

# Yavapai Gardens

Master Gardener Newsletter

December 2017/January 2018



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## 2017, The End is Near

by Nora Graf



At the moment, it is near the end of October, just a few days before Halloween. There was a time when my garden would have been frozen into submission by now and I would be grateful that there would be a bit of a rest from all its chores for a while. Last year my first killing frost didn't come until mid-November. This year is shaping up for more of the same, the two- week forecast is

freeze-free at the moment. The sweet potatoes are still growing, along with the tomatoes and basil. I'm just trying to get the last few tomatoes to ripen. I am not a great fan of green tomatoes but with the days getting shorter and the nights cooler, tomato ripening has slowed to a crawl. (Finally froze around Nov. 19.) I did pull out a couple of plants that never did well and had no fruit. Overall my garden this year was ok. Not great, but just ok. Gardeners don't give up though, there is always next year and so I have planted garlic and am already anticipating a great harvest come May. In fact, I predict we will all have a great garden next year.

With the year nearly over and despite the lack of cold weather, it is time to thank all those that have helped me this year. My editors: Pam Bowman, Marilyn Perkins, Lisa Gerber, Mary Barnes and Laurie Cameron. As usual they have saved me from numerous blunders.

This year there have been a variety of contributors including Lori Dekker, Laurie Cameron, Steve McIntyre, Amanda Gagnon, Marti Griggs and Susan McClary. Special thanks to Bev Majerus for organizing all the efforts to get new articles written. I haven't thanked her enough for all the work she did this year keeping articles coming.

The staff of Yavapai County Cooperative Extension have always supported the newsletter. Special thanks to Jeff Schalau, Mary Barnes and Lisa Gerber, but everyone who works in the extension offices has always been wonderful. I think I missed a few people, especially those that provided photographs. I try to give the photographers credit when they send in pictures but going back through the old issues, I see I

missed some people. I'll try to do better next year and make sure you get the credit you deserve. Thanks most of all to the Master Gardeners. What a wonderful group of people to be able to work with.

December marks the time of year when the gardening slows down and we take extra time to spend with family and friends. Enjoy the end of the year because soon enough it will be time to get to work in the garden again.



## *Meet A Master Gardener – Lee Vadnais*

*by Amanda Gagnon*

Most people would argue that grandparents are special. For Lee Vadnais, grandparents are exceptionally important. Lee was raised by her grandparents in Northern Minnesota. "We always had a garden. I think I inherited my love of digging in the dirt and growing things from Gram," she explains. Lee's description of her grandmother's organic gardening techniques paints a vivid picture. "While I didn't understand it at the time, my Grandmother was an organic gardener. As a child I remember picking bugs off of plants and digging holes to "plant" kitchen scraps, and of course, after the season was over, burying all the dead plants." Fortunately, Gram's legacy in gardening was clearly passed onto Lee.

Lee has a great deal of experience gardening in many climates. As a military wife, Lee lived in 5 states and 2 countries. "This allowed me to be exposed to a variety of climates and growing conditions. Some of which I managed to conquer, but others, I didn't do very well." Like most gardeners, Lee has combatted physical and biological nuances in the garden. When she moved to the east side of Flagstaff in a grassland area known as Doney Park, she constantly battled the pervasive winds flowing through Schultz Pass, as well as the affectionate Gunnison's prairie dogs. Lee describes prairie dogs as "cute and fun to watch," but also "a thorn in every gardener's side."

When Lee "semi-retired" from Coconino Community College, where she served a stint as the Director of the Small Business Development Center and worked in Community and Corporate Training, she moved

to Cottonwood. Lee expected good things with gardening in the Verde Valley. "I thought it would be a breeze to garden. I was overly optimistic," she explains. Thankfully, she moved next door to a master gardener, Beverly Emerson, master gardener emeritus, who quickly became Lee's "go to" person for gardening questions. Beverly was very helpful and encouraged learning through science. After numerous questions were asked, Beverly coaxed Lee into taking the 2012 Master Gardener class. Lee enjoyed every minute of the class which gave her new insights in gardening. Thanks to what she learned in the class, Lee now harvests rainwater for use in her garden. "I had never considered saving water and was amazed at how one rainfall could provide so much." Lee also learned the importance of insect management. Since the class, she explains, "I try to be more aware. I don't want to kill good bugs." The class was very helpful, and Lee believes it would help other gardeners, too.

Lee no longer has a vegetable garden, though she enjoys her fruit trees which she harvests to make jams, jellies, and pies. Instead there's a tranquil ornamental garden which includes irises, roses, perennial flowers in



one section and in another succulent cacti and agave which she says are a "must have in this area." Lee spends her master gardener volunteer hours devoted to growing plants and helping with Monsoon Madness, the Master Gardener Association's largest annual fundraiser.

As a part-time online instructor, Lee stays very busy, and she is currently teaching three courses. In addition to teaching and gardening, Lee spends her down-time reading, knitting, crocheting, and oil painting.

I see Lee as a very interesting, intelligent and humble master gardener. She seemed a bit surprised when approached about featuring her in an article. "Why would you want to do an article about me?" she asked. But, as more layers were peeled back, I found an intriguing, hard-working professional with a plethora of gardening experience steeped in down-to-earth roots. Lee is precisely the kind of person the Master Gardener Association ought to know about. I think Lee's "Gram" would be awful proud of her.



# Rain Gardens

By Laurie Cameron



The cheapest and easiest method of storing rainwater is in your soil (under most conditions). When I purchased a house in Sedona, it was brand

new. Located on six tenths of an acre, nothing had been landscaped. I was determined to find the “best” gardening methods for the climate. Water was a critical factor in my calculations.

I was fortunate to attend a class at our local nursery about rainwater harvesting. The speaker presented various methods for storing rain water, including rain barrels, cisterns and ponds. Each of these methods has limitations, either in terms of capacity, installation and maintenance, and/or health considerations (e.g. mosquitos).

There was a fourth method: storing rainwater in the soil. Looking at the math, this method seemed the best of all choices. Using 1 inch of rain as an example, if your roof is 1000 square feet and you get 1 inch of rain, you will have 625 gallons of water coming off that roof. Just think if you could store all that water in your soil. And the cost? Just a little landscaping.

One method of capturing that rainwater involves contouring your land with berms and swales. The idea is to construct a series of swales on contour so that the rain collects in the swales and is absorbed into the ground. This method works well if you have some slope to your land. I did not. Despite what they say, that all land has some slope, the area where I would be creating my dream garden was flat. As a result, the water tended to collect, creating a muddy mess. So, I decided to build a rain garden. Advice in the literature on how to build one was pretty consistent (see references at end of article):

1. Place the garden at least 10 feet away from your home to prevent flooding in your house.
2. Do not locate the garden over a septic field.
3. Choose a naturally occurring low spot in your yard or position the garden where your

downspouts can be used to direct rainwater into your garden.

4. Choose a location in the sun, either full or partial.
5. Size your garden according to the quantity of rain you expect to capture.

In my case, I was able to meet the first four requirements and was left with the question of size. I planned to capture the rain off of my garage roof into a downspout, then direct the water via a dry creek to the rain garden. In Sedona, a severe rain event during the monsoon season can dump as much as 2 inches or more.

Now there are a lot of ways to calculate the size of the garden you need but here’s an easy rule of thumb: calculate the size of the roof with the runoff and build your garden equal to half that square footage. If your garden is four inches deep, it should be able to handle even the heaviest monsoon rain event. Just to be on the safe side, include an overflow drainage ditch.



I marked out the area, then hired manual labor (my son) to do the digging. I won’t lie, it was hard work. There were at least as many rocks as there was soil and they had to be removed. We used the rocks to make the dry creek from which the rainwater flowed off the roof.

When I finished the construction, I had a lot of unanswered questions. First and foremost, it was imperative to me that the water did not remain in the garden for more than 24 hours because of mosquitos. Second, what kind of plants could thrive in situations of occasional inundation and long dry spells and in a climate where temperatures range from 10 to 100 degrees?

My answer was found by addressing both these concerns: native bunchgrasses. Besides their aesthetic appeal, bunch grasses have ideal root structures for a rain







garden. These root systems have very dense fibrous networks especially in the upper three feet. The most actively growing parts of the root are the root hairs, which eagerly grow when fresh oxygen and moisture are present, then wither and die as the soil dries. As a result, they have tremendous absorptive capacity.



In addition, as the root hairs grow and die off, organic matter is released into the soil. Finally, their root systems are generally over 6 feet deep and some natives have roots 15 feet deep or more. Thus, they can survive extended dry periods.

This is all well and good, but would any old native grass do the trick? Would they all tolerate brief periods of inundation? When looking at grasses in the literature, you will find that most grasses prefer average *well-drained* soil. I based my selection on whether the grass tolerates clay soil.

Organic matter matters, of course. An article on the USDA website says organic matter can hold 10 to 1000 times more water and nutrients than the same amount of soil minerals. Several how-to articles on building a rain garden recommend incorporating compost into the soil and others recommended mulching. In my garden I opted for mulching not composting, as I was planting

native grasses.

Finally, equally as fun as experimenting with the native grasses in the rain garden, is the potential for an incredible diversity of plants along the edge, or the slopes of the garden where water is more readily available than your average garden patch, but the soil is *well-drained*. Here I planted a variety of salvias, rosemary, yarrow, and lavender.

#### References

#### Rain Harvesting into Soil Instead of Rainwater Barrel

<https://www.smilinggardener.com/lessons/rain-harvesting/>

#### How to Build a Rain Garden – Ten Steps

<http://www.raingardennetwork.com/how-to-build-a-rain-garden-in-10-steps/>

#### Arizona Rain Gardens

[https://cals.arizona.edu/backyards/sites/cals.arizona.edu/backyards/files/b09spring\\_pp9-10.pdf](https://cals.arizona.edu/backyards/sites/cals.arizona.edu/backyards/files/b09spring_pp9-10.pdf)

#### Field Guide for Rain Garden Care

[https://watershedmg.org/sites/default/files/documents/resource-guide-rain-garden\\_0.pdf](https://watershedmg.org/sites/default/files/documents/resource-guide-rain-garden_0.pdf)

#### Backyard Gardener: Rain Gardens

<https://cals.arizona.edu/yavapai/anr/hort/byg/archive/raingardens.html>





# *Demonstration Garden at the Yavapai County Extension Office, Camp Verde*

*By Laurie Cameron*

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It was Jeff Schalau's brainchild with help coordinating from Mary Barnes, to plant a demonstration garden with native plants in the small area in front of the Yavapai County Extension Office in Camp Verde. Mary provided the plant list and Leonard Filner drew up the plan.

The first order of business was to install a drip irrigation system. Since the area was small and irregularly shaped, they decided on a drip-line system with copper infused tubing and a battery-operated hose bib node controller. Leonard and Peter Malmgren installed it.

The plants were ordered from a local nursery. Jennifer Moreland pitched in with Leonard and Peter to plant the garden. The garden was planted at the end of August. Each plant is labeled with both the common name and the scientific name as follows:

- Apache Plume (*Falligia paradoxa*)
- Soap Yucca (*Yucca elata*)
- Arizona Sun (*Gaillardia aristata grandit*)
- Blue Gramma (*Bouteloua curtipendula*)
- Rocky Mountain Penstemon (*Penstemon strictus*)
- Firecracker Penstemon (*Penstemon eatonii*)
- Fendler's Sundrops (*Calylophus hartwegii*)
- Elija Blue (*Festuca glauca*)
- Little Bluestem (*Schizachyr scoparium*)
- El Toro (*Muhlenberg emmersleyi*)
- Black Dalea (*Dalea frutescens*)



# Plant containers – does size really matter?

This article is from the “Garden Professors” website

In their words: “We are university professors dedicated to translating scientific information for your gardens and landscapes. Be informed and entertained!”

<http://gardenprofessors.com/plant-containers-does-size-really-matter/>

They have a blog and Facebook page—both are interesting and provide good information on gardening. Don't forget to read the comments, a lot of interesting things show up there also.



A few days ago, I got a question from Cynthia about “potting up.” For those of you for whom this is an unknown phrase (and no, it's not a euphemism for a certain herbal activity), it refers to the practice of moving plants into ever larger containers. She was wondering if there was any “real science” behind the practice – in other words, why not just start out with a larger container?

Hah! I needed no further encouragement and spent several days collecting and reading decades' worth of research. And there is a LOT of research on this topic. As you might guess, it's geared towards production nurseries and greenhouses. But the good part is that it's been done on just about any kind of plant material you could want. Vegetables. Annuals. Perennials. Grasses. Shrubs. Native plants. Ornamental, fruit and forestry trees. Seeds, seedlings, cuttings, big plants, little plants. Ahhhhh...data! Almost without exception, you get better growth on plants grown in larger containers, whether you're measuring height, number of leaves, leaf area, stem diameter, shoot and root dry and fresh weights, whole plant dry and fresh weight...you get the idea. This isn't surprising, because with a larger root zone you can support more roots, which in turn support more above-ground growth.

The only parameters which tended to diverge for some species were flower and fruit production. Restricted roots can stimulate sexual reproduction in plants, possibly because poor growing conditions spur the plant to reproduce before it dies. Other drawbacks include increased probability of circling root systems, and higher ambient soil temperature, compared to plants in larger containers.

Smaller containers might be considered desirable when one is trying to limit above-ground growth – the “bonsai” effect.

And they require less water than larger containers – which brings us to the bottom line, as far as production nurseries

are concerned.

Larger containers take more space. And water. In at least one study, water costs were shown to be “prohibitive for larger container sizes.” Furthermore, smaller containers are preferred by production nurseries to “optimize production space.” Another economics-based study found that “the smaller of these was the more economical.”

But most of you probably aren't interested in the economics of plant production – you want to know what's best for your own container plants, whether they are houseplants or pots of herbs or punches of annual color on your patio. The science is clear: it's best to pot up plants in small containers quickly into their final destination, rather than making several (pointless) intermediate transplants.

LAUGH & LEARN, MUST WATCH Video!! Especially if you are a lover of poinsettias.

<https://www.youtube.com/watch?v=ug0PnXl1Ehc&feature=youtu.be>

These videos will show you what to do.

<https://www.youtube.com/watch?v=vDKXurIGgVw>

<https://www.youtube.com/watch?v=Usjszatg4QY>





# MG Announcements



## *Congratulations on completing 50 hours of volunteer service!*

*Bill Mains — Rich Peterson  
 Sue Poling — Diane Young  
 Bob Reynolds — John Baggenstos  
 Marji Kress — Janet Schieber  
 Georgia Manderscheid — Nancy Gibson  
 Roberta Pelayo — Ann Baugh  
 Linda Rachel — Elizabeth Sexton  
 Anne Temte — Karen Austermilller  
 Karen Thon — Tricia Michelson  
 Cathy DeGroot — Kathy Sisley*

### Year End Reporting

Please submit receipts for reimbursements and information on talks you have not yet reported to Tricia Michelson by mid-December. Volunteer and Continuing Education hours for 2017 should be reported by the end of December.



### **2017 Newsletter Deadline Schedule**

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

Publish	Date	Deadline
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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.

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MG NEWSLETTER



## *Next Meetings*

Jan 17, Camp Verde, 6:30pm. Speakers: Stephen & Cindy Scott from Terrior Seeds/Underwood Gardens.

There is construction on Hwy 260 and access to the courthouse has been changed. It is well marked and there is a stoplight at the turn. Just be careful as traffic can be heavy at times.

February 21, Prescott