

# *Yavapai Gardens*

Master Gardener Newsletter

August-September 2020

---



## Table of Contents

Edible Flowers . . . 1

Meet a MG—Jennifer  
Morland . . . 3

Citizen Science Projects . . . 4

Okra . . . 5

Covid-19 Information on  
Reopening . . . 7

## *Edible Flowers*

*by Nora Graf*



There is nothing better than bringing flowers into your life. They bring joy and just make us feel better. One thing we don't do very often is include them in our meals, but flowers can make a fun addition to many dishes. They do have a place next to the tomatoes and melons.

There are some things you need to know. Always know your source. Know both the names (the Latin name for definite confirmation if you are not familiar with them) and where they grew. Some flowers can be poisonous and a mistaken identification can be dangerous. Where and how they are grown is important because of what may be on the flowers. Roadside flowers can be contaminated with noxious chemicals from chemical exhausts and oil. Most flowers grown for florists and grocery stores have been sprayed with various chemicals and are not grown for human consumption. If you purchase flowers for eating, make sure they are organic. Flowers that you've grown yourself are the best as you know what they are and how they are grown. If you are a little skeptical consider that you are already eating flowers. Broccoli, artichokes, cauliflower, corn and capers are all flowers or parts of flowers.

Flowers can be used in various ways. Using them as garnish is common. As garnish they retain much of their beauty and texture but they can be made into vinegar, candied, or stuffed. Pick flowers at their peak (except for squash) before they fade. Usually only the petals are used but whole flowers work for garnishes. If used in a cooked dish add the flowers at the last minutes of cooking. Flowers are nutrient rich also as they contain phytonutrients, anti-oxidants and carotenoids.

**Lavender**—It has myriad uses and grows well in many environments. Try lavender in stews or sauces as a

replacement for rosemary. It can be added to salads, some desserts, ice cream, baked goods and many other recipes.

**Pansies and Johnny Jump-ups**—These are frequently used as dramatic garnishes, but they have a delicate texture with a mild wintergreen or sweet flavor. They can be eaten whole and are best with foods that won't overwhelm their delicate flavor.

**Nasturtiums**—This is another dramatic flower and one of the most popular, edible flowers. The intensely colored flowers can't be ignored on a salad.



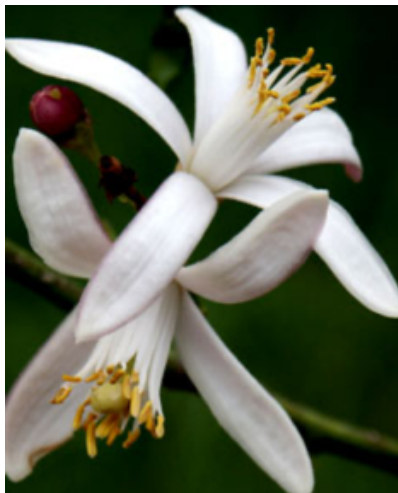
They have a flavor similar to watercress and are sometimes used in vinegars. The seeds can be picked right after the petals drop and pickled as a replacement for capers.

**Calendula**—A bright orange or yellow flower with a flavor similar to saffron. Chop the petals finely and

sauté in olive oil. This will fix the color and when added to rice creates a gorgeous colored dish.

**Roses**—Rose petals are most often used in infusions like rose water, jams and steeped in vinegar and in desserts. They have a sweet fragrance and flavor. Rose water is used in India and the Middle East and is an important ingredient in their food. It is uncommon in the United States and if you can't find it in a local grocery store you are certain to find it in Middle eastern or international grocery stores. If you want to try something easy, just add rose petals to black tea or include them in a salad. Pair them with lettuce, spinach, raspberries, bleu cheese and pecans.

**Citrus Flowers**—Although growing citrus in Yavapai County is usually done in containers, I do know quite a few people that have trees in the County. Or maybe, if you are lucky, you know someone in Maricopa or Yuma County with a citrus tree and you can harvest from them. Citrus blooms are heavy, waxy and have a strong fragrance. They are used in ice cream and desserts sparingly.



**Borage**—I don't know anyone that grows borage, but the flowers are a beautiful sky-blue color and quite lovely. The taste is similar to cucumbers. They are commonly candied for long term preservation and used in cakes, candies and other

confections. Making candied flowers is easy. Rinse the flowers, dip in egg white and coat with fine sugar crystals. Then air dry for several days. The blue colors intensify with time.

**Herb Flowers**—I cut off the flowers on my basil plants so they will continue to produce new leaves but there is no reason to throw the flowers out, they are edible along with many other herb flowers. Herb flowers tend to be small and fragile, so hard cooking isn't recommended. Some herb flowers like rosemary and sage, are surrounded by tough bracts, so remove the petals from the bracts before using. Just add them before serving in a hot dish. Try garlic and onion flowers on savory dishes. Rosemary, oregano and basil flowers can be used on pasta dishes. Experiment and have fun.



**Squash Blossoms**—You most often find squash blossoms stuffed and fried. They taste mildly like squash. Squash blossoms come in male and female versions. The females have a miniature squash just behind the

petals. Use the male flowers for eating. The plant produces lots of them. Pick the flowers a day or two before blooming. They open early in the morning. Stuff with a favorite filling, batter, and deep fry.

These are just the most commonly used flowers but there are a lot more including: Bergamot, Burnet, Bachelor Buttons, Chives, Chrysanthemum, Carnations, Fuchsia, garden peas, Gladiolus, Honeysuckle, Lemon balm, Lilac, Mint, Red bud, Saffron, Scarlet runner beans and Yucca.

List of Edible Flowers

[https://en.wikipedia.org/wiki/List\\_of\\_edible\\_flowers](https://en.wikipedia.org/wiki/List_of_edible_flowers)



# Meet a Master Gardener: Jennifer Moreland

By Laurie Cameron



Jennifer and her husband Doug bought a home in Village of Oak Creek in 2014. They were snowbirds for the first two years before locating here full time. They were seeking abundant sunshine and outdoor living. They certainly felt like they hit the jackpot on that; they love it here.

Both Jennifer and her husband have lived a rather nomadic life. They have had homes with gardens in Atlanta GA, Charleston SC, Fort Mill SC, Jackson WY and now here. Jennifer's gardens in Georgia and South Carolina were primarily ornamental with azaleas, camellias, gardenias, hibiscus, and periwinkle. Her favorite home in South Carolina had five mature live oak trees that were massively beautiful and attracted many squirrels and birds to the yard. As she moved from place to place, she always brought along her grandmother's ajuga with her. (Sadly, it didn't survive the move to Arizona.)

They retired to Jackson, Wyoming where Jennifer was able to spend more time and energy on her gardening interests. Located in the Teton Valley at an elevation of 6500 feet, the growing season was about thirteen weeks long at best. So, gardening was very challenging. Jennifer volunteered for four years at a biodynamic CSA farm, which introduced her to organic vegetable gardening. While there, she planted raised-bed gardens and started practicing composting. Her solution to long winter months was sprouting and growing microgreens.

When Jennifer and her husband bought their home in the Village of Oak Creek, it had an overgrown landscape and was dumping nine hundred gallons of city water every week through busted irrigation lines. They spent the first couple of years just removing overgrowth and digging up irrigation lines. To Jennifer and her husband, it seemed ethically unconscionable to have water-thirsty ornamentals in a desert. So, they began the process of xeriscaping the entire yard. They have replaced most of the ornamentals with native plants. Jennifer has been scattering wildflower seeds every monsoon season to create a native pollinator garden surrounding the house.

Also, during the first spring here, Jennifer dug in a

vegetable garden space and created her own garden soil through lasagna-style composting by layering cardboard, shredded newspapers, brown sycamore leaves then alfalfa pellets then horse manure then native soil. This ground bed has evolved into a perennial herb garden; she allows the herbs to flower and go to seed. So, every spring, she has an abundance of young herb sprouts in her meal plan as she thins out the seedlings. In addition, she has four large containers for vegetable crops. They practice crop rotation on a four-year basis to deter pests. She and her husband chose to not have fruit trees because of the water requirements and pest control.

Jennifer was in the 2016 MG Class at Yavapai College in Cottonwood. Betty Loos and Jan Billiam introduced her to the Master Gardener Program. They both were very enthusiastic about being part of the organization.

She decided to join the program because of her a deep interest in knowing how to garden in her own backyard. Betty, Jan, and Jennifer carpooled to the MG class together. They had a great time doing so. Jennifer became interested in continuing to volunteer as a Master Gardener as she learned more about the organization and its mission.

Before becoming the Master Gardener President for 2020, she was a member of the Camp Verde Help Desk and a Speakers Bureau presenter. Faun Vogel trained her on the Help Desk, and she is the ultimate organizer; she did such a great job in explaining everything. Jennifer learned so much from being part of the research team on the Help Desk; now she has a better understanding of all the resource material available to us. Tricia Michelson helped to get her running with the SB presentations and then she helped to transition the role and responsibilities of the President position. Jennifer appreciates them greatly.

In your view, what are the strengths of the MG program?

"Our best strength is how all Master Gardeners are willing to help each other out. We really have a fantastic team. There is so much knowledge to tap into within our group and everyone pitches in where needed."

Are there any areas that you think could be improved/strengthened?

"If I had one wish, it would be that we could somehow get more interaction and meaningful team building across the vast geographic area of Yavapai County. I am not sure how to make that happen just yet."



# Citizen Science Projects

by Nora Graf

As of now, the first week of July, the corona virus is raging across Arizona. As hard as it is we need to be careful and stay home as much as possible. I don't know about you, but it can be pretty boring and annoying to feel stuck home all the time. Since we are gardeners most of us can putter around outside at least in the mornings before the heat strikes but what do we do at 2pm when the temperature is crazy hot. Have you ever considered involving yourself in a citizen's science project? What is citizen science?

According to National Geographic:

**"Citizen science is the practice of public participation and collaboration in scientific research to increase scientific knowledge. Through citizen science, people share and contribute to data monitoring and collection programs. Usually this participation is done as an unpaid volunteer."**

**Collaboration in citizen science involves scientists and researchers working with the public. Community-based groups may generate ideas and engage with scientists for advice, leadership, and program coordination. Interested volunteers, amateur scientists, students, and educators may network and promote new ideas to advance our understanding of the world."**

(Ed. Note: Please note that projects are ever-changing. If you are interested go online and see what projects are open. You can use the links provided or do a search for Citizen Science projects. Add a discipline (ex: botany, history etc.) to do a more specific search. Make sure they are tied to a reputable organization.)

What it means is that you can participate in science-based projects inside or outside for that matter. There are a number of such programs. For example, there is this program from the American Association for the Advancement of Science:

**"Across the U.S., an estimated one billion specimens have been collected, many of which we are still learning about. For roughly two decades now, scientists have been faced with the monumental task of digitizing these samples, in order to make analyses easier and faster. To accelerate the digitizing process, Rob Guralnick, an Associate Curator at the Florida Museum, has rallied the public to help. He created an online platform for citizen scientists called Notes from Nature, which allows anyone to participate in the digitization process."**

**Participants help add to the Notes from Nature database by uploading photographs of the specimens and labeling them with useful data, such as where and where the specimen was found, and any other relevant information that's available. Anyone can do it. Find out more information at <https://www.zooniverse.org/organizations/md68135/notes-from-nature>**

**The Kaibab National Forest Citizen Science Project: This project will help to identify and document the biodiversity of the Kaibab National Forest in the calendar year 2017. (Ongoing, See the 2020 information at the link below) We invite forest staff and visitors to discover and report the plants and animals they see, and to contribute this information to improve our understanding of the abundance and distribution of species in the Kaibab NF. You might even find something new! Through this platform Kaibab National Forest biologists will help you identify your findings. We hope you enjoy your visit to the Kaibab National Forest and share your experience!**

<https://www.inaturalist.org/projects/kaibab-nf-2020-citizen-science-project>

The Smithsonian has a number of ongoing projects that you can help with. A real stay-in-the-house project is to select something from their transcription category. **"Become a Smithsonian Digital Volunteer and help us make historical documents and biodiversity data more accessible." Join 22,729 "volunteers" to add more to the total 582,445 pages of field notes, diaries, ledgers, logbooks, currency proof sheets, photo albums, manuscripts, biodiversity specimens' labels that have been collaboratively transcribed and reviewed since June 2013."**

These documents cover a wide range of topics. One of the current projects is transcribing the notes of Edward W. Nelson (1855-1934) who monitored weather in the Bering Strait, documented flora, fauna, and the indigenous people. There is another to help the US National Herbarium transcribe locality information for difficult US specimens. There are other categories of projects available. Because it is the Smithsonian the breadth of materials crosses all disciplines, art, science, social studies, history and so on. <https://www.si.edu/volunteer/citizenscience>

[https://www.smithsonianmag.com/science-nature/75-scientific-research-projects-you-can-contribute-online-180975050/?utm\\_source=gosmithsoniannewsletter&utm\\_medium=email&utm\\_campaign=202007-gosmith&spMailingID=42865345&spUserID=NzQwNDUzNDQ2MTES1&spJobID=1800163746&spReportId=MTgwMDE2Mzc0NgS2](https://www.smithsonianmag.com/science-nature/75-scientific-research-projects-you-can-contribute-online-180975050/?utm_source=gosmithsoniannewsletter&utm_medium=email&utm_campaign=202007-gosmith&spMailingID=42865345&spUserID=NzQwNDUzNDQ2MTES1&spJobID=1800163746&spReportId=MTgwMDE2Mzc0NgS2)

<https://www.citizenscience.gov/catalog/#>  
<https://www.nationalgeographic.org/idea/citizen-science-projects/>  
<https://www.sciencefriday.com/articles/citizen-science-month-science-friday/>



# Okra *Abelmoschus esculentus*

by Nora Graf



Okra is not a vegetable that generally comes to mind when gardeners gather together and start talking plants. It's not the vegetable people talk about when they talk

cooking. It lives on the fringes of people's awareness, but it has its fans. You can thank MG Judy Cowan for the inspiration for this article. She grows okra.

Okra is a member of the mallow family. You might be familiar with other members of the mallow family. They include hibiscus, hollyhocks, stock, cocoa, cotton and the marsh mallow (*Althaea officinalis*). And yes, it is the original source of that fluffy white confection, the marshmallow.

The origin of the plant is uncertain and its parentage is disputed. There doesn't seem to be any wild okra. Best guess is that it probably comes from West Africa, Ethiopia and South Asia. References to the plant appear in Egyptian and Moor history in the 12th and 13th century. The Arabian word for the plant was *bamya*. Okra has rich history spread over time and place. It first arrived in the Americas via Brazil with the slave ships in 1685. By the early 18th century it had traveled to southeastern North America. It is cultivated in warmer temperate areas, tropical and subtropical regions today.

Gumbo, the okra stew famous in the southern United States appears for the first time around 1805. Gumbo comes from a Louisiana Creole word, *gombo*, which in turn is derived from a Kimbundu word, *kingomo*. Gumbo came to refer to the dish, the pods and the plant over time. Other variants of the word gumbo show up in Portuguese, Spanish and Haitian languages.

Okra is a perennial that is mostly grown as an annual. It can grow up to six feet tall. The leaves are palmately lobed, long and broad. Flowers are cream-colored and large, between 2 and 3 inches in diameter. Petals of the flowers usually have a red or purple spot at the base. Once the flower is pollinated a long capsule forms, holding many seeds. The plant is one of the most heat- and drought-tolerant cultivated plants in the world. Plus, it doesn't mind heavy clay soils and intermittent water. Frost will damage the pods. In fact, it doesn't do well in excessive moisture or compacted soils.

Okra is a fast-grower producing fruit from 48 to 55 days after sprouting depending on the variety. Judy Cowan grows Louisiana Green Velvet variety because it is spineless and tender. Start the plants from seeds, planting 2 to 3 weeks after the last frost and at least three months before the first frost in the fall. You can speed things up by sprouting the seeds in damp paper towels inside. Space the seeds 2 inches apart and plant 1-inch deep. Rows of the plants should be at least 3 feet apart. Thin plants to one foot apart as they grow. Since the plant grows so large (there are some dwarf varieties available) make sure it doesn't shade other plants. While they can withstand dryer soil conditions, water evenly for the best yield. Fertilize after the first picking.

It's best to pick the pods when they are small and tender, at about 3 to 4 inches long. As the pods



mature the pods they get tough. It's best to pick every day. Removing the immature pods spurs the plant to continue blooming. Use a pair of sharp scissors or knife to harvest. If the stem is hard to cut through it probably means the pod

is past its prime for eating. At the end of the season or if you're just tired of picking, let the last pods mature and dry. The dried pods are nice in silk or dried flowered arrangements and wreaths. You can keep the okra in the refrigerator in a breathable plastic bag for a few days. If the pods start to darken use quickly or throw away.

No plant is free from pests and okra has its share. Among them are aphids, stink bugs and cabbage loopers. The stink bugs are the most difficult to control. Hand pick or if you must use a pesticide read the label on the bottles to find something that lists the pest you have.

Okra's biggest obstacle to becoming a popular vegetable is that it has a slime problem. Slime is an ugly word so the word you should be using is "mucilaginous". This characteristic develops when cooked. The thickening feature is the reason why marshmallows exist. It is made of sugar residues called exopolysaccharides and glycoproteins and when cooked create mucilage. It can be your friend as in gumbo where it helps thicken the dish. Another way to deal with it is to deep fry it. Because the slime appears as the heat rises, cooking it fast on high

heat helps slow-down that process. Pickling them is also a way to deter the slime. In its favor, okra is a tiny package with a big nutrient return. It is very high in fiber both soluble and insoluble.

The okra dishes most people are familiar with is gumbo. Gumbo is a catch-all phrase for a large number of similar but different dishes. This recipe is from [serious-eats.com](https://www.serious-eats.com) and is a Cajun Gumbo that contains the elements of a traditional gumbo. If you do a computer search for gumbo hundreds of different recipes come up, even some without okra. This can be a complicated dish that requires time to make. Roux, a mixture of oil and flour is especially important step. The addition of filé powder is also a standard ingredient found in gumbo. (Filé powder is made from the leaves of the sassafras tree. It can easily be ordered online at Penzey spices, Amazon and Walmart or check out shops that carry spices. Spice Traveler in Prescott, Mt. Hope in Cottonwood may have it.) The website version of this recipe has more explanations and lots of photographs to help you along. <https://www.serious-eats.com/recipes/2019/10/cajun-gumbo-with-chicken-and-andouille-recipe.html#recipe-wrapper>

1 cup plus 1 tablespoon (250ml) canola or vegetable oil, divided  
6 boneless, skinless chicken thighs (about 2 1/4 pounds; 1kg total)  
Kosher salt  
1 1/2 pounds Cajun-style andouille sausage (680g; about 8 links), sliced crosswise 1/2 inch thick  
1 cup all-purpose flour (4 1/2 ounces; 130g)  
2 large yellow onions (about 12 ounces; 340g each), cut into 1/4-inch dice  
2 green bell peppers (about 7 ounces; 200g each), cut into 1/4-inch dice  
4 large celery ribs (9 ounces; 260g total), cut into 1/4-inch dice  
8 medium cloves garlic, minced  
1/4 teaspoon cayenne pepper  
Freshly ground black pepper  
1 1/2 quarts (1.4L) homemade brown or white chicken stock or store-bought low-sodium chicken broth  
2 dried bay leaves  
2 large sprigs fresh thyme  
1 pound (450g) fresh okra, caps trimmed, pods cut crosswise 1/2 inch thick (optional; see note)  
1/2 teaspoon filé powder, plus more as needed for serving (optional; see note)  
Warm rice, thinly sliced scallions, and hot sauce, for serving.

In a large Dutch oven, heat 1 tablespoon (15ml) oil over medium-high heat until shimmering. Season chicken all over with salt. Working in batches, sear chicken until browned on both sides, about 5 minutes per side. Transfer chicken to a platter, then set aside until cool enough to handle. Once chicken has cooled, shred into bite-size pieces.

Add sliced andouille to pot and cook, stirring, until lightly browned, about 6 minutes. Using a slotted spoon, transfer to a platter and set aside.



Add remaining 1 cup (235ml) oil to Dutch oven along with flour, stirring to form a paste. Lower heat to medium-low and cook, stirring and scraping frequently, until roux is a chestnut or chocolate-brown color but not scorched, about 1 hour. Alternatively, you can combine the flour and 1 cup oil in a separate ovenproof vessel and cook, uncovered, in a 350°F (180°C) oven, stirring occasionally, until roux is chestnut or chocolate-brown, about 4 hours, though how long this will take can vary dramatically depending on your oven. You can add the finished oven roux to the pot on the stovetop after removing the sausage, then immediately proceed to the next step of sautéing the aromatics.

Add onion, bell pepper, and celery and season lightly with salt. Cook over medium-high heat, stirring and scraping until softened, about 10 minutes; lower heat to medium if any of the ingredients threaten to scorch. Stir in garlic, cayenne, and a generous amount of black pepper and cook, stirring, for 2 minutes longer.

Add stock, bay leaves, and thyme. Season lightly with salt. Bring to a gentle simmer, then allow to cook uncovered, stirring occasionally, for 1 hour. Add okra, if using, along with sausage and shredded chicken, and gently simmer, uncovered, for 1 hour longer. Skim any fat from the surface as it accumulates.

Remove from heat and add filé powder, if using, stirring well to break up any small lumps. Season stew with salt. Discard thyme sprigs and bay leaves.

Serve gumbo with warm rice, sprinkling sliced scallions on top of each bowl. Pass hot sauce at the table, as well as filé powder, if desired, to lightly shake on top of each serving of gumbo and rice.





## ***Congratulations***

*for completing your first 50 hours*

*Emily Hughes — mentor Alicia Williams*

## ***Covid-19 News***

UofA Cooperative Extension developed COVID-19 phased re-opening guidelines and Jeff will notify us when phase 1 begins. In the meantime the offices will remain closed. Whether or not we hold our October Recognition picnic will depend on what phase we are in at that time



Western Tanager stopping by for a visit at my house.

### **2020 Newsletter Deadline Schedule**

The newsletter comes out every two months. Please note the deadlines.

Publish	Date	Deadline
---------	------	----------

Feb-Mar	Feb 1	Articles Jan 5, announcements Jan 25
April-May	April 1	Articles March 5, announcements Mar 25
June-July	June 1	Articles May 5, announcements May 25
Aug-Sept	Aug 1	Articles July 5, announcements July 25
Oct-Nov	Oct 1	Articles Sept 5, announcements Sept 25
Dec-Jan	Dec 1	Articles Nov 5, announcements Nov 25

From the Editor: Send or email articles to the address below. Email is preferred. Please see schedule for deadlines.

Nora Graf

mesquite2@hotmail.com

PO Box 3652

Camp Verde, AZ 86322

928-567-6703

Jeff Schalau

County Director, Yavapai County

Extension Agent, Agriculture & Natural Resources

email: jschalau@cals.arizona.edu

Prescott Office

840 Rodeo Dr. Building C

Prescott, AZ 86305

928-445-6590

MG Help Desk 928-45-6590 ext 222

Camp Verde Office

2830 Commonwealth Dr #103.

Camp Verde, AZ 86322

928-554-8999

MG Help Desk 928-554-8992

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Associate Dean & Director, Extension & Economic Development, Division of Agriculture, Life and Veterinary Sciences, and Cooperative Extension, The University of Arizona.

The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or genetic information in its programs and activities.



Arizona Cooperative Extension  
Yavapai County  
840 Rodeo Dr. Building C  
Prescott, AZ 86305

## MG NEWSLETTER



## *Next Meetings*

No in-person meetings yet, but you can view online programs via Zoom and Youtube. The calendar is available on the Yavapai County Extension website. and watch for Mary Barnes emails with information on how to participate and watch.

**The August, September and November MGA meetings will be via Zoom; watch for emails from Mary Barnes.**