



May 2019

# The Garden Spade

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

## The World of Zinnias

Katie Kammler, MU Extension Field Specialist in Horticulture

Zinnias have always been a part of my gardening history and I always have some growing in my flowerbeds or garden.



Both sets of grandparents and my parents had zinnias in their gardens. In college, we had a big zinnia patch where we picked enough zinnias every week to make bouquets for all the tables in the cafeteria. Zinnias are versatile because they come in many bright colors, different size flowers, and different heights.



Zinnias are descendants of nondescript wildflowers native to the southwest United States, Mexico, and Central America. The name zinnia came from the 18<sup>th</sup> century German botanist, Dr. Johann Gottfried Zinn, who wrote the first description of the native plant. The native plant had dull, purplish-red daisy-like flowers with single petals surrounding a protruding cone. Garden zinnias were introduced in the US in 1796



with double forms appearing in the mid-1800s. Interest continued to increase especially in the 1920s when Bodger Seeds Ltd. introduced the dahlia-flowered varieties, ‘Giant Dahlia’ and ‘California Giant.’ These varieties had large heads and multiple colors. ‘California Giant’ can still be purchased today and eventually

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# The World of Zinnias

Katie Kammler, MU Extension Field Specialist in Horticulture

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won a gold medal from the Royal Horticulture Society of England.

Zinnia flowers come in a wide variety of flower forms. Single flowers have one row of petals and the center of the flower is exposed. Semi-double flowers have many rows of petals and the center can still be seen. Dahlia-type zinnias typically fall in the semi-double category with large, flat blossoms. Double flowers have so many rows of petals that flower centers are hidden. Beehive type flowers have small blooms with stacks of flat petals resembling small beehives. Button type flowers are similar but have flatter flowers. There are also cactus type flowers with twisted, bent petals with rolled edges.

There are more than a dozen species of zinnias but the most commonly grown is *Zinnia elegans*. It grows up to three feet tall and has single or double flowers in pink, rose, red, cherry, lavender, purple, orange, salmon, gold, yellow, white, cream, or light green. Flowers can range in size from one to seven inches in diameter and can be solid colored, multicolored, or zoned.

Zinnia plants can be purchased at garden centers and transplanted. They are also easy to start from seed for your own transplants or direct seeded into a garden or flowerbed. Zinnia seed is readily available in many color choices. They are a tender annual so they need to be seeded or transplanted after the last frost. They do best in full sun and in fertile, well-drained soil. Spacing depends on variety and if you are growing them for cut flowers, crowding encourages longer stems for cutting. Deadheading allows new blooms. Most varieties will continue to bloom until frost. Zinnia have very few problems. Sometimes aphids or spider mites can cause issues. The typical problem is powdery mildew in our humid summers and alternaria leaf spot or bacterial leaf spot can also be an issue.

Short varieties make excellent edging plants and mass plantings make a statement in the garden. Taller varieties can be used as background plants. They can also be used in containers. They are a good flower to attract bees and butterflies to the garden and make excellent cut flowers if cut before the yellow flowers in the center of the petals fully open.



Top: Mixed colors from seed packet; Middle: Roy Rodgers Red variety; Bottom: Zinnias make wonderful vase flowers.

# May Gardening Calendar

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

## Outdoor Flowering plants and Ornamentals

- Pinch azaleas and rhododendron blossoms as they fade. Fertilize them after they bloom and use a fertilizer that will acidify the soil.
- Removing spring bulb foliage too soon will lead to no flowering next spring.
- Pinch back mums to promote bushy growth.
- Lightly side-dress perennials, including spring bulbs, with a 5-10-10 or 10-10-10 fertilizer, being careful to avoid the center or crown of the plant.
- If you love to garden, but do not have a lot of time, choose plants that are easy to maintain. Plants that do not need “deadheading” include begonia, impatiens, coleus, alyssum, ageratum, lobelia, vinca and salvia.

## Vegetable Gardening

- Growing lettuce under screening materials will slow bolting and extend harvests into hot weather.
- Place cutworm collars around young transplants. Collars are easily made from cardboard strips.
- Set tomatoes in warm soils. Place support stakes or cages at planting time.
- Control caterpillars on broccoli and cabbage plants by handpicking or use biological sprays such as B.T.
- Place a stake by seeds of squash and cucumbers when planting in hills to locate the root zone watering site after the vines have run.
- Watch for striped and spotted cucumber beetles now. Both may spread wilt and mosaic diseases to squash and cucumber plants.
- Plant sweet corn and beans every two weeks through June for an extended harvest.
- Inspect cauliflower every few days. Cut off the curd when the flower sections begin to separate.

## Fruits and Nuts

- Prune unwanted shoots as they appear on fruit trees.
- Follow fruit tree spray guide by the University of Missouri Extension.

## Miscellaneous

- Herbs planted in average soils need no extra fertilizer. Too much may reduce flavor and pungency at harvest.
- Four to five layers of newspaper will serve as an effective mulch in the garden. Cover it with sawdust or straw to reduce the white glare and prevent it from blowing away.

## Watch Signal Words on that Pesticide Label!

Signal words are “warning signs” on the label that indicate the toxicity of the pesticide to both humans and animals.

**Caution** - Very Low toxicity. Lethal dose is one teaspoon to one tablespoon or greater.

**Warning** - Moderate Toxicity. Lethal dose is one teaspoon to one tablespoon. Usually associated with rash.

**Danger** - High Toxicity. Lethal dose is a taste to a teaspoon. Usually associated with skin or eye damage.

**Danger - Poison** High Toxicity. Lethal dose is a few drops. It can KILL YOU!

When purchasing a pesticide, use the Signal Word and labeling to help you determine the least toxic and most effective product that will address your situation.

# Fascinating Antlions

Katie Kammler, MU Extension Field Specialist in Horticulture

As a kid, I was always fascinated with nature so it is no wonder that I am a horticulture specialist and that the fascination continues. We always had a population of antlions in the barn and my mom would show us how to feed them so we could see how their traps worked. I have also recently done the same thing just last summer - fed a population of antlions just to see how efficient their traps are! There was a convenient trail of ants going up a post next to all the antlion traps so I could not resist.

Antlions are not an insect that you see; you just might notice the small funnel-shaped pits of their stealthy traps. They are typically found in dry areas under eaves or next to foundations that are protected from rainfall. In the bottom of each of the pits, is the predatory immature antlion, waiting for ants or other small insect to fall into the pit.

To actually see what an antlion looks like, grab a handful of soil containing the pit and sift through it. The immature antlion has a broad, flattened body, short legs to enable crawling backward, and a flat head with long pincher mandibles. The adult antlions look like a small damselfly. Another name for antlions is doodlebug because of the narrow, irregular, twisted furrow trail they leave, resembling a doodle, when searching for a suitable site for a pit.

Soil type for the pit does not seem to matter to the antlion. It just needs to have small, dry, loose particles and be in a dry area. An antlion constructs its pit by using its oval-shaped abdomen as a plow and its flat head as a shovel for flicking sand upward. If there is a particle too big to be flicked, the antlion will push it up and out of the pit. When the funnel pit is completed, the larva lays motionless on the bottom under the sand with only the pinching mandibles exposed.

When an ant or other small insect steps over the side of the pit, it slips in the soft particles and cannot climb out. Once it reaches the bottom, it is prey for the antlion. The antlion will also flick sand and shower the prey if it tries to escape up the sides, causing the ant to fall to the bottom. Once the antlion has hold of the ant, it pulls the victim deep in the sand where it sucks out its fluids and then gets rid of the carcass by flicking it out of the pit.

As the summer continues, the larva grows and the size of their pits also grow. When there are multiple antlions living in the same area, they space pits far enough apart so they do not interfere with each other. Once the antlion larva reaches its maximum size, it goes through complete metamorphosis. The adults mate and the females lay eggs in dry soil in suitable sites for larvae.

Antlions are completely harmless and do no damage, feeding on ants and other insects that fall into their pits. As mentioned above, they are interesting for kids and adults to watch!



# Tuberous Begonias

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

Tuberous begonia can bring large, elaborate, brightly colored blooms to shade gardens. Plants come in a variety of colors and forms. Red, orange, yellow, salmon, and pink blooms are either single, double, plain or ruffled. Hybrids are arranged into 13 different groups based on flower shape, petals, or growing habit.

Tuberous begonias thrive in shady areas with some dappling of filtered sunlight during the course of the day. They are hardy to zone 9 to 11. If they are to be overwintered, tubers must be dug or plants need to be brought in for the winter.

They grow best in a rich, organic, well-drained soil. Keep soil consistently moist but avoid overwatering. Tubers will rot if kept too wet. Powdery mildew and stem rot can happen in humid conditions with poor air circulation.

The bloom time is from July to September. Blooming will slow if regular fertilization is not maintained.

Taper off watering in fall when leaves begin to turn yellow. Before first frost, store containers in a freeze free location or dig tubers.

For more information, see <http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=263000&isprofile=0&>



Pictures courtesy of Missouri Botanical Garden



Pictures courtesy Missouri Department of Conservation

## Native Plant of the Month:

### Bald Cypress

*Taxodium distichum*

#### Deciduous Tree

**Height:** up to 130 feet tall

**Comments:** Large tree with a swollen base and cone-shaped "knees" emerging from roots if it is growing in water. Leaves resemble needled feathers that turn reddish-brown in the fall. Native to the swamps, sloughs, and wet bottomlands of Southeast Missouri but widely planted as an ornamental that will also do well in dry sites. The oldest bald cypress in Missouri can be found at Allred Lake Natural Area where they range from 500 to 1000 years old.

**Information sources:** Trees of Missouri by Don Kurz

## At a Glance: Lemon Balm

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

Lemon Balm (*Melissa officinalis*)

Uses: Culinary; Teas; Potpourri; Ornamental; Cosmetic; Medicinal;

Type: Perennial; USDA hardiness zone 4 to 5

Size: Grows bushy up to 18 inches wide and 24 inches tall; small white flowers in clusters in late spring through midsummer.

Light: Full sun

Soil: Rich, moist but well-drained

Harvest notes: Pick leaves as needed or take whole stems for drying before flowering

How to use it: Use fresh or dried leaves for tea. Toss whole or chopped leaves into green salads; Fresh lemon balm leaves have the most flavor. Fresh sprigs can be used to top drink and as garnishes.

Special notes: Reseeds freely and spreads rapidly. Quickly can become a weed. Plants can be hard to control.



Picture Courtesy of Missouri Botanical Garden

## Lemon Balm Bars

*From the kitchen of Don and Carol Koehler*

### Crust

1 Cup Flour

1/4 Cup Sugar

1/2 Cup Butter

### Filling

1 Cup Granulated Sugar

1/4 Cup Packed Lemon Balm Leaves

2 Tablespoons Flour

1/2 teaspoon Baking Powder

Pinch of Salt

3 Tablespoons Lemon Juice

2 Eggs

### Directions:

Preheat oven to 325 °F. Spray 8x8 pan with Pam.

In a medium bowl, mix together flour and sugar. Cut in butter until coarse crumbs. Press evenly in pan. Bake 20 minutes.

While crust is baking, make filling in food processor. Whiz sugar and lemon balm leaves until leaves are finely ground. Transfer to a medium bowl, whisk in flour, baking powder and salt. Then, whisk in lemon juice and eggs.

When crust is baked, pour in filling and return to oven for 20 to 25 minutes more. Top should be barely firm. Cool on wire rack, dust with confectioners sugar and store in airtight container.

# 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, Farmington Library

Poplar Bluff MGs - 1st Tuesday at 6:00pm, Call 573-686-8064 for location.

Ste. Genevieve MGs - 2nd Thursday, at 6:30pm, Ste. Genevieve 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

## May 2019

**4 Perry County Master Gardener Plant Sale** at the Perry Park Center in Perryville, MO. From 8 a.m. to noon. There will be an assortment of perennials, natives, berries, some shrubs and vegetable plants.

**4 Plant sale** from 8 a.m. until 2 p.m. featuring Kress Farm grown natives, shrubs, trees, annuals, vegetable plants, daylilies, succulents, cacti and many other plants. Raffle. Lunch available. Master Gardeners on site to answer questions. 5137 Glade Chapel Road, Hillsboro, MO. Contact Jo at 636-296-9306 for more information

**18-19 Ste. Genevieve Garden Walk** in Ste. Genevieve; Tours of public gardens, Plant Sale, and Farmers Market; \$7 per person; \$6 per person for groups of 5 or more; Children 12 and under free; For more information, call 573-883-7097

**21 Growing Perennials** at the Shawnee Park Center in Cape Girardeau from 6 to 8 p.m. To register, call 573-339-6340

## June 2019

**4-5 2019 Missouri Master Gardener Conference** in Columbia, MO. For more information and to register, see <https://extension2.missouri.edu/events/2019-missouri-master-gardener-state-conference>

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

## How to Become a Master Gardener

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

The mission of the Missouri Master Gardener Extension Program is “helping others learn to grow.” The Master Gardener program provides in-depth horticultural training to individuals throughout Missouri who then volunteer their time applying what they have learned to help others in their communities to learn about gardening and environmental education.



The Master Gardener program promotes and raises public awareness of the University of Missouri Extension as a source of unbiased, research-based gardening information. Through activities such as MU Extension hotlines or answer services, workshops, speaker's bureaus, garden show booths, and demonstration projects, Master Gardeners provide gardening information to thousands of Missourians each year.

To become trained as a Master Gardener, an individual must attend a 30-hour classroom Core Course training. Then the Master Gardener trainee is required to give 30 hours of volunteer service back to the community in approved MU Extension activities.

If you are interested in becoming a Master Gardener, contact your local University of Missouri Extension Center to locate a chapter near you and to find out information on upcoming trainings. If face-to-face training is not available in your area, there is also an option to take online training.

# Be Proactive in Gardening

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

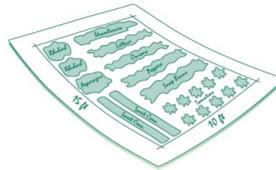
It's almost time for trouble to start in our gardens. Roses will get blackspot, tomatoes will get hornworms, and inevitably, the weeds will start coming up in the vegetable garden. So, how are you going to handle these issues?

Gardeners can be either proactive or reactive in gardening. Most people I talk to lean to being reactive where one tends to wait until a problem occurs to come up with a solution. To have a better gardening experience, gardeners should be working in a proactive manner.

Proactive gardening is simply doing things like building great soil, planting the right plant in the right place, and scouting just to name a few. It is taking the time to plan, plant and then get to know your garden.

Simple Proactive Gardening Techniques:

- ◆ Educate yourself. Find gardening classes near you by contacting your local MU Extension Center or Master Gardeners.
- ◆ Work on improving your soil. Consider planting cover crops, adding organic matter, and soil testing every 3 years.
- ◆ Paying attention to weather patterns and establishing planting dates.
- ◆ Diversify ornamental garden areas. Less insect and disease problems exist in diversified plantings.
- ◆ Be able to identify pests as well as beneficial insects.
- ◆ Select disease resistant plant varieties.
- ◆ Space plants properly for good air circulation and light exposure.
- ◆ Take the time to use weed barriers such as cardboard, newspaper, shredded paper or even weed fabric.
- ◆ Mulch, Mulch, Mulch.
- ◆ Practice sanitation. Get rid of fallen, spoiled fruit and vegetables or plants that are not doing well.
- ◆ Plant pollinator plants.



Planning the garden on paper first before planting is proactive.

The whole key is to get to know your garden so you can catch changes early to prevent small problems turning into BIG problems that require a bigger REACTION such as spraying chemicals or eliminating plants.



## *The Garden Spade*

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Guest Writers:

*Each month there is a title picture on the front cover of the newsletter. This month: Native Phlox, Blue Phlox or Wild Sweet William*



## **2019 MISSOURI MASTER GARDENER STATE CONFERENCE**

*'Making Connections'* is the theme of this year's University of Missouri Extension's Missouri Master Gardener State Conference. Connect with Mizzou, Horticulture Specialists from around the state, and other Master Gardeners at this amazing educational experience in Columbia, Missouri. Our keynote speaker is Dr. Quinn Long from the Missouri Botanical Garden and Shaw Nature Reserve. Fruits, vegetables, landscaping, and ornamentals, Master Pollinator and other interesting classes will be offered. Join the architecture, history, Mizzou Botanic Gardens and greenhouse and Sanborn Field tours for an insider's view of the University of Missouri campus. Tuesday evening, enjoy dinner with a Horticulture Specialist at classic Columbia restaurants, or have dinner on your own and join an evening tour with Dr. David Trinklein at Shelter Gardens. Wednesday afternoon tours include South Farm and Jefferson Farm. Please see the agenda for a complete listing of activities and classes at this exciting conference.

Hope to see you there!

**University of Missouri Extension and Missouri Master Gardeners...Making  
Connections**

**June 4-5, 2019  
Columbia, Missouri**

**To register or for more information visit:**

<https://extension2.missouri.edu/events/2019-missouri-master-gardener-state-conference>