

A Quarterly publication of WSUE 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

Join the Grant-Adams Master Gardener Program

	If you're interested in learning more about sustainable gardening practices and care of the environment, this fall the Grant-Adams Master Gardeners are offering training to become a Washington State University (WSU) Extension Master Gardener volunteer.		
INSIDE THIS ISSUE Become a Master Gardener Master Gardeners Host	Our program might be just right for you if you want to expand your gardening knowledge, meet new people, and make a difference in the community. We can provide the knowledge and understanding to help you learn about science- based research and approaches to solve yard and garden challenges that matter to you, your friends, and neighbors and also benefit your community.		
Social Event in Moses Lake Garden Plants Need Shade	WSU Master Gardener volunteers are a diverse group of individuals. We have a wide range of ages, skills, interests, and backgrounds. But the one thing we all have in common is the desire to share gardening knowledge and experience with other gardeners. We are the go-to resources for the community seeking research-based, innovative gardening solutions. And we are committed to the stewardship and sustainability of our natural resources in the Columbia Basin.		
Ollas in Eastern Washington			
ML Demo Garden	Some of the techniques you will learn during the Master Gardener training program are how to:		
Reading Seed Packets	 Create resilient landscapes that are adapted to our changing climate and ways to reduce risk of loss due to wildfires. 		
Growing Sweet Potatoes	 Use integrated pest management to minimize runoff, reduce leaching, and provide options to controlling all kinds of pests. 		
Drought Declared Statewide	 Use water-wise gardening and landscaping practices to conserve water. Build healthy soils to prevent loss and degradation and ensure the long-term viability of local food security and natural resources. Help native bees and other pollinators thrive in home and community landscapes. Use sustainable techniques for growing local food to improve individual and community health and wellness. 		

The Requirements:

Applicants must be at least 18 years of age, have access to email and a computer, and pass a federal background check. A program orientation meeting will be held the last week in August, and then the actual training begins.

The Application Process:

Becoming a WSU Extension Master Gardener is enjoyable and rewarding. To start the process, those interested need to complete and submit an application form and then pass a background check. A program orientation meeting will be held the last week in August, and then the actual training begins.

The Training:

WSU Extension Master Gardener training is offered online through WSU as well as in person. Online training walks trainees through lessons on topics like botany, soils, food gardening, plant diseases, and entomology. The in-person training is hands-on and teaches trainees how to apply what is learned online to real world situations that WSU Extension Master Gardener volunteers may encounter.

Certified Master Gardener mentors will be assigned to each trainee to guide them through the training process and answer any questions. The training fee is \$199, which includes online and in-person training, a downloadable copy of the Master Gardener Manual, and a background check.

The Internship:

After successfully completing the online and in-person training and successfully passing online tests, students become interns starting in January 2025. Interns volunteer alongside certified WSU Extension Master Gardeners during the year to further develop their knowledge and skills to become comfortable working as community educators and participating in our varied programs. At a minimum, interns must volunteer at least 50 hours during 2025 to earn WSU Extension Master Gardener certification.

The Commitment:

Then, once interns become certified WSU Extension Master Gardeners, they volunteer each year at least 25 hours of approved time and earn at least 10 hours of continuing education to maintain their Master Gardener certification. At the end of each year, if minimum requirements have been met to maintain certification, the continued commitment is confirmed for the following year by submitting a simple reapplication form. There is no fee for the yearly reapplication.

If you're interested in this program, please go to <u>ga.mgvolunteers@wsu.edu</u> to request an application form or to <u>https://extension.wsu.edu/grant/gardening/master_gardeners/</u> and scroll down to Become a Master Gardener, download the application form and fill it out.

You can email your completed application to <u>ga.mgvolunteers@wsu.edu.</u> Or, mail or hand-deliver your application in person to the Master Gardener Program at the WSU Grant Extension, 1525 E. Wheeler Road, Moses Lake, WA. The deadline to submit your application is **July 31, 2024**.

Upcoming Master Gardener Social Event Saturday, June 29

The Grant-Adams Master Gardeners are inviting the public to a special meet and greet social event on Saturday, June 29, from 2 to 3:30 pm at the Columbia Basin Conservation District (903 W. Third St., Moses Lake) to talk with our local Master Gardeners, learn more about our program, what we do in the community, and the benefits of becoming a Master Gardener.



The event is free, and light refreshments will be served.

Garden Plants Need Shade Too . . . By Duane Pitts

Yes, garden plants, like trees and shrubs, do suffer from heat stress.

With the brutal summer heat that is common here in eastern Washington, even plants that are labeled "heat tolerant" do not like it as hot as it gets in the Columbia Basin. Watering frequently can help to a point, but then the plants shut down their photosynthesis processes and eventually die if the heat persists regardless

of how much water is added. Olla watering or drip irrigation also have their limits with heat - plants will shut down when the heat rises, period!

So, what's a gardener to do? Consider using shade cloth to cool your plants.

What's shade cloth, you ask? Well, a shade cloth blocks a percentage of direct sunlight and allows cooler air in to keep plants from stressing out. As an added plus, the cloth also allows water to penetrate - good to know that when it rains, you do NOT have to remove the cloth.



30% shade cloth tented over plants. Photo credit: Chamberland and Filer

Gardening shade cloth will block out a percentage of sunlight to protect

your plants. I use a 50% shade cloth, which means it blocks out 50% of the sunlight. I cover the top of my berry patch cage, which is 10 ft wide by 60 ft long by 10 ft high. When I walk into the berry patch during a hot summer day, I instantly feel the cool air. If it is 101°F outside, it feels like the low 80s inside. You may not want to block a high percentage of sunlight if your shade cloth is closer to the plants.



Regular tulle fabric over garden plants Photo credit: Chamberland and Filer

The chart to the right will give you an idea of what you might need. Usually, a 30% or 40% shade cloth (or tulle fabric) does the job for a smaller garden than mine in our area (cold climate in winter). Chart Source: Tull.

Plant Type	Hotter Regions	Cold Climates
Tomatoes	40%	20-30%
Lettuce & Salad Greens	40-50%	30%
Squash	40%	20-30%
Peppers	30%	20-30%
Ferns	90%	70-85%
Orchids	90%	70-85%
Other Flowers	60%	50%
Spinach	40-50%	30%

Shade cloth can protect your garden, fruit trees, and other plants from brutal heat. A great thing about shade cloth is that you can put it over the top of a greenhouse (large or small), tunnel arches (high or low) over the plants, raised beds - and, most people's favorite, in-ground gardens.

Enjoy the hot summer. Keep cool. And keep your garden cool, too. Your plants will show their appreciation come harvest.

Explanation of Terms:

*Tulle fabric is a soft, light, fine netting fabric made from man-made fibers (like nylon and polyester) or natural fibers (like silk or rayon). It has an open hexagonal mesh or net-like structure.

**Apparently, Tull's use of "hotter regions" refers to the South and the Southwest and "colder regions label," to the North, Mid-West, and PNW. Tull does not explain what she meant by these two terms. Since we are in the Columbia Basin, our summers are very hot and our winters nowadays are cold, but milder than they used to be. So, I used the "cold regions" designation.

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Ollas Even in Eastern Washington . . . By Duane Pitts

People have used the olla (pronounced "oy-ya" and is Spanish for "clay pot") in gardens for over 4,000 years. And, with the climate crisis hot on our heels, ollas can help you save water in your garden. In fact, you can save up to 60-70% on the water needed for an olla watering system over the water needed for irrigation and sprinklers. Using less water during our hot summers makes sense and saves on water waste (and may save you money because you are watering less).

The olla is an unglazed and unpainted terracotta pot that allows water to slowly soak

into the surrounding soil. The plants around the olla will absorb nearly 100% of the

water. No water is wasted to evaporate into the air or in a run-off when you want



Olla. Photo credit: artofit.org



Olla buried in plant pot. Photo credit: blogspot.com

You can purchase ollas from a variety of places, but you can also make your own. If you have a plain clay pot, plug the hole in the bottom with putty or food-grade silicone. After giving the putty or silicone a day or two to set, dig a hole where you want the olla and bury it - but leave about 2 inches of the top of the olla above ground. Fill the olla with water up to the point where the top extends above the soil.

Then, invert a terracotta saucer or set a kitchen saucer over the top of the olla to keep the water from evaporating. The water will slowly seep out through the clay pot's pores.



Terra cotta saucer placed over the top of olla. Photo credit: gracegritsgarden.com

Until the roots grow long enough and find the water, you will have to do some watering by hand. It may be best to give plants about 3-4 weeks for the roots to grow sufficiently. Once they find the water, the roots will enjoy a consistent water supply for a long time.

Knowing where to bury the olla is based on the distance between your garden plants and the size of the olla. From a 4-inch olla, water will seep out to 8 inches around the olla. For an 8-inch olla, water will seep out to about 16 inches around the olla.

If you are looking at a drip-irrigation system, the olla is equal to or slightly superior to a drip-irrigation system

because the olla reduces evaporation to almost 100%. Much will depend on the

size of your garden and how much time you have for watering. The olla will



Lid placed over olla. Photo credit: farmersalmanc.com

take more work during the first 3-4 weeks of use and less thereafter. A dripirrigation takes less of your time, and if you set this system on an automatic timer, even less of your time will be needed.

Do ollas have any drawbacks? Keep in mind, all watering systems have drawbacks. For the olla, other than your time, yes. For the olla, salts and minerals in the water can eventually clog the pores in the clay pots, and you will have to replace them. One major drawback is forgetting to check the water level in the olla and letting it go dry.

However, do not let these three drawbacks stop you from trying at least one olla (homemade or purchased) in your garden this summer. You might just surprise yourself and like this ancient technique of saving water in the desert.

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Moses Lake Demo Garden Shines After Major Facelift . . . By Mark Amara

Four dedicated Master Gardeners (Bobbie Bodenman, Mary Love, Don McGraw, and Mark Amara) assisted by members of the community Margaret Amara, Joel Bodenman, Louis Logan and a couple of willing unidentified homeless volunteers worked tirelessly for many, many hours at the Moses Lake Master Gardener demonstration gardens this spring. It took days of work to fill dozens of large black bags and 5-gallon buckets to remove weeds, prune woody shrubs and trees and take out dead plants, and even plant new plants. Volunteers tested and reprogrammed the irrigation system and repaired holes in the drip tubing that waters the drought tolerant garden.

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The native plant garden is not irrigated. Master Gardeners have placed individual signs in the gardens to identify the names of many of the plants there. A leaflet is available in the library for those who would like more information about types of plants and what they look like.

After weeding and pruning, volunteers also hauled two yards of bark mulch (the equivalent of two pickup truck loads) and a yard of rock mulch (two pickup truck loads) hauled from Basin Bark Landscape Supply Company in



Mary Love spreads bark mulch in the drought tolerant garden

Moses Lake and spread them at the gardens to help reduce weeds, conserve moisture, and beautify the spaces at the Drought Tolerant and Native Plant Gardens. A newly minted drought tolerant summer sign replaced the winter sign, providing orientation on plants for the public at the gardens. The demonstration gardens are located at the Moses Lake Public Library (418 E. 5th Avenue).



Mary Love and Don McGraw shovel bark mulch from Mark's truck into buckets





Native plant garden in bloom with a new layer of rounded pea gravel



Drought tolerant garden with a thick cover of bark mulch

Bobbie Bodenman spreads bark mulch in the drought tolerant garden.

Seed Packets— Learn the basics in how to read them . . . By Diane Escure

There is still time to plant 2024 flower, vegetable, and herb seeds for the season, and seed packets contain quite a bit of useful information to help you be successful in growing them. So, here's an overview of what to look for.



First, look at the front of a seed packet. Many packets provide a picture of the plant, the plant's common name as well as its Latin name, and a brief description of it, often letting you know if it's easy to grow. If no Latin name is given, be aware that several different plants use the same common name. For instance, purple coneflower (*Echinacea* species) and prairie coneflower (*Ratibida* columnifera) use the same common name but may not be exactly what you were hoping to grow.

Either on the front of the packet or on the back, flower packets will tell you if they are sun lovers or if they do better grown in full or partial shade. They also

indicate whether they are annuals, which means they'll grow profusely for only one season, or they're perennials, which means they will continue to grow year after year. So, if you're looking for a spot of color in your front border and decide to grow some marigolds, which are annuals, you will need to replant them each year. You'll also see on the front of seed packets the weight of the seeds inside the packet, for example, 750 g (grams) or 300 mg (milligrams), and occasionally the number of seeds to a packet, which helps you know if one packet is enough for the area you want to plant.

Then, look at the back side of the seed packet where you'll find a description of the plant, its height when fully grown, the number of days it takes to germinate the seeds, the number of days until it blooms or is harvested, how deep to plant the seeds, and how far apart to space them. It may also include thinning tips once the plant has reached a certain height to ensure each plant has optimal room to grow.



Some packets also give special growing tips and let you know whether to sow the seeds directly in the ground outdoors or start them in containers indoors so many weeks before the last spring frost, or let you choose either option. May 6th is our average last spring frost date in Adams County and May 20th, in Grant County, according to the WSU Extension Office. So simply count the weeks listed on the seed packet back from the approximate median frost date, and you'll know the optimal time to start your seeds from a specific packet indoors. Not often listed is the first frost date, which tells you how long some plants will survive during a growing season into the fall. Keep in mind that frost dates are *mean* freeze dates. This means there is a 50% chance of a freeze on that date. It is not a guarantee, but only an assessment of probability.

Here are some other terms that you may find on a seed packet (excerpted from WSU Extension Office, Community Horticulture Fact Sheet #17, "Saving Seeds from Heirloom and Other Vegetables" by Elaine Anderson):

Heirloom: means these seeds produce varieties that have been around for 50 years or more, even centuries. They are open-pollinated, which means they're pollinated by wind or insects. They generally have characteristics that are stable and reliably reproduce similar plants the following year. So, if you harvest your seeds from your heirlooms, you can replant them the next year and get similar results, as long as cross pollination is prevented. Cross pollination may occur if you plant different heirloom varieties of the same plant, say corn, near one another, or your neighbor next door has planted a different heirloom variety from yours.

Crops that normally cross pollinate include all members of the brassica family: cabbage, broccoli, mustards, collards, kale, kohlrabi, cauliflower, turnips, radishes, and Brussels sprouts; the cucurbit family: zucchini and other summer squash, winter squash, pumpkins, cucumbers, and melons; carrots, parsnips, beets, chard, spinach, and corn.

Hybrids: are created by careful cross pollination of two different varieties, with each possessing desirable characteristics. Unlike heirlooms, seeds from hybrids rarely produce like the parents, so they are not suitable for saving. They are often tough, vigorous, uniform, and productive plants. The traits of vegetable hybrids are important to commercial growers because they are bred for uniform time of maturity, ability to withstand machine harvest, and good post-harvest storage. Taste may not be the highest priority. Often hybrids have the designation F1 with their name. If the seed packet doesn't indicate that it's a hybrid, you can assume it is open pollinated.

Don't forget to look at the date stamped on each seed packet, for example, USA 12/24, which means it was packaged in the US in December for the 2024 season. For the best success rate for germination, use seeds that were prepared for the current year. Have some seeds you didn't get around to planting from last year? While some seeds will have a low germination rate from the previous year, here's a chart listing vegetable seed longevity and a seed test provided by Holly S. Kennell, WSU Extension Agent from King County, in an article from "Gardening in Western Washington."

If you keep your seeds cool and dry, they will last longer, but can you be sure that they are still good? If they are, you can save yourself some money. Before you buy your new seed, do a germination test on any seeds more than just one year old. Here's what to do:

- 1. Put exactly ten seeds on top of a damp, folded paper towel.
- 2. Put the towel and seeds into a plastic sandwich bag and seal.
- 3. Label the container with the date and seed variety being tested.
- 4. Leave at room temperature for a week or so. (Leave parsley, carrot and celery longer; they're slow.)
- 5. Count the number of seeds that sprout:
 - a. 10 = 100% or perfect germination
 - b. 9 = 90% or excellent
 - c. 8 = 80% or good
 - d. 6-7 = 60-70% or poor -- sow more thickly
 - e. 5 or less = 50% or less -- throw the seed out!

Don't forget that the Ephrata Library also has a selection of flower, vegetable and seed packets for you to check out for free. You can grow the plants and save some of the seeds at harvest to return to the library for others to select from in the following year.

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Growing Sweet Potatoes in Eastern Washington . . . By Mark Amara

I found some interesting facts about sweet potatoes that laid the groundwork for experimenting with them. The earliest sweet potatoes were discovered in Peruvian caves and spread from South America to Oceania before western exploration, eventually making their way to Europe. The sweet potato is ranked seventh in food production worldwide behind wheat, rice, maize, potato, barley, and cassava.

1-2 years:	3-4 years:	5-6 years:
corn onions and leeks parsley parsnips peppers	asparagus beans and peas beets cabbage family carrots eggplant squash and pumpkins tomatoes	cucumbers lettuce melons spinach

We don't usually see many sweet potatoes grown in Washington because they need warmer climates. The majority of commercial varieties are grown in the southern states of North Carolina, Arkansas, Florida, Mississippi but also as far west as the California heat. WSU scientists have been studying their growing habits and have determined they may have a place here in Washington too.

The reason for the hesitancy in growing them in Washington is that the sweet potato needs a very long growing season, and the longer daylight hours in the heat of the summer is essential to helping them mature. In western Washington where sweet potatoes have been experimented with, black plastic has been used successfully. Our growing conditions in eastern Washington are warmer, and so growing may be optimized in the eastern Washington desert without plastic. Of note is the requirement that soil temperatures are in the 50° to 65°F range prior to planting and the tuber requires 90-120 frost free days to mature. Where sweet potato trials have been experimented with in Mt. Vernon in western Washington, yields have been better than those conducted in the southern U. S., so they appear to be a promising rotational crop.

The sweet potato does not fit the typical type of planting scenario like other potato tubers because it technically is part of the morning glory family. Starts are planted using slips that sprout from sweet potato storage roots.

Slips can be made on a small or large scale. This is the first time I have tried this, so I used a couple of varieties of tubers to create 20-40 slips per tuber. My experiment involves three kinds of sweet potatoes: Yagi and Charleston organic sweet potatoes, which I started in March and purchased in Spokane. I also purchased certified organic Muraski slips coming from the east coast, which came in early June. All three varieties are red to purple skinned on the outside. Yagi and Charleston are purple on the inside, while Murasaki has a white interior color. It is interesting to note that sweet potatoes are loaded with nutrients and antioxidants like Vitamin A, B6 Vitamin C, potassium and fiber.

I laid the tubers horizontally a few inches apart in planting trays with organic potting mix, initially using a heating mat, and watered them faithfully, keeping them warm and in the sun. It took about six weeks for any sprouts to form but once they did, some grew to over a foot tall. This was not the end of the process.



Potatoes were planted in organic potting soil and watered



Once the slips grew out, I cut them below the growth nodes about $\frac{1}{2}$ inch

above the storage root on their stems. Although they can be planted after cutting since the soil was not yet warm enough, I put them into glasses of water where they grew roots for 2-3 weeks prior to planting. Since the soil needs to be quite warm, I waited until the soil was warmer to plant.

Tuber development is apparently critical in the first 4 weeks after planting because this is a major phase of development and helps to determine later plant growth and yield. WSU experimentation has shown that applying copious amounts of nitrogen of up to



Once the vines were tall enough, I cut many of them and put them into glass jars of water to allow them to root

Roots began forming in a couple of weeks

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100 lb/acre may be needed for commercial production. Undoubtedly, significantly less nitrogen can be applied for us home gardeners.

I am planting now and hope for the best because it takes at least 100 days until maturity. Hopefully, by fall I will have sweet potatoes to harvest!

Photo credits: All photographs taken by Mark Amara

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Drought Conditions Are Statewide . . . By Mark Amara

Spring and summer-like weather are upon us and almost all of Washington State is experiencing drought. As of mid-April 2024, the state's low snowpack and forecasts for a dry and warm spring and summer have created conditions that the Washington State Department of Ecology (DOE) has declared a drought emergency with exceptions of the Seattle, Everett and Tacoma metro areas.

Despite some improvement in snowpack during February, March, and April, the overall water supply remains insufficient due to dry forecasts. Anticipating a drought means the state is encouraging all types of water users to address potential impacts on water, watersheds, and emergency water transfers.



Climate change is altering our winters, with less snow and more rain, affecting farmers, fish, and large and small communities. According to Derek Sandison, Director of the Washington State Department of Agriculture, snowpack, rainfall, and irrigation flows from major rivers are playing crucial roles in sustaining our communities and supporting agriculture. With drought conditions a foregone conclusion, it is important to incorporate some kind of drought planning into water management strategies across the state.

What all this means is that the forecasted runoff continues to be

below the state's "statutory" threshold for drought. The threshold is met when an area receives less than 75% of the normal water supply and there could be a risk of undue hardship for water users and the environment. Streamflow forecasts are provided by the National Weather Service (NWS) and the Natural Resources Conservation Service (NRCS) and consider data for precipitation, soil moisture and other factors.

DOE is continuing to monitor water supplies and encourages people to use water wisely (including water users in Grant and Adams Counties that are more dependent on wells).

Stream flows and reservoir levels in some areas are far below normal, with forecasts indicating little likelihood that conditions will improve. These conditions are leading to undue hardship for water users, including small community water systems and farmers.

The areas in the drought emergency area include key agriculture areas that are very dependent on stream flows and reservoir releases. They also include regions where communities are facing low surface and groundwater availability. At least two water systems in Clallam and Whatcom County are already trucking in water to meet their needs.

Smaller water systems and private landowners who rely on shallow wells should monitor their water levels and be prepared to reduce pumping. Conditions can vary significantly, depending on the depth and location of your wells.

Water users worried that their water supply is at risk of failing should contact regional DOE offices. The impacts of low water flows also affect fish and other species. Kelly Susewind, Director of the Washington Department of Fish and Wildlife (WDFW), is concerned that the low snowpack and potentially lower water flows will affect both people and wildlife. From WDFW's standpoint, efforts are underway to mitigate drought impacts on fish, wildlife, and their habitats.

Here in Grant-Adams Counties, many irrigators rely on water from the Columbia Basin Irrigation Project and are not as dependent on stream flows and snowpack as in other counties or rural areas in the state. However, anyone who uses water from Crab Creek, lakes, springs or from wells will certainly be affected by reduced water availability. Water use can be reduced by monitoring moisture to help determine optimum watering frequency for those with wells or outside city limits. All of us might want to consider planting native or drought tolerant plants to replace lawn or other plants that are often high-water users. Since we live in a desert, making adjustments of this nature to better coincide with the changing climate should be part of a call to action and ways to conserve this previous resource.

Announcements:

- Plant clinics are held at the Moses Lake Farmers Market every third Saturday through October, 8-1 pm in McCosh Park though questions can always be directed to Master Gardeners who may be present there on any Saturday.
- A plant clinic will be held at the Grant County Fair, August 13-17, 2024, in the Agriculture Building, 12 noon 4 pm.
- Grant-Adams Master Gardeners will host a free gardening social event for the public at the Columbia Basin Conservation District (903 W. Third Avenue) on Saturday, June 29, from 2 to 3:30 pm. Anyone interested in learning about the Master Gardener program and how to join it are welcome to attend. Light refreshments will be provided.

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