th of this month. Vegetables include lettuce, radishes, cabbage, broccoli, cauliflower, spinach and turnips. Lettuce and Spinach will germinate when soils start to cool down.
- Compost plant materials from the garden as crops are harvested. Avoid composting any plants that are disease or insect infested.

Fruits and Nuts
- Heavy rains at harvest can dilute the sugars in melons. Watermelons can re-concentrate the sugar if left for a few dry days, however cantaloupes cannot do this.
- If too much produce comes off at once, before it starts to spoil, consider donating it to your local food pantry.
- To reduce the number of pests on your fruit tree for the coming year, pick up and destroy all fallen fruit. Worms hide in the fruit and then pupate into the soil. They will be ready to lay eggs next year.
- Watch for fall webworm activity now.

What Butterflies Can Be Attracted to the Garden in Missouri? These butterflies are attracted to flowers unless otherwise noted. A small dish of sand or pebbles with a bit of water can also draw them into the garden.
- Black Swallowtail
- Common Buckeye
- Cloudless Sulfur
- Easter Comma (fruit)
- Giant Swallowtail
- Monarch Butterfly
- Great Spangled Fritillary
- Painted Lady
- Red Admiral (fruit and nectar)
- Question Mark (fruit)
- Spicebush Swallowtail
- Tortoiseshell (fruit and nectar)
- Tiger Swallowtail
- Zebra Swallowtail
Crown rot is a common name used to identify a group of diseases caused by several types of fungal pathogens found in soil. These include but are not limited to *Sclerotium, Pellicularia, Phytophthora and Fusarium*. Different plant species will be susceptible to different pathogens.

Rot becomes an issue when the soil is too wet creating an environment that is perfect for fungal growth. This growth invades the tissue at ground level, killing the plant as tissue deteriorates. This can happen even during hot weather if the soil is overwatered or if soil stays wet after a deep rain.

Stems become brown and leaves turn yellow. Wilting occurs and leaves drop as the plant droops. Plant death follows.

Once confirmed in the soil, plants should not be replanted in that area for at least 2 years. A soil may be baked to sanitize soil. Pots should be sanitized if an infected plant was growing.

A fungal drench may be used depending on which disease but the best defense is to prevent overwatering. Avoid planting in areas that collect water or in high clay soils. Don’t plant too deep.

Crown rot of Hosta - Courtesy MO Botanical Gardens

**What Is It?**

Can you figure out what plant this mystery picture is from?

Turn to page 7 to find out if you are right!
Insecticidal Soaps: An Eco-friendly Method of Pest Control
David Trinklein, MU Extension State Floriculture Specialist

Most gardeners are good stewards of the land and attempt to control pests using tactics with minimal environmental impact. Insecticidal soaps have become an increasingly popular method of controlling certain insects in a very “eco-friendly” manner. Nearly non-toxic to mammals, insecticidal soaps may be applied to food crops until the day of harvest. They also may be used in organic production.

Soaps are salts of fatty acids. This means that the fatty acids, which are obtained from plants and animals, are made soluble for spray application via a chemical process. The latter involves neutralizing the fatty acids with a base such as potassium hydroxide to form fatty acid salts, or soaps.

Not all soap is created equal. One cannot simply make a solution using their favorite bath soap, spray the garden and expect to get good insect control. Nature produces many different fatty acids that can be neutralized with a number of different chemical bases that results in different types of soap. Most insecticidal soaps are derived from long-chain fatty acids which make them effective in the control of pests and less damaging to plants.

The mode-of-action of insecticidal soaps is not clearly understood. One theory suggests the soap is absorbed by the insect pest via its trachea which leads to the disruption of cellular membranes and leaking of cell contents. Another theory infers that the soap dissolves the exterior cuticle of the insect, causing it to dehydrate. Finally, there are those who maintain that the soap physically blocks the breathing openings of the insect which leads to suffocation.

Whatever the mode-of-action, to obtain optimum results from insecticidal soaps, several characteristics of the soaps need to be kept in mind when applying them. One characteristic is that insecticidal soaps are contact poisons. This means the target pest must be wetted with the insecticidal soap solution if control is to be obtained. Insects walking across the residue of soap that has dried will not be harmed.

Therefore, it is important to determine where insect pests are feeding and to cover these areas as thoroughly as possible. As a general rule, most insect pests feed primarily on the underside of leaves. Hence, thorough spraying from below will result in optimum pest control. Some insect pests are very mobile and will flee as spray is being applied. Repeated applications may be necessary to contact “escapees” when they return to feed.

Another factor to consider when applying insecticidal soaps is the nature of the water used to make spray solutions. It has been demonstrated that hard water may reduce the effectiveness of insecticidal soaps. The soap will combine with certain minerals in hard water which results in a compound precipitated from the spray solution. The mineral elements that cause the greatest problem include calcium, magnesium and iron. Therefore, it is best to use soft water when diluting an insecticidal soap concentrate to the proper strength as dictated by its label.

As a test for water quality, mix a quart of insecticidal soap spray solution with your existing water source and allow it to sit for about 30 minutes. If a scum develops on the surface of the solution, your existing water source is too hard and should not be used.

Additionally, to maintain their effectiveness, insecticidal soaps should not be mixed with certain other pesticides. The latter include copper fungicides such as Bordeaux mix, liquid copper, lime or sulfur, rotenone-based insecticides and dithiocarbamate fungicides such as manebo, zineb or mancozeb. Also, avoid mixing insecticidal soaps with fertilizer solutions used...
*Maclura pomifera* is a native tree of a small area in the southern United States where the Osage Indians lived. This is the source of the Osage Orange name. It was widely distributed when it began use as a fence before barbed wire was developed. The common name Hedge Apple comes from this. Often ignored, it is a great example of why Latin names can be so important when discussing plants. Commonly, this plant goes by one name in a given location or culture but it has many labels.

Osage Orange was widely used as a shelter row from wind in the Midwest. It is also known as Horse Apple, Bowwood, Yellowwood, Monkey Ball, Mock Orange, Bois D’Arc, Bodark and Naranjo Chino.

The fruit is often found in large cities going for high prices to repel spiders. Research has shown this does not work but the bright lime color makes great arrangements anyway.

Trees are dioecious (male and female on separate trees) however large fruit are still produced on lone trees, though they lack seed.

The fruit is made up of many drupes that have grown together, like a pineapple. This compound fruit is hard and lacks desirable flavor so it is not eaten by humans but it is not poisonous. Squirrels are able to tear open the fruit and eat the seeds inside. Livestock will sometimes have a bite but most animals do not actively forage on the fruit.

The wood is strong, flexible and durable which made it highly prized by native Indians for use in the making of bows. The names bowwood and Boid D’Arc (wood of the bow) come from this purpose as does the variation bodark.

Because the wood is strong it is also used in furniture and tool handles. When green, it can be installed as a fence post. Once dry it is often so hard it will not take a nail. The wood is long lasting and durable.

The bark becomes deeply furrowed with age, allowing a view of the orange wood beneath. Here, in combination with the shape and size of the fruit, is the origin of common names including the word orange.

Although it is sometimes labeled as a small tree or large shrub, the Osage Orange can reach 60 feet with age. Leaves turn yellow in fall. It is tolerant of poor soil, high heat and wind and transplants well. The tree does have thorns. As it ages, the tree tends to twist, providing visual interest in the bark.
Insecticidal Soaps: An Eco-friendly Method of Pest Control
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Continued from page 5 for foliar feeding.

Although insecticidal soaps do not damage plant leaves easily, phytoxicity has been reported when the soaps are improperly used. Do not apply insecticidal soaps when the temperature is above 90 degrees F. and do not apply them when the sun is shining brightly on the plants. Soaps work best when they remain on the leaves for the maximum amount of time possible. Therefore, early morning or late evening are preferred spray times.

Also, to avoid phytotoxicity, do not apply insecticidal soaps to wilted plants or species that are known to be sensitive to them. Highly sensitive plants that are easily damaged include begonia, bleeding heart, fuchsia, gardenia, Japanese maple, lantana, lily, nasturtium, portulaca and sweet pea. When uncertain about the sensitivity of a species, it is best to spray only a small area and check in a day or two to see if phytotoxic symptoms are present. The latter include yellow or brown spotting on the leaves, burned leaf tips and edges or leaf scorch.

In general, using insecticidal soaps according to label directions and when temperature and moisture conditions are proper provides an effective and safe approach to control certain garden and landscape pests. Insects that are labeled for control by insecticidal soaps include aphid, whitefly, thrips, plant bugs, spider mites, broad mites, russet mites, scale and leafhoppers. Just recently, insecticidal soaps were labeled for powdery mildew control.

As with any pesticide, always read and follow label directions when using insecticidal soaps.

What Is It?
Donna Aufdenberg and Debi Kelley, MU Extension Horticulture Specialist

The picture is a cotton flower. After about two months after planting, a cotton plant will develop a flower bud called “squares”. In another three weeks, the blossoms open. The blossom’s petals change from a creamy white to yellow, then pink and finally, dark red. After three days, they wither and fall off, leaving green pods which are called cotton bolls. Inside the boll, fibers grow and push out from the newly formed seeds. As it ripens, the boll turns brown and finally splits to expose the fluffy cotton inside.

This cotton picture was taken in Sikeston, Mo. Missouri is ranked 8th in the United States for cotton production. Cotton in Missouri is grown in Dunklin, New Madrid, Pemiscot, Scott, and Stoddard counties (the bootheel counties of Missouri). The average acreage of cotton grown in Missouri (last 5 years) is around 272 thousand acres.

Cotton is important. The world uses more cotton than any other fiber and it is the leading cash crop in the United States.
Katie Urhahn, a clinical dietician with the Saint Francis Medical Center Wellness Department presented a program “Grilling in the Garden: Thinking Outside the Box” for the Cape Girardeau County Master Gardeners on July 25, 2016.

A hot day turned into a comfortable evening as sixteen Master Gardeners sat and learned about grilling vegetable pizzas on the outdoor grill. Katie talked about making a simple dough from self rising flour and greek yogurt. She also talked about various pizza styles (red sauce is not necessary to make a pizza delicious). She demonstrated making pizzas using various ingredients: potatoes, zucchini, corn, tomatoes, spinach, brussel sprouts, feta cheese, mozzarella cheese, and goat cheese. Additional flavoring was added when olive oil, balsamic vinegar, honey, or a flavored syrup was used. Below are a couple of recipes to try…

Recipes compliment of Katie Urhahn and Sabrina Ressel.

**ZUCCHINI & CORN PIZZA**

- 1 1/2 cup self-rising flour
- 1 1/2 cup Greek yogurt
- olive oil
- 1 cup fresh corn
- 2 small zucchini, sliced
- 1 cup mozzarella cheese
- garlic scape or cloves
- honey

Preheat grill or oven to 400 degrees. In medium bowl, combine flour and yogurt until ball forms, adding flour to prevent sticking. Turn dough ball onto floured surface and knead. Roll out and transfer to pizza pan. Drizzle with oil, honey, salt and pepper. Bake for 3 to 5 minutes. Top pizza crust with cheese, veggies. Drizzle again with oil and bake an additional 7 to 10 minutes.

**ROSEMARY POTATO PIZZA**

- 1 1/2 cup self-rising flour
- 1 1/2 cup Greek yogurt
- olive oil
- 2 medium potatoes
- 2 garlic cloves, sliced
- 1 cup mozzarella cheese
- rosemary

Preheat grill or oven to 400 degrees. In medium bowl, combine flour and yogurt until ball forms, adding flour to prevent sticking. Turn dough ball onto floured surface and knead. Roll out and transfer to pizza pan. Slice potatoes 1/8 to 1/4 inch thin rounds. Cover pizza evenly with potatoes and drizzle with oil, salt and pepper. Bake for 3 to 5 minutes. Top with cheese, rosemary, and drizzle with olive oil. Bake additional 7-10 minutes.
Upcoming Events

The following Master Gardener meetings are held each month. All are welcome to attend. Please contact your local extension office to confirm location if you did not attend the previous meeting.

Parkland MGS - 1st Monday at 6:30pm, Horticulture Classroom at MAC, Park Hills
Poplar Bluff MGS - 1st Tuesday at 6:00pm at First Episcopal Church in Poplar Bluff, MO (Do not meet in January)
Ste. Genevieve MGS - 2nd Thursday, at 6:30pm, Ste. Gen. County Extension Center
Cape Girardeau MGS - 3rd Thursday at 7:00pm, Cape County Extension Center in Fall and Winter and Shawnee Park Center in Spring and Summer. Call 573-238-2420 for questions
Perry MGs - 4th Monday at 6:30pm, Perry County Extension Center

AUGUST
3 to 7 - Washington County Fair at the Washington County Fairgrounds in Potosi, MO
20 - Wildflower Identification, Hiking and education on identification, relationships and habitats of wildflowers and native grasses. Fee:$22. Shaw Nature Preserve from 8:30-11:30am. Call 636-451-3512 for more information
18 - Landscape Design Workshop - Fee $10. 4-H Building in Doniphan, MO; 4-7pm. Call (573) 996-2921 to register
23 - Plant Propagation Workshop - Fee $10. USDA office Hwy 25 north of Dexter; 1-4pm. Call (573) 568-3344 to register
25 - Twilight Tunnel Walk. Tour two high tunnels with Extension experts and farmers at Winter Production Education Center, 1213 Route U in Rocky Comfort, MO. 7 to 9pm. No registration. Call 417-881-8909 for more information
31 - Illinois Pumpkin field day at Ewing, IL

SEPTEMBER
6 - Landscaping with native and pollinators in mind – Madison County Extension Center at 6:30 p.m. Call (573) 686-8064 to register
10 to 17 - SEMO District Fair at Arena Park Fairgrounds in Cape Girardeau, MO
13 - Fruit Production – Shawnee Park Center in Cape Girardeau – 6 p.m.
15 - Insects in the Garden at the Butler County Extension Center in Poplar Bluff, MO. Fee $10. 4-7pm. Call (573) 686-8064 to register.
23 to 24 - East Perry County Community Fair
26 to Oct 1 - Butler County Fair at the Black River Coliseum in Poplar Bluff, MO
27 - Getting the Garden Ready for Winter – Shawnee Park Center in Cape Girardeau at 6:00 p.m.

21st Annual Master Gardener Conference.

Three–day conference beginning on Friday, September 16th features unique tours, continuing education classes, advance education classes, fabulous food, local vendors, silent auctions, door prizes and much more. For more information, visit...

www.mggkcconf.com

Master Gardener Core Training Classes

Perryville and Ste. Genevieve

Thursdays, August 18 to November 3, 2016
from 6:00-9:00 p.m.

Where: The first 6 classes will be at the Ste. Genevieve County Extension Center and the last 6 classes will be at the Perryville County Extension Center.

Cost: $165 each person

Please register for this Master Gardener Core Training before August 11, 2016 by contacting the Extension Center at 573-238-2420.
The Garden Spade

Composting must be something that is convenient or you won’t use it. Putting the container right outside a back door or some other location where it is easy to get to will help get you started.

Try using a 50 gallon plastic container (with lid is preferred) drill holes about 6 to 8 inches apart in the sides, bottom and top to allow for ventilation. By using a round container with a lid it is easy to stir the composting materials when needed.

Start with a little prepared compost or material (grass clippings also work) in the compost unit to absorb any extra moisture and act as a base. Layering the compost - kitchen waste and then a small layer of soil or high nitrogen materials will generally help with getting the pile working. Make sure the pile has enough moisture. If it is too dry the breaking down of materials is slowed or stopped. Most kitchen materials can be composted but we don’t recommend meat scraps or grease.

Think about the carbon to nitrogen ratio for making good compost (best is 30:1) and the moisture content. If you are putting mainly vegetable scraps into the composter you may need to add some shredded paper or something to get the ratio where you want it. You can use some commercial fertilizer to add nitrogen if that is a limiting factor.

Composting occurs when the natural decomposition of organic materials is speeded up. The compost materials will heat up when the pile is actively composting and may cause you to need to mix it more often if the temperature get above 140 degrees.

For more information, check out: G6956 Making and Using Compost http://extension.missouri.edu/p/G6956