



# GROUNDDED

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Grant-Adams Master Gardeners

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Grant-Adams Counties Master Gardeners, 1525 E. Wheeler Road, Moses Lake, WA 98837  
<http://county.wsu.edu/grant-adams/Pages/default.aspx> · [ga.mgvolunteers@wsu.edu](mailto:ga.mgvolunteers@wsu.edu)

**Editor's Note:** Open enrollment in classes to become a certified Master Gardener is now available, with training offered this fall both online and in person. WSU Master Gardeners serve our rural and urban communities in Grant-Adams Counties by volunteering their time to diagnose gardening problems and educate home gardeners on best horticultural and gardening practices. Anyone interested in expanding their knowledge of sustainable gardening while volunteering to educate the public can get an application form from the WSU Grant County Extension Office at 1525 E Wheeler Road, Moses Lake, or from the [ga.mgvolunteers@wsu.edu](mailto:ga.mgvolunteers@wsu.edu) website. Applications are due by August 1, 2022. New Master Gardener training begins in late August.

## INSIDE THIS ISSUE

*The following two articles are testimonials about the successes, challenges and advantages of being a WSU Master Gardener.*

Old Dogs Learn New Tricks

### Old Dogs Do Learn New Tricks . . . by Duane Pitts

Master Gardener Program Expands Knowledge

Little did I know that becoming a WSU Master Gardener was just the beginning of my knowledge about gardening! Retired from teaching, I did not expect the adventures of becoming a life-long learner in gardening too. It has been an interesting journey, to say the least.

ML Demonstration Garden Looks the Best in Years

Among my first journeys as a volunteer Master Gardener (MG), I helped answer gardening questions at the Moses Lake Farmers Market. I quickly discovered how little I knew and that without my mentor's help and handy books as references, I would have been up the proverbial creek! Veteran MG Barbara Guiland guided me through the Q&A process so that clients and I would know the answers to questions.

Planting Trees and Shrubs in June

I clearly recall one gardener's question at the Farmer's Market that took me some time to find an answer: how to grow a Linden tree from seed and how to know which seeds would germinate. I was stumped! Totally! He said he would be back the next week, during which time I researched until I found answers. Linden tree seeds take up to two years to germinate, and viable seeds are discovered by dumping seeds into a bucket of water. Seeds that float are not going to grow. Wow! I was amazed that seeds could take that long to germinate, much less that floating seeds will not produce.

Learning About Native Plants

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Another journey took me to the Washington State University (WSU) experimental orchard station near Wenatchee for an MG field trip. There, WSU horticulturalists grow a variety of apple trees to determine which ones will produce and taste the best. I had no idea that WSU grow trees to help apple growers. I got to taste what would later become the Honey Crisp. It was absolutely delicious. I could tell why growers would want to invest in

this tree. And I got to take a few fallen, bruised Honey Crisps home that day. Working with the Garden Club in Soap Lake and going to the Dry Falls Visitor Center at Coulee City were delightful trips for me as well. MG Mark Amara and I gave members of the Garden Club our assessment of their flower garden and confirmed for them what was needed. Mark and I also helped the Dry Falls State Park Interpretive Specialist identify native plants at the Dry Falls Visitor Center. We dug holes to sample soil depths, described soil characteristics, and gave the manager information he needed to go forward with his vision of a native plant garden for visitors.



Straw bale with potatoes 2 years ago. Photo credit: Duane Pitts

Another on-going journey has been doing research for clients and writing articles for the quarterly Grant-Adams Master Gardener newsletter *Grounded*. The learning curve has been great in many topics. I always thought that goats did eat tin cans, but they don't. They eat about everything else though. Straw bale gardening was new to me, but I tried it in my garden three years ago and, amazingly, it worked.



My berry patch: 10-foot by 60-foot in the "Back 40". Photo credit: Duane Pitts

As for learning about berries and other garden crops, I expanded from having blackberries in the vegetable garden to making a separate 10- by 60-foot berry patch enclosed in a critter-proof fence and covering. This area houses strawberries, thornless blackberries, gooseberries, raspberries,

blueberries, huckleberries, jostaberries, black currants, with a few tomatoes in grow boxes (another experiment), eggplants, and hot peppers, yams and potatoes as well as a small herb garden with lemon balm and sage. The thorny blackberries I grow on the back property line are for the birds.

I also learned that forests do move - about 6 miles north a year by seed dispersion to avoid some of the heat associated with climate change. Trees also protect each other, which was new to me.



Wasp beetle Photo: bugguide.net

The critters that live near me are fascinating to watch. Rock chucks emerge in late April or early May and hibernate by the end of August or early September. Quail live in small family groups during the spring and summer, but in the fall and winter they gather in a larger covey of around 100 quail. I feed the quail on our property during the winter, as food is scarce for them. Jerusalem crickets do live in this area, and irises come in 100s of different types and sizes!



Jerusalem cricket Photo: bugguide.net)

Identifying two insects were two of the most intriguing clinic research diagnoses I have done. One was finally confirmed as a Jerusalem cricket, though I had to research several bug guides before I discovered what this huge insect was. The second was a homeowner's inquiry about a wasp or wasp beetle. It turned out to be a long-horned wasp beetle. This beetle feeds on dead wood, so it poses no concerns for homeowners and does not sting - it just looks like it could. It mimics a real wasp to protect it from predators. Smart insect.

All this is just the tip of the iceberg, so to speak, about my journey in learning about plants and animal life as a Master Gardener. Plants and animals are smart in their adaptations to living in a desert-like environment. I have one fig tree that has just begun to leaf out when I thought it would die. The more I learn, the more I am amazed at how little I actually know. This old dog is learning new tricks all the time!

### **Master Gardener Program Expands Knowledge . . . By Glenn Martin**

Being a volunteer in the Grant-Adams Master Gardener Program has expanded my universe. The more I have participated in the MG program activities and educational offerings over the years, the more I realize there is always so much more to learn.

I had been a backyard gardener for a number of years. Now, by incorporating all I've learned from other MGs and training through these past few years, I have more tools in my garden knowledge tool kit, and the quality of my garden is much improved. I've added many perennials, fruit trees, rhubarb, asparagus, and various berries (including trying my hand at growing blueberries). My soil, which I used to till every year, had become hard packed, but now I have incorporated no till gardening, to prevent spreading quackgrass and destroying important soil microorganisms. I've also added leaves and lawn clippings as a mulch for my garden and wood chips as a mulch for my orchard. As a result, my soil quality and garden productivity have both improved. I've learned how to manage weeds, differentiate between beneficial bugs and pests, and incorporate plant nutrition into my garden and yard to keep everything healthy.

I've also learned how to research gardening problems to find effective science-based solutions using the many resources available to the Master Gardeners through WSU Extension, such as Pestsense, Hortsense, many informative WSU bulletins on home gardening, and our quarterly newsletter *Grounded* as well as consulting with knowledgeable fellow MGs. I volunteer at the Quincy MG plant clinic during the summer, working with the public to address their gardening issues, and at the MG online clinic that is available to answer gardeners' questions year-round. I've learned from the clients during this volunteer activity at these clinics, telling me how they're doing with their gardening, and I provide educational information to help them with their problems. It's a win-win. And it's very satisfying to me to give back to the community and help them be self-sufficient in growing healthy foods and providing for themselves.

### **Demonstration Garden Looks the Best in Years . . . by Mark Amara**

Under the leadership of Barbara Guiland and Cynthia Calbick, the Master Gardener demo gardens at the Moses Lake Public Library have been wonderfully transformed through time. The gardens, which consist of both a native plant section and a drought-tolerant section, were established about 12 years ago in a cooperative effort between the WSU Grant-Adams Master Gardeners and the City of Moses Lake. The gardens offer examples of practical plant options that the public can consider in improving their own yards in rural or urban landscapes.

Many plants thrived and continue to mature though some could not adapt to our changing climate, human or animal impacts. Over the few years, a number of new grasses, woody and flowering shrubs have been added. Many of the young new additions were encouraged with individualized weekly watering sessions. The gardens have been extensively weeded and pruned. A new sign replaced one that had faded and was

improved with more current information about the gardens. Additions of bark and gravel have helped to revitalize it.

This spring, in an ongoing effort to continue to improve the gardens, MGs Barbara Guiland, Diane Escure, Glenn Martin and Mark Amara met with Susan Schweisow, City of Moses Lake Parks and Recreation and Cultural Director, and Bill Aukett, Parks Superintendent, to strategize on ways to reduce vandalism and maintain the integrity of the gardens. A free pamphlet developed by the Master Gardeners is available in the library to introduce people to the wide variety of plants that do well here, many of which can be found in the gardens.

The gardens have stood the test of time and continue to show the wide range of options that work well in our environment as landscape covers, pollinators, habitat, ornamental or food for humans and wildlife. The gardens continue to be a work in progress.



Barbara Guiland has been a standout leader in keeping the gardens maintained in top form and encouraging volunteers on tasks vital in improving it. Photo: Mark Amara



Others like Duane Pitts, Tina Bradley, Mark Amara, and community volunteer, Louis Logan have spent countless hours making improvements. Photo: Mark Amara



Spring flowers, May 2022, in the Moses Lake Demonstration Garden show off some of the diversity in vegetation. Photo credit: Barbara Guiland

## Planting Shrubs and Trees in June . . . by Diane Escure

Adding well-placed shrubs and shade trees to your landscape has many benefits. Not only can they add value to your home by providing screen breaks, a beautiful backdrop, and sound barrier, but they can also help the environment. Well-placed shrubs and trees can provide shade, reducing home cooling costs and remove carbon dioxide from the environment.

Although fall is an optimum time to plant trees and shrubs because of the cooler days and nights and reduced need for water, our cool spring and below normal temperatures forecast for the rest of June gives us a small window of opportunity to plant them successfully this month. Here are some common problems that can affect your success in growing healthy plants and planting tips to ensure their survivability.

Problem	Solution
<p><b>Planting Too Deep</b></p> <ul style="list-style-type: none"> <li>Planting holes should be wide and only deep enough to accommodate the root ball. If they're planted in deep holes, they can settle lower than the soil line after planting and watering.</li> </ul>	<ul style="list-style-type: none"> <li>Dig a saucer-shaped planting hole no deeper than the root mass, but deep enough so that the bottom of the root mass rests on the bottom of the hole when the top of the root collar is slightly above the soil line.</li> </ul>
<p><b>Balled &amp; Burlapped Plants</b></p> <ul style="list-style-type: none"> <li>Plastic twine is often used to tie up the root ball, and the burlap wrapped around it is treated with copper to keep it from rotting in the nursery. These materials don't rot quickly, especially in arid regions.</li> </ul>	<ul style="list-style-type: none"> <li>Once a tree or shrub is placed in the planting hole, remove the twine and burlap. Leaving part of the treated burlap can interfere with water movement and hinder root growth.</li> </ul>
<p><b>Dense Root Mass</b></p> <ul style="list-style-type: none"> <li>Some plants develop dense masses of fibrous roots that grow around and encircle the edges of the container. Root-bound plants may fail to grow out into the surrounding soil, limiting access to available water and soil nutrients.</li> <li>Others have coarse woody roots that circle the periphery of the root ball, and over time will grow in diameter and can girdle or strangle the plant.</li> <li>Others have kinked roots that are sharply bent, restricting the movement of water and nutrients.</li> </ul>	<ul style="list-style-type: none"> <li>When you remove a tree or shrub from a container, gently loosen the potting medium, teasing and straightening the roots out of the mass.</li> <li>Longer roots can be cut off.</li> <li>Watering the plant thoroughly before removing it from the pot makes this easier.</li> <li>If the root mass is too dense for teasing with your fingers, use a sharp knife to make 4-8 shallow vertical slices from the top of the root mass to the bottom, cutting through any woody circling roots. Then loosen the cut roots and spread them away from the container. Avoid doing this during hot weather.</li> </ul>
<p><b>Staking Plants</b></p> <ul style="list-style-type: none"> <li>Research shows that trees do better if not staked. Stake only when necessary, driving two stakes into firm ground parallel to the ground and lined perpendicular to the prevailing wind. Remove stakes as soon as the plant is firmly anchored.</li> </ul>	<ul style="list-style-type: none"> <li>Trees establish more quickly, develop more roots and thicker stronger trunks without staking.</li> </ul>
<p><b>Fertilizing Newly Planted Trees and Shrubs</b></p> <ul style="list-style-type: none"> <li>Fertilizer should not be added to the backfill soil.</li> </ul>	<ul style="list-style-type: none"> <li>Slow-release fertilizers can be applied to the soil surface at planting following manufacturer's instructions. Avoid quick-release water-soluble nitrogen. It can easily leach out of the plant's root zone and may damage the roots.</li> </ul>

Finally, watering newly planted trees and shrubs is important for them to develop new roots to support canopy growth. Regular irrigation is especially critical during the summer months. To check, use a trowel or shovel to carefully dig down and make certain that the root ball and surrounding soil are moist. When planting, construct a temporary soil berm around the periphery of the planting hole to help direct water towards the roots.

**References**

Planting Trees and Shrubs in the Landscape, Washington State University Extension Fact Sheet FS047E. [www.pnwmg.org/wp-content/uploads/2021/09/FS047E-Planting-TreesShrubs.pdf](http://www.pnwmg.org/wp-content/uploads/2021/09/FS047E-Planting-TreesShrubs.pdf)

What's Next for the Pacific Northwest, Office of the Washington State Climatologist Climate Outlook <https://climate.washington.edu/outlook>

## Learning About Locally Adapted Native Plants . . . *By Mark Amara*

This spring 2022, several Master Gardeners spent time at the nursery production farm owned and operated by BFI Native Seeds outside of Warden, Washington. One of the owners, Matt Benson, and Linda Duran, Forb Manager, led a small group on a tour of the operation.



Matt Benson, co-owner of BFI Native Seeds, Moses Lake and Warden, Washington, explains the intricacies of the operation.

Though most of the farm's focus is on growing seeds, grass, forbs and shrub plants for large-scale habitat restoration projects on state and federal lands throughout the west, less promoted is its effort to provide surplus plants to the public. The farm grows mostly grasses and forbs and herbaceous non-woody plants, although it also propagates a few woody plants like bitterbrush, sagebrush and rabbitbrush.

Master Gardeners work with urban and rural non-commercial yards and gardens, making plant recommendations to the public using science-based research. Since many of the plants grown at this farm are adapted to our climate, the tour was an opportunity to see what does well here since plant recommendations can change with time.

During this tour, the group viewed greenhouses where the seed production starts and looked at some of the 200,000 plugs grown on the site that are set out in 4 ci (cubic inch) and 10 ci cannisters. An additional highlight of the tour was to view the myriad field plots grown on a larger-scale basis for the farm's customers.



Matt Benson and Linda Duran described the process to grow the plants to our group. The picture on the left shows off some of the thousands of sagebrush shrub plugs being grown on site.



Hundreds of plots illustrated some of the variety of flowering plants and grasses being grown. The left picture is balsam root while the right picture shows Lewis flax. Photo credits: Mark Amara

## Improving Biodiversity in Perennial Crops . . . by Mark Amara

Washington State University (WSU) and University of California (UC) Cooperative Extension researchers have been looking at ways to create and maintain biodiversity in organic perennial systems with a focus on tree fruits.

In early June 2022, David Granatstein, WSU Emeritus Sustainable Agricultural Specialist, Wenatchee, and Mae Culumber, Nut Crops Farm Advisor, UC Cooperative Extension, Fresno County, CA, presented a Zoom webinar with ideas and results of research about commercial production systems in eastern Washington and California. Those same principles have applications for improving biodiversity for small growers and backyard gardeners. The Washington part of the research summary presentations were particularly applicable to central Washington.

Commercial organic fruit growers and small-time orchards are looking at creating and enhancing biodiversity practically for the good of the crop and the environment. What is good for large producers might also be good for us backyard gardeners because the same principles apply to large and small operations. Crop rotations are the preferred way to improve biodiversity where annual crops are grown. Rotations tend to improve soil quality, organic matter, soil fertility, provide erosion control and help prevent crop pests. However, where perennial crops are present, other methods are being considered.

Rather than leaving no growth in the tree row, at row ends, between rows, or outside rows, farmers can add appropriate vegetation that can go a long way to producing healthier, more productive crops. These methods include planting cover crops or living mulches between rows and in the tree rows, intercropping, and planting hedgerows or plantings at row ends. All these methods have potential benefits to control pests and suppress diseases, improve nutrient recycling and can also be used as rodent repellents with the appropriate plantings.

These methods can support many kinds of biodiversity. Below ground, there are roots, microbes, mycorrhizae, nematodes, and insects benefit; and above ground, pollen, nectar, habitat, and positive changes to microclimates, to name a few. Rather than having bare soil between trees or between rows of trees, which requires keeping them weed free with herbicides and may require that nutrients and pesticides be applied more often, planting unplanted areas can provide good erosion control, provide nutrients, and even repel rodents. Multispecies mixes, or a mix of legumes and other annuals or perennial flowering plants like a trefoil insectary mix, are recommended over single species.

Legumes like clover and peas can supply nitrogen between rows. Or, using multispecies flowering strips that include sweet alyssum can be effective in aphid control. In some places where there is more than one row, mowing and blowing green matter into the tree row can also provide nitrogen benefits. Research in Wenatchee tested species for weed suppression, rodent repellency and competition with trees. Using a cover crop like sweet woodruff in the Wenatchee area orchards showed rodents were repelled. Planting hedgerows adjacent to tree fruits or as borders can provide pest suppression and habitat for beneficial insects and birds. Gardeners take note because these management methods can also be applied to local yards and gardens.

#### **Additional resources which support the results above:**

Testing species for weed suppression, rodent repellency, and competition  
<https://tfrec.cahnrs.wsu.edu/organicag/tree-fruit/orchard-floor-management/>

Living mulch

<http://www.domino-coreorganic.eu/> PLUS Youtube webinar on findings:  
<https://www.youtube.com/playlist?list=PLijBqairkUaAOPEFvoBgfU4UkGZbRe21>

Hedgerows

[https://www.rcdmonterey.org/images/docs/publications/CAPFF\\_Hedgerow\\_Manual\\_2018.pdf](https://www.rcdmonterey.org/images/docs/publications/CAPFF_Hedgerow_Manual_2018.pdf)

Alternating plantings

<http://permacultureapprentice.com/here-is-how-you-make-a-living-from-a-4-acre-permaculture-orchard/>

Contact information: David Granastein, Tree Fruit Research and Extension Center, Washington State University, 1100 N Western Ave., Wenatchee, WA [granats@wsu.edu](mailto:granats@wsu.edu).

## **Announcements**

Master Gardeners fully expected to hold their annual May plant sale this past May at the Moses Lake Farmers Market. It did not happen because a large greenhouse that we hoped would be available for starting seeds/growing plants for the sale was not ready for our use earlier in the year. Our goal is to have access to it in the fall and, for sure, hold our annual plant sale next year.

Due to the COVID pandemic, the annual Eco-Gardening Symposium, a free spring event provided to educate the public on sustainable gardening practices co-sponsored by the WSU Master Gardeners of Grant-Adams Counties and the Grant County Conservation District, has not been held since April 2019. The Master Gardener symposium committee is partnering with Grant County Conservation District (changing its name soon to Columbia Basin Conservation District) and plans to hold this symposium once again in 2023. Stay tuned for more information about it next spring.

The Grant-Adams Counties WSU Master Gardeners Program leaders are gearing up for the new Master Gardener training starting in August 2022. We need at least 10 applicants, so if you are interested, please go to the Grant-Adams Master Gardener website and download an application form or come to the Quincy or Moses Lake Farmers Markets where our Master Gardener volunteers can get you copies of the application. The deadline is fast approaching. To find out more, contact us at [ga.mgvolunteers@wsu.edu](mailto:ga.mgvolunteers@wsu.edu) or visit with us at either of the two Farmers Markets below. We are happy to explain more about our training and the many benefits for our participants.

## Plant Clinic Schedule

- B Street SE Market, Saturdays through September from 9 AM - 1 PM, Quincy
- Moses Lake Farmers Market, Saturdays from 8 AM - 1 PM, McCosh Park, Moses Lake

### Grant-Adams Counties Foundation Officers

Glenn Martin, President, 509-699-8466  
Barbara Guillard, Vice President, 509-765-3912  
Diane Escure, Treasurer, 509-289-6022  
Mark Amara, Secretary, 509-760-7859  
Duane Pitts, At Large, 509-988-0284

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Mark Amara  
Diane Escure  
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Kris Nesse