GROUNDED

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Preparing Your Garden for Winter . . . *By Iris Fung*

The leaves all around are turning brilliant hues of oranges, reds and yellows this time of year. The air is getting cool and crisp, and the amount of daylight is getting shorter. Now that it is fall, it's time to prepare your garden for the colder seasons. Here are some tips to help you ready your landscape for winter:

To cut back or not?

Once everything starts to die back with the first killing frost, the garden can become unsightly. It is important to pull up annual flower and vegetable plants and do a final weeding. If there are infected plants, diseases or insects can overwinter in the soil and then come back next year. Throw out any plants that may carry disease, insects or weed seeds. Plants that don't seem to be infected can be composted in a separate pile to recycle nutrients. Dig and store dahlia tubers, canna rhizomes, and gladiolus corms since they are not hardy in our area.

Perennials should also be cut back to tidy up. However, reserving some vegetation is beneficial to wildlife and beneficial insects. Leaving some foliage will provide natural foraging and shelter for wildlife. Lavender, Russian sage, and ornamental grasses with seed heads are some examples that can be left until spring to prune. Ornamental grasses and ground covers make excellent burrowing habitat for ladybugs, lacewings, bees, and wasps. Even common garden plants can provide fruits and seeds for wildlife when food is scarce in the winter. Leaving dandelions or clover in the lawn can provide a little bit more nectar for bees.

Shrubs, roses, and deciduous trees should not be pruned until late winter or early spring. Waiting to prune until the last of the dormant season will prevent dieback and disease since growth on new wounds are more susceptible to damage in colder weather. In addition, the foliage kept during winter can provide shelter and food for wildlife. Leaves and branches that have already dropped should be raked up from the ground, composted, and reused to improve soil.

Inside This Issue

Watering

Iris in the fall. Leave chrysanthemums until spring. Photo: B. Guilland

Sufficient watering during the fall months is crucial for perennials, trees (especially evergreens), and shrubs as the water absorbed will be stored in reserve for uptake during winter. Even in cold months, plants continue to lose water through a process called *transpiration*, where moisture is released from leaves. Moisture cannot be easily replaced if the water is frozen in the ground, unavailable to the roots. Thus, watering is important to keep plants hydrated during winter seasons, especially for younger trees and shrubs.

Covering up

This is a good time to add additional topsoil, straw, mulched leaves, and compost in garden beds. In addition to increasing the organic matter and nutrients to the garden, the mulching adds extra insulation the plants need to overwinter. Strawberries, rhubarb, horse radish, and asparagus are perennial vegetables that would benefit from mulch. Your garden doesn't have to close up shop!

Leaves removed from lawn before last mowing can be mulch for perennials. Photo: B. Guilland

Many garden vegetables will winter over if you plan ahead. Just because there isn't enough warmth and sun for peppers, tomatoes, corn, and melons doesn't mean some plants can't grow during the colder season! Consider short-seasoned and cooler weather crops, such as peas, carrots, spinach, kale, parsley, lettuce, arugula, cabbage, broccoli, green onions, and radishes to replace those summer crops. These crops actually taste better with a frost-over. Be advised that these crops must be sown in late summer/early fall for them to mature enough before it gets too cold.

If there is enough spare space in the garden, consider planting winter cover crops. They are typically cereal or legume plants that can act as cover and help amend soils before spring planting. Specifically, cover crops can hold soils during heavy wind and rain, suppress weeds by competing for space to grow, and provide additional organic material and nutrients. They are considered a "green manure" when tilled back into the soil. Legumes have specialized roots that capture nitrogen from the atmosphere back into soil which then can be reused in the next crop rotation. Winter-hardy cover crops such as cereal rye, winter wheat, winter oats, winter triticale, and Austrian winter peas can be planted through October or even later before the ground freezes (see next article for details on cover crops).

Be prepared to use extra tools to protect plants from high winds and freezing temperatures. Materials such as burlap sacks, landscape fabric, plastic sheets, and even milk jugs can be used to create makeshift garden covers or cloches to help protect and insulate plants from the wind and frost. Consider also where to plant; plants placed in unexposed south-facing slopes are ideal because these locations will offer more sun and heat and avoid colder air.

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Build Better Soils Using Cover Crops . . . *By Mark Amara*

Anyone who gardens should consider planting cover crops whenever the ground is bare between crops. Cover crops provide weed control and (wind and/or water) erosion control. They shade the soil, and their residues protect the ground surface if left standing, mowed, flailed, crimped, or tilled into the soil. As they grow, cover crops can break up compacted layers, improve soil structure, recycle nutrients, take up excess fertilizer, help reduce weed pressures, and control-soil borne diseases and insects including nematodes. As cover crops mature, their flowers and pollen help attract beneficial insects to the garden. When cover crops are incorporated into the ground as green manures, they add nutrients and organic matter to the soil. Since soils in the Columbia Basin are naturally nutrient poor and lack organic matter that helps maintain fertility, planting annual or perennial cover crops can be of great benefit.

Cover crops are divided into perennials, planted for year-round cover, and annuals, for partial year or seasonal coverage. Though perennial cover crops take longer to become established, having year-round grasses and/or legumes between trees and shrubs or garden rows does help control weeds and reduce erosion. Planting short-season varieties of grass and grain seems to be a common method in the Columbia Basin as they come up quickly and cover the ground fast, put down extensive root systems, can capture unused nitrogen in the soil, and can be replanted over and over. Cover crops are mowed or tilled into the soil close to or at seeding time of your main crops to reduce spreading of the cover crop and to prevent depletion of nutrients from the soil by the cover crop.

Some gardeners plant cover crops in the fall to provide winter growth while others plant them in spring, summer, and/or fall. The reasons for planting vary with the gardener, species planted, and expected benefits. Legumes (preferably planted by coating the seed with an inoculant) are natural choices to add nitrogen to the soil. Grasses are a good choice to help compete with weeds. Mixes can increase biodiversity, but dominant species tend to suppress other plants in a mix. Planting a legume and a grain at the same time could each provide complementary benefits: one adds nitrogen while the other adds biomass. Both monocultures and polyculture plantings provide some benefits. Almost any cover crop provides some benefits so gardeners can try one or the other or both using some experimentation to find treatments that work.

Austrian winter peas. Photo: Mark Amara

Examples of annual grasses and grains that thrive in our area include winter wheat, triticale, oats, barley, and annual ryegrass. Recommended annual legumes include vetches, clovers, Austrian winter pea, and fava bean (though planting this later in the season provides limited benefits since it winterkills). Additional cover crops are restricted to frost free periods, typically planted in late spring and summer, and include buckwheat, yellow mustard, sorghum-Sudan grass, and millet.

Buckwheat. Photo: Mark Amara

Columbia Basin soils in Grant and Adams Counties are most susceptible to wind erosion due to high winds that seem to coincide with tillage methods used and times of the year that the ground is worked and/or harvested. Our critical wind erosion periods are in the spring and fall. Grant and Adams Counties have light-

textured soils consisting mainly of sandy loams, sands, or silt loams that have a high tendency to blow if left unprotected. Alternatively, if there is excessive rain or too much irrigation on unprotected soils, there will be erosion (runoff or washing) or leaching of essential nutrients, fertilizers, and chemicals.

Columbia Basin soils are naturally low in organic matter, typically with less than 1% in the top foot of topsoil. Whatever gardeners can do to add beneficial vegetal material is good for the soil to help deter erosion, improve tilth, control weeds, and build a healthier biodiverse ecosystem. Adding organic matter in this way is not a one-time fix – it should be done annually to maintain or improve soil tilth. Cover crops go a long way to providing these benefits.

Check out the sources below for seeding rates, availability, planting dates, species, and further justifications.

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Potato Growing Experiment Post Harvest Results . . . *By Duane Pitts*

Before September 2020 ended, I quit watering the two potato plots planted next to each other. The first was planted directly in the ground while the second was planted into straw bales. I dug up and cleaned the dirt potatoes on October 3rd. The variety Rose Finn Apple fingerling potatoes came from six hills and weighed 18 pounds.

The real test came when the straw bale potatoes were ready. They were covered up, over and down by acorn squash vines, which had apparently escaped from another part of the garden. I had to wait for the first frost before I removed the vines and could dig out the fingerling potatoes from under the straw.

A spotty frost hit the squash on October 16. It took most of the day to remove the squash vines that were so entangled with the potatoes, blackberries, eggplants, and fence! I piled up the 49 acorn squash in three separate stacks and was amazed by the yield. When I last counted at the end of September, there were only 31 squash! Now, on to the rest of the potato harvest story.

Before clearing the vines

On Saturday, October 17, I gleefully pulled out the rotted straw in clumps and retrieved 12 pounds of Rose Finn Apple fingerling potatoes. I was disappointed with 12 pounds! What a bummer. I had hoped for 18 pounds or more.

Then it dawned on me. I started with the most rotted bale – it had decreased in height by half and that is where I found 10 pounds of potatoes. My heart raced as I tore into the straw in the second bale, which had barely rotted. A few handfuls of potatoes! Twelve pounds total for all that work! Well, I had potatoes and I had straw mulch for the garden. Though the yield was not great, it was less work, with fewer weeds, good quality mulch to use elsewhere and seemingly happy potatoes.

Pulling out spuds

Why one bale rotted on schedule and the other dilly-dallied around, I have no clue. Nothing in the literature even hints at such a problem. I watered them both the same, fertilized both the same, pulled out the very few weeds I found. The acorn squash vines covered them both about the same.

Rotted straw for the garden

Will I have a straw bale garden spot in the spring? You bet. Now that I know my neighbor grows yams, I will try yams in one bale and potatoes in another. I might have a third for herbs -- rosemary, thyme, basil. As much as I like gardening, I'd rather keep my hands cleaner with the straw bales.

Photos: Duane Pitts

Digging potatoes

Uncovered Potatoes

Bucket of Potatoes

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When is a Bulb not a Bulb? When it is a tuber, a corm, or a rhizome . . . *By Barbara Guilland*

"May we be good to plants and flowers. May we take fine care of the places where they grow. Earth won't have to shake and flood and burn so fiercely then. The world will be more wide-awake and tuneful, a place where children - all beings - can bloom." -Maggie Streincrohn Davis, *Glory! To the Flowers*

After reading a confusing article in the local newspaper about flowers that bloom in the spring that also apparently were planted in the spring, I began a little research of perennial plant catalogs to find some reason for the skewed information I had read in the newspaper. What I found was that the catalogs can give the impression that all plant roots are bulbs. Non-gardeners would have a very hard time creating a garden full of spring blooming flowers if they tried to follow the directions implied in the article. The tendency to simplify, to call every plant root a bulb causes chaos. The new gardener needs to read beyond the headlines and the selling points catalogs are making. All bulbs are not the same. There is a reason to know the name of the plant and the variety of the plant. There is a reason to know the parts of the plants. Knowing the name of the plant and the name of the part of the plant that is put in the ground leads to knowing when to plant it and when to dig it up to keep it from freezing. The Columbia Basin is in 5-6 USDA plant hardiness zones. In these zones, some plant bulbs must be removed from the soil and stored for the winter months to prevent freezing.

Timing is everything. There are hardy bulbs that are planted in the fall and there are bulbs that are planted in the spring. And gardeners learn to know the difference. The planting methods, timing, and care are defined by the hardiness and growth patterns of the plants. Different families of bulbs are treated differently.

Most tulip, daffodil, crocus (a corm), and hyacinth bulbs begin blooming in the spring. These tulip, daffodil, crocus, and hyacinth bulbs are usually planted in the fall. They need the cold soil temperature in order to bloom. They are almost all hardy in our zones, which means we do not have to dig them in the fall. They become perennials, meaning we can leave them in the ground to multiply for several years.

Grape hyacinth and daffodil
Photo: B Guilland

Many, many plants are called lilies (think daylilies and Hostas) but are not. However, most true lily bulbs (species *lilium)* are planted in early spring because most of them bloom in early and mid-summer depending upon the variety. Because they are acclimated to northern hemispheres, most lily bulbs can be treated as perennials in our area. That is, they bloom for several years before they need to be taken from the ground and divided or replaced.

Most begonia bulbs are not perennial. Begonia bulbs are called tubers, as are dahlia and canna bulbs. Almost no one leaves them in the ground in the Central Basin because they require a higher hardiness zone—9 to 11. Begonia tubers must be taken in before frost. They are replanted in the spring or new ones are purchased.

The gladiolus bulb is called a corm. It is a summer-blooming bulb. It is truly wonderful to grow if you like long-lasting cut flowers. You can begin planting the corms in the spring and have blooms all summer by staggering plantings until mid-July. However, most varieties of gladioli are not winter hardy in most parts of our area. Their hardiness zones are 7-9, although they can sometimes be wintered over under a heavy layer of mulch.

Finally, iris roots are not always referred to as bulbs, but as rhizomes, and like all the plants mentioned above, come in a wonderful variety (there are over 300 species) that will give color through the summer. Bearded iris are rhizomes. They are prominent in our area because they are winter hardy and bring spectacular late May-early June color. But Japanese and Siberian (non-bearded) iris are called bulbs. They are also very hardy and give interesting and lasting blooms throughout the summer. They can be planted in the fall or the spring.

"Star gazer" Oriental lilies. Photo: B. Guilland

The Columbia Basin is a wonderful place to garden and it is full of good gardeners. We love gardening here because there are so many natural benefits— moderate weather, plenty of sunshine, access to good water, and for the most part, fertile soil. As gardeners we have to apply a lot of attention and hard work to our gardens. Many are justifiably proud of them and are happy to help others learn what every good gardener does learn—the plant, its parts, and what it needs-- to give us all, gardener or not, those glorious blooms throughout the year.

Bearded Iris "Wenatchee Blue" Photo: B. Guilland

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Fond Farewell to a Veteran Master Gardener

Master Gardeners volunteer many hours of their time each year to educate the public about sustainable horticultural practices while continuing to take at least 10 hours of education classes to keep abreast of science-based research. This year we are saying a fond goodbye to Mary Lou Hobson, a Master Gardener with the Grant-Adams Master Gardener program since 2007, who is retiring from the program. Her favorite memories while participating as a Master Gardener are taking field trips and classes with the Master Gardeners, working on plantings at the Othello animal rescue facility, and attending the annual Eco-Symposiums, co-sponsored by the Grant County Conservation District and the Master Gardeners of Grant-Adams Counties. Her fellow Master Gardeners wish Marylou the best as she moves on to issues and projects at home and to practicing the gardening that gives her the most pleasure.

Mary Lou Hobson. Photo: Barbara Guilland

Mary Lou has enjoyed gardening all her life, including raising vegetables in a 100- x 100-ft plot in her yard, that is bordered by roses and cotoneasters. She has also planted more than 50 varieties of iris in her yard and has plans next year to plant a 30-foot row of strawberries. One of her favorite plants is a reddish-colored crocosmia, an early spring flowering bulb with reddish flowers on slender stems. She is also fond of her blackberry lilies, which is a summer-flowering perennial that grows to 2-3 feet in sun or light shade. The plant features yellow or orange flowers with silver green leaves. Late in the year the flowers become seed pods resembling blackberries. They are drought tolerant once established.

Crocosmia, montbretia, is a small genus of flowering plants in the iris family, Iridaceae. It is native to the grasslands of southern and eastern Africa, ranging from South Africa to Sudan. One species is endemic to Madagascar. Photo: Wikipedia

Blackberry Lily (Bellacanda chinesis). Photo: University of Florida Master Gardener Volunteer Program

Reference:

https://gardeningsolutions.ifas.ufl.edu/plants/ornamentals/blackberry-lily.html

Plant Your Spring Garden NOW! . . . *By Terry Rice and Duane Pitts*

It is fall and winter is coming: cold, snow, ice. But it is time to plant a spring garden. And it's okay to get your hands in the soil at this time of year. Let us explain.

Many seeds need at least 90 days of cold to germinate. Instead of using your refrigerator to cold stratify your seeds during fall and winter (we mean, do you really have the refrigerator room for stratifying?), plant those seeds outside. Here's how.

NEEDS: Use **November** to set up the planting containers. You will need the following:

- clear plastic jugs or translucent milk jugs without caps
- a sharp knife
- a permanent marker and plastic tags
- duct tape (any color you want)
- planting or potting soil

DECISION TIME: You have TWO CHOICES for sowing the seeds:

- From **December to March,** you can sow seeds and add water to prepared jugs according to the **SOW TIME ONE** list (see list at the end of this article) of sowing at different times during this 4-month period.
- OR you can sow all the seeds in **DECEMBER**! Check **SOW TIME TWO (**see list at the end of this article**).** Just remember to water occasionally during the winter. If you want to be done with one preparation, this is it and you still get your hands in the soil long before spring. What a bonus!

PREPARE planters you want for your garden. Set them aside until you are ready to sow the seeds.

- Make 4 slits at the bottom of the jug for drainage.
- Cut around the jug at least 4" from the bottom, but do NOT sever the handle. The handle will be the hinge to open and close the planter.

Photo by Duane Pitts

- Put 3" of soil in the jug. Soil with a time-release fertilizer is okay. Don't pack down the soil.

SOWING the seed is easy. The smaller the seed, the more you can sow in the jug.

- Water the soil so it is damp but not dripping wet.
- Scatter wildflower seed on top, add a thin soil layer, pat soil gently to stick to the seed. Plant 4-9 tree or shrub seeds equidistant apart in the jug. With flowering Japanese quince seed, sow 9 seeds in a tic-tac-toe pattern. If you sow linden seeds, 4 seeds placed equidistant apart will do.
- Write name of the plant seed on a plastic tag. Stick in soil, inside the jug, by the hinge/handle.
- Put 1 strip of duct tape (about 3-4" long) vertically over each seam on the 3 cut sides of the jug to keep the top half of the jug from flapping in the winter winds.
- Take off the cap for ventilation.

Photos by Terry Rice

SET the jugs in the garden. Let the rain blow, watch the snow drift down, let the sleet build up. Oh, and protect the jugs from the wind. You can place them in plastic boxes that have drainage slits in the bottom or place them between heaped rows of garden soil or between raised beds to keep winter winds from tipping them over.

SOW TIME ONE. If you choose to space out the sowing between December and March, set out the jugs of winter-sown seeds based on how many cold days the seeds need and count back from the last frost date for your area. In Moses Lake, that is between May 5-15. Err on the side of caution – use the latest date of last frost -- and, bingo, you have the date to set out the jugs.

Photo by Terry Rice

- After December 21 (Winter Solstice), set out tree, shrub, and woody vine seeds.
- Starting in late January, set out the jugs of perennial and biennial seeds.
- In mid-February or early March, set out the jugs of cold-hardy vegetable seeds, hardy perennials and annuals.
- Early in March, set out jugs of frost-intolerant seeds: tender annuals, tomatoes, squash, gourds, beans.
- Check occasionally during the winter that the soil is moist, but not wet. Replace duct tape strips as needed.
- After the last frost date has passed, set out the seedlings with the rest of your garden plants. Clean and save the jugs for the next winter sowing.

SOW TIME TWO. If you choose to set out all the seeds at one time in December, you get the delight of the preparation as well as the enjoyment of checking on the seeds during the winter when you venture forth to give the jugs a bit of water to keep the soil slightly damp – unless rain and snow have done that for you. Yes, leaving the cap off the milk jugs will allow sufficient moisture (rain or snow) to find its way into the jug to keep the soil damp.

Photo by Terry Rice

After the last frost date, set out the seedlings and watch them grow and grow!

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The Science of Gardening – A Review

Linda Chalker-Scott's videos and course handbook are a wonderful way to learn about the principles of gardening in Washington and the northwest. Scott is currently a WSU Extension Specialist in Urban Horticulture and works as an Associate Professor of Horticulture at Washington State University. Though she doesn't teach anymore, she does practice educational outreach to landowners, Master Gardeners, landscape professionals, restoration ecologists and landscape architects. Since 2004, she has given more than 400 seminars on gardening and landscape principles.

The Science of Gardening published in 2018 consists of a series of DVDs accompanied by a book that highlights sustainable landscaping and home gardening recommendations and practices using science-based approaches. Fundamentals are presented in easy to follow language which dispels misinformation and provides common sense approaches to help gardeners choose plants and products that conserve natural resources, establish and maintain gardens and landscapes, do not require continuous inputs of inorganic commercial or prepackaged fertilizers and pesticides, and supports natural processes that keep home gardens and landscapes healthy, operational, and fun to have. A final goal of this effort is to provide the impetus for and encourage gardeners and landscapers to teach others about these principles and options to establish and maintain our natural resources.

The training consists of 24 lessons which Scott talks about on each video presentation. Some of the most interesting sections included Site Analysis, Soil Analysis, Living Soils and Soil Preparation and Protection. There were many others including: Garden Science: Weeding out the Myths, Plant Selection: Native vs Non Natives, Form and Function, and Finding Quality Specimens, The Truth about Mulch, Planting for Survival, Aftercare for New Plants, Plant Nutrition, Pruning, Creating Safe Food Gardens, Water Wise Landscaping, Diagnosing Diseases and Disasters, Gardening CSI Case Studies, IPM, Understanding Pesticides, What to do about weeds, insects, herbivores, Tackling Garden Myths and Misinformation and Applied Garden Science Successes.

The training is recommended for anyone who wants to learn about proper ways to manage gardens and landscapes based on science-based research. According to Glenn Martin, President of the Master Gardner Foundation of Grant-Adams Counties, it is "a very good lesson series for those of us working toward improving our horticultural skills. Ms. Scott described "the correct techniques demonstrated the correct technique and many times showed what problems could arise if you failed to follow the proper technique. Her step-by-step training processes really drove her points home." Gardeners of all skill levels can benefit from this training.

https://www.thegreatcourses.com/courses/the-science-of-gardening.html

WSU Extension to Offer Home Horticulture Training

Learn to be a better home gardener and steward of the environment this winter with Washington State University—Grant-Adams Counties Extension's new online Home Horticulture Training program.

Training focuses on a wide range of horticulture topics taught online by WSU faculty, staff, Master Gardeners, and other regional experts on Saturday mornings from 9 a.m. to noon starting Jan. 9 and continuing weekly through Apr. 24.

Training also includes access to WSU Extension's online Master Gardener Training Modules and the extensive Master Gardener Manual.

Those wishing to earn a Certificate of Completion will need to participate in weekly online quizzes, a final, and attend most classes. Homework is expected to average 3-5 hours a week. All training is open book and no memorization is expected.

Tuition for this extensive training program is $300 and requires a computer with internet access, an e-mail account, and a Zoom account. Registration opens November 14 and closes on December 18. Go to http://mastergardener.wsu.edu/home-horticulture-training/ to register.

WSU Grant-Adams Master Gardener Program Coordinator's Corner

Due to the COVID 19 pandemic, the WSU Grant-Adams Master Gardeners have not been as visible as they have been in past years. However, the WSU Extension Master Gardener program has been open, though operating from remote locations, this entire time. Our staff continues to provide unbiased science-based gardening alternatives and resources to anyone with questions. Our online clinic is a resource anyone people can use. By going to ga.mgvolunteers@wsu.edu, anyone can ask gardening questions or provide digital photos of gardening issues or concerns. Our trained Master Gardeners can then diagnose the issues and provide options and resources to deal with the challenges presented. In addition, Master Gardeners publish articles periodically in area newspapers and quarterly in the Master Gardener Foundation *Grounded* newsletter https://extension.wsu.edu/grant/gardening/master_gardeners/grounded-newsletter/. It can be viewed on the Grant-Adams Master Gardener web page, where there are many resources that can be investigated: https://extension.wsu.edu/grant/gardening/master_gardeners/.

Our group is planning on holding virtual training sessions in the future and the public is encouraged to register for the Home Horticultural Training series mentioned above. If there is enough demand the Grant-Adams Master Gardener Program Co-Coordinators will hold additional training to certify new master gardeners, which would most likely start late in 2021.

Karen Lewis. Photo provided by K. Lewis

Karen Lewis - New Director of WSU's ANR Program

Tree Fruit Extension Specialist Karen Lewis is the new director of Washington State University Extension's Agriculture and Natural Resources (ANR) Program Unit. Hired on Nov. 1, 2020, Lewis has served as a locally based Extension specialist in Washington's Columbia Basin for more than 30 years. She has led the WSU Tree Fruit Extension Team since 2015, working closely with Washington tree fruit growers, WSU outreach specialists, and scientists to share research-based discoveries and better practices.

"Well-designed, productive partnerships have been the key to my success, and that of Extension in Washington," Lewis said.

"Professor Lewis is deeply versed in delivering the industry-supporting outreach and education that's at the heart of the Extension experience," said André-Denis Wright, Dean of the College of Agricultural, Human, and Natural Resource Sciences. "She is ideally skilled to lead the Agriculture and Natural Resources Program Unit, and to foster its land-grant heritage."

Appointed for two years, Lewis will support a broad range of Washington industries and endeavors, including food and fuel crops, forestry, animal agriculture, water resources, environmental stewardship, farm and rangeland management, pest management, urban horticulture, local food systems, and regional food policy.

Operated by more than 100 faculty, affiliates, and staff, ANR encompasses multiple programs, including WSU Master Gardeners. Lewis said "ANR conducts important applied research and outreach that result in practice change and increased sustainability."

As director, Lewis plans to grow partnerships with fellow Extension program units serving youth and families, and community and economic development. According to Lewis, "It's our job to ensure the path to cross-program, cross-department, and multi-disciplinary collaboration is supported and clear of obstacles."

Lewis holds a bachelor's degree in plant science and a Master's degree in horticulture at the University of Arizona. She replaces prior director Todd Murray, who was named to lead the WSU Puyallup Research and Extension Center earlier this year.

- **Learn more about the WSU Extension Agriculture and Natural Resources Program Unit here: https://anr.cw.wsu.edu/**

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