A New Day for Master Gardener Volunteers

By Mitch Lies, GROWING Editor

Oregon State University Extension is putting out a call for people interested in volunteering as community gardening educators while growing their own gardening skills. And this year, there are new, more flexible ways to participate in the Master Gardener Program.

After taking a year off from training new volunteers, the Extension Service program is offering a hybrid approach for volunteer trainees, including an online portion with a flexible schedule, and gardenlabs on weekends.

Volunteers commit to 45 hours of training and an equal number of hours answering garden questions and providing other garden education services for the local community. Volunteer training takes place between March and June.

The Master Gardener Program opened up more options for hybrid training after surveying gardeners from across the state.

"The Oregon Master Gardener Program did a needs assessment, and hundreds of people responded to share what kind of learning opportunities made the most sense for their lives," said



Master Gardener volunteers Deborah Hobbs, Jon Kimerling, and Sarah King set up a trellis at the demonstration garden.

Elizabeth Records, Master Gardener Program Assistant for Linn and Benton counties. "People were asking for things they could do online on their own schedule, but we were also hearing a desire for things that they could do hands-on and in-person. So, we tried to balance that."

Records added that the approach "seemed like a good way to provide a program that was less likely to be disrupted by the ups and downs of the public health situation."

Each week, volunteer trainees will access prerecorded lectures from OSU faculty, study weekly assignments, as well as practice solving garden questions through on-line research and collaboration. Then, each weekend, they will join an outdoor, small-group, in-person lab taught by longtime volunteers, OSU faculty and guest instructors from organizations like the local Soil and Water Conservation District.

The garden laboratory portion will include hands-on activities, according to Records. "People will rotate between several activity stations," she said. "They might try out different plant propagation methods or maybe grab a handful of soil

and learn how to analyze its texture by hand. That kind of knowledge can help a gardener decide what soil amendments are needed to grow a successful garden."

Learners can test their skills and graduate the training by earning passing grades on weekly knowledge checks, then completing 45 hours of volunteer service by the end of October. There is no final exam required.

In the past, volunteer trainees had to attend a weekly class for several weeks on Thursdays, a schedule which prohibited many from participating. "Traditionally, the course has mostly attracted retirees or homemakers," Records said. "We want to open the doors a little wider by offering flexible course work and then have this fun hands-on, in-person part happen on a weekend."

Records added that if an applicant can't participate in the garden lab, either for logistics reasons or because of pandemic concerns, they may request an accommodation to complete an alternate distance lab.

Going last year without training new volunteers was very unusual, Records said, and the program felt the impacts, particularly given that gardening was up during the pandemic.

"A small, dedicated group of volunteers has been working very hard responding to garden questions from the public, because many volunteers have been unable to fully participate when there were a record number of inquiries," Records said.

Typically, the program leans on volunteer trainees to handle gardening questions, Records said, given that continuing Master Gardeners are not asked to complete as many service hours.

"We are looking for applicants who are excited about researching those garden questions, whether online or in person, to support gardeners in their communities," Records said.

Oregon's Master Gardener Program is one of the oldest in the nation, dating to 1976, just three years after the nation's first Master Gardener Program was started in Seattle by David Gibby. In response to overwhelming needs for personalized garden problem solving, Oregon's program also is one of the nation's most vibrant, with 30 of Oregon's 36 counties participating, including all of

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Who We Are

The Oregon State University Extension offices in Linn County and Benton County offer practical, lifelong learning experiences. We sponsor conferences, workshops, demonstrations, tours, and short courses. We recruit, train and manage volunteers who assist us with community outreach and education. Our Extension faculty and volunteers answer questions and give advice by phone, in person, through e-mail, and on our Websites. We provide brochures and flyers with specific information on a variety of subjects. We are funded by a cooperative partnership between Oregon State University, the U.S. Department of Agriculture, and our local counties.

Office locations and hours

The Benton County office is located at 4077 SW Research Way in Corvallis. Office hours are 8 a.m. until 5 p.m. Monday through Friday. Telephone: 541-713-5000. http://extension.oregonstate.edu/benton.

The Linn County office is located at 33630 McFarland Rd (on the corner of Old Highway 34 and McFarland Road), in Tangent. Office hours are from 8 a.m. to 5 p.m., Monday through Friday. Phone 541-967-3871. Seed Certification phone 541-967-3810. http://extension.oregonstate.edu/linn.

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Congratulations and THANK YOU to Jeanne Brandt!

Jeanne Brandt received the 2021 Alberta B. Johnson Award for Excellence in Extension Education at this year's Extension Virtual Annual Conference.

Jeanne has worked for OSU Extension for 36 years starting her career in Tillamook County as a 4-H and Home Economics Educator. She joined Linn County Extension office in 2015 as the Family Community Health Educator serving Linn and Benton counties and as a Statewide Specialist for the Master Food Preserver program.

Jeanne has trained hundreds of Master Food Preserver volunteers, tested scores of pressure canner gauges, has answered countless food safety questions, and reached thousands of Oregonians with her demonstrations, workshops, and presentations. She most recently was part of the development of a Canning/Timer App for use on the smart phone and has expanded digital media and technology during the pandemic. She has produced more than 46 publications and has been recognized with more than 27 State, Regional, and International Awards. And after this long and storied career, Jeanne has announced that she will retire at the end of December 2021.

Thank you, Jeanne for your service to OSU Extension! Your passion and knowledge to help



Jeanne Brandt

serve and educate Oregonians about food safety and security will be greatly missed.

A New Day for Master Gardener Volunteers

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Western and Central Oregon.

The community seems more than ready for a new round of Master Gardener volunteer training, Records said. She noted that two days after opening the application process, she already had 17 applicants for the up to 40 volunteer spots available.

Still, Records encouraged all interested parties to consider applying for the program, noting that those who apply after the 2022 class is filled will go on a waiting list.

She added that someone only interested in taking gardening classes and not so much in volunteering for community garden education, should consider other programs. "In those cases, we have other opportunities that we would direct them to instead," she said. "OSU Professional and Continuing Education offers the Certificate of Home Horticulture, which covers similar topics as Master Gardener training, and has no obligation to volunteer."



Master Gardener volunteers Jesse Garcia, Shannon Long and Paula Lupcho at a plant clinic in 2018.

But, she said, those who are ready to commit to 45 hours of service as a community gardening educator, may be ready to become Master Gardener volunteers.

"People don't have to be a perfect gardener," she said, "or

have a perfect garden or even be an experienced gardener. They just need to be interested in being a community garden educator and have that commitment."

To learn more or to apply, go to https:/beav.es/U2k.



Chrissy Lucas 541-713-5009 chrissy.lucas@ oregonstate.edu

Groundwater Protection Education

Should I Buy a House With Well Water?

By Alli Studnick

When you are thinking of buying a new home, there are many details to consider: Financing, the condition of the home, schools in the area and the quality of the neighborhood, property taxes, insurance, whether all of your furniture will fit, and the water. You will drink, shower, clean, flush, brush, and wash with the water in your new home every day.

So, what do you need to think about if that prospective home operates on a private well?

The majority of homes today have a municipal water source that is regulated by government and **Environmental Protection** Agency health standards. In these cases, the homeowner has little need to be overly involved in the health and safety of their water. But that changes a bit when your home has its own water source. And some prospective homeowners may not be comfortable making that shift from a home with a municipal water supply to one with its own private water source.

If your prospective home has well water, you are not alone. According to the EPA, 15 percent of Americans rely on individually owned and operated sources of drinking water. Here are some tips derived from the EPA for managing a home with a private well:

Research common water problems in your area

If you are moving to a completely new area, it is a good idea to reach out to your local water expert for information on local water problems. The EPA website is also a good resource for local water problems. This way, you will be proactive in preserving the taste and safety of your drinking water.

Find out your state's well water regulations and recommendations

Check in with your local Extension office or visit http://wellwater. oregonstate.edu to see our state's policies or guidelines on water testing and what you should be testing for.

Get the water tested by a trusted local laboratory

The Extension Service can offer nitrate screenings in their office, but for other testing you will need to use a private laboratory. We can help you find the local labs in each county. If you need help interpreting your results visit our website http://wellwater.oregonstate.edu.

Learn your options if your water does contain contaminants

Many contaminants in well water can easily be reduced with water softeners, drinking water filters or other water treatment systems. If your water does contain a contaminant, reach out to the Extension Service to determine the best option for

you in your area.

Set up a regular water testing schedule for your home

The EPA and OSU recommends private well water tests once a year for total coliform bacteria, nitrate, total dissolved solids and pH levels. The EPA also recommends an extra well water test every two to three years for tannins, hardness, chloride and copper. Potential contamination can occur naturally, or as a result of human activity.

Keep a record of your water tests and any problems that occur

It is a good idea to keep water test results on file. This will allow you to reference them to help identify when a problem began and determine a potential cause. This will also help answer questions from prospective buyers if you ever sell the home.

If you are planning on moving to a home with well water, it is important to research any local water issues. Checking in with the Extension Service, your local health department, or your neighbors can help you know what to be on the lookout for. Becoming educated in well water safety will be beneficial to the maintenance and longevity of your new home!

Reprinted with some minor edits from the Allstate Blog

A New Loan Option for Replacing a Failing Septic System

There are 456,000 septic systems in Oregon and some 30 percent of Oregon households rely on septic systems. As many as 10 percent of these systems fail each year, according to various estimates, and not all homeowners or small businesses have the resources to make needed repairs. Fixing a septic system can cost as much as \$25,000.

Finding out your septic system is failing can be an expensive problem.
That's where Craft3 comes in. With support from many partners including the State of Oregon, Craft3 offers an affordable Clean Water Loan to help families repair or replace their failing septic system with no money down.

The Clean Water Loan makes it easier to fit the complete cost of designing, permitting, installing and maintaining your septic system into your household budget. In some cases, you can also finance connection to a nearby municipal sewer system.

Craft3 has unique approval criteria and repayment terms that work for a wide range of property types and family circumstances. Fewer failing septic systems in our communities means fewer families vulnerable to displacement and less pollution that can harm our children, natural resources and local industries reliant on clean water.

Eligibility

- Properties can be owner- or non-owner occupied. Rentals and second homes are eligible.
- One of the following must apply:
- your septic system is at least 25 years old;
- your system is failing and you have evidence to support it:
- you have been contacted by Health Officials; or
- you are under orders to fix your septic system.
- Counties currently served by Craft3:
- Residential Oregon: All
- Commercial Septic Systems: All in Oregon or Washington

How to Apply

Visit https://www.craft3.org/ for an application and for all of the potential repayment options.

Family and Community Health

Tina Dodge 541-730-3541 tina.dodge@ oregonstate.edu



Night Shade Vegetables - Harmful or Healthy?

By Kira Nesser, OSU Dietetic Intern

We hear over and over again to "eat our vegetables," but at the same time encounter information from online articles, videos, and social media posts that claim that some of those vegetables might be harmful to our health.

You may have heard that nightshade vegetables are bad for you, with articles online stating that nightshades are toxic, dangerous, and even deadly. Let's explore the science around these claims and statements.

What are nightshades?

Nightshades are fruits and vegetables in the Solanaceae plant family, which includes tomatoes, potatoes, bell peppers, and eggplant.

These foods contain small amounts of chemicals called alkaloids. Alkaloids are nitrogenous organic substances that are produced by plants, and depending on the level of alkaloids consumed, may be either beneficial or harmful to human health.

One of the most commonly discussed alkaloids found in these vegetables is Solanine. Solanine may

aggravate arthritis, increase inflammation, and lead to digestive issues; however, currently there is no solid science base or research evidence to back these claims. Solanine is also found in non-nightshade fruits and vegetables, such as blueberries.

Nightshades also contain lectins, which are carbohydrate-binding plant proteins. However, lectins are also found in many other nonnightshade foods such as nuts, beans, chocolate, herbs and spices, and fruits. Lectins have been called "anti-nutrients" due to their interaction with the body's ability to absorb nutrients. Humans cannot digest lectins; some research has shown that consuming large amounts of lectins may cause damage and irritation in the GI tract.

Lectin-rich foods that are not prepared properly can potentially lead to food poisoning; however, cooking methods such as fermenting, boiling, soaking, and sprouting can reduce the lectin content in lectincontaining foods. There is a lack of strong evidence to support that whole, cooked lectin-rich foods consistently cause inflammation, GI



irritation, or problems with nutrient absorption in healthy individuals.

Are there benefits from consuming nightshades?

Although nightshade fruits and vegetables may have gained a bad rep, they are packed with beneficial nutrients and fiber. For example, bell peppers contain vitamin C, vitamin K, and B vitamins. Potatoes are a great source of vitamin C, vitamin B6, iron, copper, and folate. Tomatoes contain a variety of antioxidants such as lycopene, beta-carotene, and lutein, which help boost immunity and contain anti-inflammatory

properties, as well as vitamins E, A, K, and B, and potassium. Including these nightshade fruits and vegetables in your diet can be a great way to ensure you are consuming the USDA recommendation of 2 cups of fruit and 2-3 cups of vegetables each day for overall health.

Can certain individuals benefit from avoiding nightshades?

Some people with a chronic condition may benefit from avoiding nightshades - they may worsen symptoms for individuals with Inflammatory Bowel Disease (IBD), those who are allergic or intolerant

to nightshade fruits and vegetables, individuals with arthritis, and those with autoimmune conditions. Some individuals with these conditions may experience a reduction in their symptoms or find relief after eliminating nightshades from their diet, while others do not.

Summary

There is no reason to avoid nightshades if you are a healthy individual and do not experience symptoms resulting from the consumption of nightshades.

Many fruits and vegetables in the Solanaceae plant family are great nutrient-rich sources of fiber, vitamins, and minerals. The current research suggest that these foods consumed in moderation as part of a balanced diet do not cause negative health effects in healthy individuals. It is important to eat a variety of fruits and vegetables each day. However, some individuals with certain conditions such as IBD and arthritis, may benefit from reducing their consumption of nightshades, but current evidence does not confirm that nightshades are the cause of these conditions and associated symptoms.

Fresh From the Garden Tastes Best

It's the season of planting your favorites!

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Do I Have "Leaky Gut" and What Can I Do About It?

By Kira Nesser, OSU Dietetic Intern

"Gut health" is a hot topic right now, especially due to the fact that many Americans experience digestive issues. More than 100 million health care visits in the US are attributed to digestive diseases each year.

Our digestive tract plays an important role in the absorption of nutrients we obtain from the food we eat. Our intestinal gut barrier controls the nutrients and water that enter our bloodstream, and also blocks potentially harmful substances from entering our bloodstream.

Leaky gut is often described as increased intestinal permeability resulting in harmful substances such as indigested food particles, bacteria, and toxins passing into the bloodstream from our gastrointestinal tract, which can lead to systemic inflammation and negative immune system responses. However, Leaky gut syndrome is not currently a clinically recognized medical condition.

Current evidence suggests that this increase in intestinal permeability (i.e. leaky gut) may play a role in the development of autoimmune diseases such as Celiac Disease, Type 1 Diabetes, Crohn's Disease, conditions such as irritable bowel disease, as well as aggravation of associated symptoms of these conditions. Although in many disease states intestinal permeability maybe present, there is not enough evidence to show whether "leaky gut" is the cause of these diseases OR if these conditions cause leaky gut. Therefore, treating leaky gut in an individual with Celiac Disease, for example, would not necessarily treat the Celiac Disease, because leaky gut could be a potential symptom of the disease, not the underlying cause of the disease. Currently, physicians do not consider "leaky gut" as a medical diagnosis.

There is a need for more research on "leaky gut" syndrome – there are many claims that leaky gut is associated with the development of depression, anxiety, autism, inflammation, and cancer, among other conditions; however, there

is currently a lack of evidence to support these claims.

Even if we do not have "leaky gut," or a condition that drastically effects our digestive system, it is important to keep our digestive system healthy because of how involved our gut is in our overall health and well-being – it plays a large role in the nutrients we absorb, our quality of sleep, and keeping our immune system, heart, and brain strong.

So, what are some ways that we can keep our gut and immune system healthy?

- Eat a variety of nutrient-dense foods such as: vegetables, fruits, roots and tubers (potatoes, yams, squash), sprouted seeds and nuts, fermented vegetables, gluten-free grains, cultured or fermented dairy products (greek yogurt, kefir), eggs and lean meats, and healthy fats (avocado, olive oil
- Avoid highly processed foods such as refined oils (canola, sunflower, soybean), artificial sweeteners, processed meats (deli meat, bacon) sugar-sweetened beverages, junk foods (burgers, fries, ice cream, chips)
- Avoid or reduce consumption of alcohol/alcoholic beverages
- Do not smoke tobacco related products
- Reduce stress
- · Increase sleep

Many of the ways we keep our gut healthy are also great ways to keep the rest of our body healthy as well and to make sure we get the nutrients we need for overall health. Although there is a great need for more research on "leaky gut" and other diseases associated with digestive issues, what we do understand is the importance of digestive health and some of the ways we can incorporate these principles into our lifestyle.

Have Food Safety or Preservation Questions?

We can help! Even though Jeanne Brandt is retired, we are still here to help you get answers to your food preservation and safety questions. You can call our hotline number, which is still being checked every couple of days and calls are being returned. Also, a great resource to use is the Ask Extension site (formerly Ask An Expert).

We are open and staffed to test your pressure canner gauges and help assist you with publications or to guide you to other resources.

Hotline number is 1-800-354-7319

Ask Extension: https://extension.oregonstate.edu/ask-expert Linn County Extension hours are from 8 a.m. to 5 p.m. Monday-Friday.

Grow This! Oregon Garden Challenge

From microgreens to pole beans! Home gardening is part of Oregon's history, but more than ever before, Oregonians can benefit from growing gardens and sharing garden knowledge and skills. The *Grow This!* Oregon Garden Challenge is a call to action to families, schools and other groups to garden together and eat what we grow.

Join the 2022 Challenge!

Anyone can join using their own seeds! While supplies last, Oregonians who sign up and request seeds will be mailed seeds free of charge:

- Households: five seed types (cilantro, green onions, kale, mesclun lettuce mix, zinnias)
- Teachers (pre-K through high school): an "all you need" seed-starting classroom kit plus, while supplies last, an option to add a potato-growing classroom kit and Explore Oregon Bees activity book class set
- School and community garden coordinators: an A-to-Z mix of seed packets
- All other groups: seed packets to meet your needs

Garden videos, tips and how-to handouts are posted weekly on the Food Hero Facebook page (https://www.facebook.com/BeAFoodHero) and added to the Food Hero garden tips website page (https://foodhero.org/garden-tips). Join virtual visits to Oregon potato farms to learn about planting and harvesting from Oregon farmers!

Who can join?

Anyone from anywhere can join the Challenge! Current participants are the first invited to sign up for the following year.

How do I join?

Starting on January 3, 2022, fill out a very short survey at this link: https://foodhero.org/growthis.

Want to know more?

Call: Tina Dodge at 541-730-3541

Email: tina.dodge@oregonstate.edu or food.hero@oregonstate.edu

Community Horticulture

Elizabeth Records 541-730-3471 elizabeth.records@ oregonstate.edu



8th Annual

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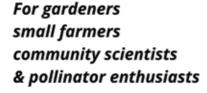
Pollinator Conference

Presented by Linn County Master Gardener Association

Sat. March 5, 2022

Learn more & sign up February 2022 at

linnmastergardeners.com



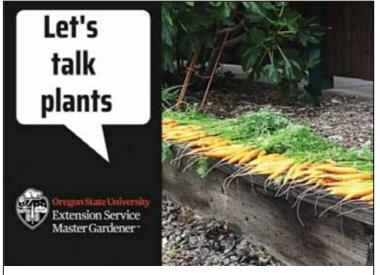
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<u>Featuring</u>

- Olivia Messinger Carril
 - Pollinator identification
- Rich Little + Linn County Master Gardeners
 - Mason bee care & research
- More presenters TBA







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Benton: 541.937.5295 | bentonmg@oregonstate.edu

OSU EXTENSION SERVICE MASTER GARDENER™PROGRAM



Oregon State University Extension Master Gardener volunteers are neighbors, friends and family who you can go to for garden advice that is grounded in science and locally relevant.



Apply now for 2022 training!

LINN & BENTON COUNTY

Applications open until 1/15/2022 for 2022 volunteer cohort. Classes online with weekly outdoor garden labs March-June 2022.

Scan to learn more and apply!

Or visit: https://beav.es/U2k

OSU Extension Service prohibits discrimination in all its programs, services, activities, and materials. Accommodation requests related to a disability should be made by 1/15/20/2 to Elizabeth Records, 541-730-3471, elizabeth.records@oregonstate.edu. This publication will be made available in an accessible alternative format upon request. Please contact Elizabeth Records, 541-730-3471, elizabeth.records@oregonstate.edu.



January-February Gardening Calendar for Western Oregon

The Oregon State University Extension Service encourages sustainable gardening practices.

We emphasize preventive pest management over reactive pest control. Identify and monitor problems before acting and opt for the least toxic approach that will remedy the problem. Favor biological control agents (predators, parasitoids) over chemical controls.

Use chemical controls only when necessary and only after thoroughly reading the pesticide label. Consider cultural first, then physical and biological controls. Choose the least-toxic options (insecticidal soaps, horticultural oils, botanical insecticides, and organic and synthetic pesticides — when used judiciously).

Trade-name products and services are mentioned as illustrations only. This does not mean that the Oregon State University Extension Service endorses these products and services or intends to discriminate against products and services not mentioned.

IANUARY

Planning

- Plan to replace varieties of ornamental plants that are susceptible to disease with resistant cultivars (https://pnwhandbooks.org/plantdisease/cultivartables) in February.
- Take hardwood cuttings of deciduous ornamental shrubs and trees for propagation.
- Order a soil test to determine your garden's nutrient needs. Contact the Extension office for a list of laboratories or view Analytical Laboratories Serving Oregon. (https://catalog.extension. oregonstate.edu/em8677)
- Begin planning this year's vegetable garden. Check with local retail garden or nursery stores for seeds and seed catalogs.
- Keep a garden journal. Consult your journal in the winter, so you can better plan for the growing season.

Maintenance and clean up

- Place windbreaks to protect sensitive landscape evergreens against cold, drying winds.
- Reapply or redistribute mulch that has blown or washed away during winter.
- Clean pruners and other small garden tools with rubbing alcohol.
- Water landscape plants underneath wide eaves and in other sites shielded from rain.
- Do not walk on lawns until frost has melted.

Pest Monitoring and Management

 Scout cherry trees for signs and symptoms of bacterial canker. Remove infected branches with a clean pruner or saw. Sterilize tools before each new cut. Burn or send the branches to a landfill before bloom. See Managing Diseases and Insects in Home Orchards (https://catalog.extension.oregonstate. edu/ec631).

- Watch for field mice damage on lower trunks of trees and shrubs. Eliminate hiding places by removing weeds. Use traps and approved baits as necessary.
- Use dormant sprays of lime sulfur or copper fungicide on roses for general disease control, or plan to replace susceptible varieties with resistant cultivars (https://pnwhandbooks.org/plantdisease/ cultivar-tables) in February.
- Moss in lawn may mean too much shade or poor drainage. Modify site conditions if moss is bothersome.
- Spray peach trees with approved fungicides to combat peach leaf curl and shothole. Or plant curl-resistant cultivars such as 'Frost', 'Q1-8' or 'Creswell'.
- Monitor landscape plants for problems. Don't treat unless a problem is identified.

Houseplants and indoor gardening

- Monitor houseplants for correct water and fertilizer; guard against insect infestations; clean dust from leaves.
- Protect sensitive plants such as weeping figs from cold drafts in the house.
- Propagate split-leaf philodendrons and other leggy indoor plants by air-layering or vegetative cuttings.
- Plant dwarf annual flowers such as coleus, impatiens and seedling geraniums inside as houseplants.
- Gather branches of quince, forsythia and flowering cherries and bring them indoors to force an early bloom.

FEBRUARY

Planning

- Tune up lawn mower and garden equipment before the busy season begins.
- Have soil tested to determine its nutrient needs. For more information, contact the Extnsion office for a list of testing laboratories or view Laboratories Serving Oregon: Soil, Water, Plant Tissue, and Feed Analysis (https://catalog.extension.oregonstate.edu/em8677) (EM 8677).
- Select and store healthy scion wood for grafting fruit and nut trees. Wrap in damp cloth or peat moss and place in plastic bag. Store in cool place.
- Plan an herb bed for cooking and creating an interesting landscape. For example, choose parsley, sage, chives, and lavender. Choose a sunny spot and plant seeds or transplants once the danger of frost has passed (late-April or early-May).
- Plan to add herbaceous perennial flowers to your flowering landscape this spring. Examples include candytuft, peony, penstemon, and coneflower.

Maintenance and clean up

· Repair winter damage to trees and shrubs.

- Make a cold frame or hotbed to start early vegetables or flowers.
- Fertilize rhubarb with manure or a complete fertilizer.
- Incorporate cover crops or other organic matter into soil.
- Prune and train grapes; make cuttings.
- Prune fruit trees and blueberries.
- Prune deciduous summer-blooming shrubs and trees.
- Prune and train trailing blackberries (if not done the prior August); prune back raspberries.
- Prune fall-bearing raspberries (in late-February or early-March).
- Prune clematis, Virginia creeper, and other vining ornamentals.

Planting and propagation

- Plant windowsill container gardens of carrots, lettuce, or parsley.
- Plan to add herbaceous perennial flowers this spring: astilbe, candytuft, peony, and anemone.
- Good time to plant fruit trees and deciduous shrubs. Replace varieties of ornamental plants that are susceptible to disease with resistant cultivars (https://pnwhandbooks.org/plantdisease/ cultivar-tables).
- Plant asparagus if the ground is warm enough.
- Plant seed flats of cole crops (cabbage, cauliflower, broccoli, and Brussels sprouts), indoors or in a greenhouse.
- Where soil is dry enough and workable, plant garden peas and sweet peas. Suggested varieties of garden peas include: Corvallis, Dark Green Perfection, Green Arrow, Oregon Sugar Pod, Snappy, Knight, Sugar Snap, Oregon Trail, and Oregon Sugar Pod II.
- Good time to plant new roses.

Pest monitoring and management

- Monitor landscape plants for problems. Don't treat unless a problem is identified.
- Use delayed-dormant sprays of lime sulfur for fruit and deciduous trees and shrubs.
- Remove cankered limbs from fruit and nut trees for control of diseases such as apple anthracnose, bacterial canker of stone fruit and Eastern filbert blight. Sterilize tools before each new cut.
- Control moles and gophers with traps.
- Elm leaf beetles and box-elder bugs are emerging from hibernation and may be seen indoors. They are not harmful, but can be a nuisance. Remove them with a vacuum or broom and dustpan.
- Monitor for European crane fly and treat lawns if damage has been verified.

Houseplants and Indoor Gardening

 Pasteurize soil for starting seedlings in pots or flats, or use clean sterile commercial mixes.

Commerical Agriculture Field Crops

Christy Tanner 541-730-3537 christy.tanner@ oregonstate.edu



South Valley Field Crop Notes —— January/February ——

General Management

- Seed certification: make sure to submit overseeding documentation to seed cert to maintain eligibility.
- Slug baiting during cold winter months has limited efficacy. If you are determined to bait in January and February, do so at dusk and when night temperatures are in the low 40's, with no rain, and winds less than 5MPH.
- Continue to scout fields for winter cutworms, as they can remain active during colder months.
- Vole populations remain high. A warmer winter brings the
 potential for more problems this spring. Vigilant baiting
 down holes during winter months is the best chance to
 keep populations in check before spring growth makes
 locating burrows more difficult. Remember ZP baits can
 deteriorate rapidly when exposed to moisture, so avoid
 baiting in saturated soils or when heavy rain is expected.

Grass

- Tall fescue begins spring growth ~4 days (turf-type) to ~10 days (forage-type) earlier than perennial ryegrass. Apply 100-140 lb/ac of N in the spring to tall fescue fields by the first week of April. Split applications are recommended, with the majority of N applied by mid-March. Peak N uptake for tall fescue is in late March/early April.
- Delay first nitrogen applications to perennial ryegrass until after T-Sum reaches 200 GDD (~mid-Feb). Apply 120-160 lb/a of N in the spring to perennial ryegrass fields by mid-April. Split applications are recommended for flexibility and matching crop demand, but rarely increase seed yield. Peak N uptake for perennial ryegrass is in late April.
- On saturated soils, the entire spring N application can be delayed until mid-March/early April without reducing seed yields (especially annual ryegrass). It is best to delay fertilizer where soils are saturated or ponded.
- In drier years, scout grass seed fields for late winter grain mite outbreaks.

Wheat

- Take soil samples in the last two weeks of January for the N-min test to help predict spring fertilizer rates.
- Apply nitrogen to winter wheat before the end of February to be sure it is fertilized before late tillering. Rapid N uptake begins at jointing (Feeks GS6).
- Try to complete post-emergence grass and broadleaf control herbicide treatments on winter wheat before wheat jointing (~March 1). Refer to individual product

Continued on Page 9

Adjusting Your Fertilizer Program for High Fertilizer Prices

and vetch

Fertilizer prices have been spiking since October and most nutrients have more than doubled in price compared to a year ago. As of mid-December 2021, urea is \$0.96 per pound of nitrogen, and UAN32 is \$1.03. Many farmers may be wondering if they should change fertilizer rates. This article will cover some situations where you can cut fertilizer costs without sacrificing yield.

Avoid over fertilizing

One of the most important steps in managing fertilizer costs is to apply enough for the crop but no more. Adding extra fertilizer is expensive, can increase pest and weed problems, and is bad for the environment, but it will not increase yield. OSU Extension has published fertilizer management guides that included recommended fertilizer rates. While some fields might need more or less fertilizer, the recommendations are based on many years of on-farm research. Some growers feel that applying a little too much fertilizer is less risky than not applying enough. Applying a little extra fertilizer as "insurance" gives them a little peace of mind. But when fertilizer prices are high, that insurance and peace of mind is much more expensive than in other years.

Test your soil

Soil tests will tell you the concentrations of nutrients

Recommended Application rates for Spring Nitrogen

Crop Spring Nitrogen Application Rate*
Tall fescue 100 to 140 lb N/a
Perennial ryegrass 120 to 160 lb N/a
Orchard grass 100 to 120 lb N/a
Annual ryegrass 100 to 140 lb N/a
Wheat 80 - 200 lb N/a depending on soil testing
Peas, crimson clover 0

*See fertilizer guides for more detailed information

in your soil. You may not need to apply phosphorous and potassium every year, especially if soil levels are above a threshold value. You might be able to avoid high prices this year by delaying phosphorous and potassium fertilizer applications until next year. This strategy can leave you with a larger fertilizer bill for next year, and there is no guarantee that prices will go down. Do not skip recommended fertilizer applications when establishing a new perennial crop. Nitrogen usually needs to be applied every year, but you should consider the amount of nitrogen in the soil when deciding on your fertilizer rate.

Fertilizer test plots

Fertilizer test plots are a good way to find the best fertilizer rates for your fields and production practices.
One approach is to apply 25 lb less fertilizer to one strip

of the field, and 25 lb more to another strip. Remember the locations of the strips and watch your combine yield monitor during harvest. Compare vields and fertilizer costs between the strips. If the yield was similar, you can go with the lower fertilizer rate and save money. If the difference in vield was more than enough to pay for the extra fertilizer, then go with the higher rate. Doing test plots every year will help you fine tune fertilizer rates for your farm, and you will be confident that you are applying the right amount.

Field peas do not need inseason nitrogen

If you grow field peas, think twice before applying nitrogen after planting. On-farm fertilizer trials in 2016 and 2019 showed very convincing evidence that field peas do not benefit from in-season nitrogen

Extension Service Please join us! 2022 Winter OSU Extension

SEED AND CEREAL CROP PRODUCTION MEETINGS

In-Person!! However, you MUST register in advance. Space is limited due to COVID restrictions. One registration per email. Register at:

Agenda:

Examining the Carbon Budget of Grass Seed Crops

Kristin Trippe, USDA-ARS Research Microbiologist

Fertilizer Use Efficiency and Fate in Tall Fescue Seed Production

Betsy Verhoeven, OSU Extension Agronomist

Best Practices for Insect Control in Grass Seed Crops

Navneet Kaur, OSU Extension Entomologist

New USDA-ARS Plant Pathology Program Hannah Rivedal, USDA-ARS Plant Pathologist

Spring Management Decisions for Grass Seed and Wheat Crops

Nicole Anderson, OSU Extension Agronomist

DATES:

Roth's Hospitality Center 1130 Wallace Rd, West Salem Wednesday, January 5th 8:30 am - Noon

Linn Co. Fair and Expo 3700 Knox Butte Rd, Albany Wednesday, January 5th 1:30 - 5:00 pm

Forest Grove Elks Lodge 2810 Pacific Ave, Forest Grove Thursday, January 6th 8:30 am - Noon

2 ODA Pesticide Recertification Credits will be available Need help registering? Call Laurie Gibson at 541-248-1088

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fertilization. In five out of the six fields studied, application of 40 lb of nitrogen per acre decreased yield compared to the unfertilized plots. Many growers apply 50 to 60 lb of nitrogen per acre when they grow field peas - a substantial expense. While peas do not need in-season nitrogen, starter fertilizer of no more than 20 lb of nitrogen per acre can be applied at planting.

Optimum fertilizer rates

The fertilizer application rate that maximizes profit from a crop is a little less than the fertilizer rate that will produce the maximum yield. This rate depends on the prices of both the crop and fertilizer – or the amount of crop you have to sell to pay for a pound of fertilizer. The table below shows how optimum nitrogen fertilizer rates for a wheat crop change depending on prices. In

the most extreme price scenarios (high fertilizer price and low crop price or vice versa) fertilizer rates can be increased or decreased by a few pounds, but these differences are fairly small. If crop and fertilizer price go up or down together, the recommended rate stays the same. This year, both crop price and fertilizer price are high, so the optimum fertilizer rate is close to average.

Field Crop Notes continued from Page8

labels or the PNW Weed Management Handbook for specific information on application timings.

Clover

 Dormant season applications of oxyfluorfen, paraquat, diuron (red clover) and MCPA (white clover) should be completed on established white and red clover fields by early February or before growth starts.

Mint

 Dormant season applications of oxyfluorfen, paraquat, or other soil-applied herbicides on peppermint should be completed by early February or before growth starts.

Meadowfoam

• Complete fertilizer and pesticide applications on meadowfoam as soon as possible after February 1 to minimize potential crop injury.

Just Getting Started? Exploring What to Farm - A Virtual Workshop

Presented by: Teagan Moran, OSU Extension Small Farms Program (541-713-5011)

As a beginning farmer or new land owner, you need to determine what CAN be grown or raised on your property and what you WANT to produce. This session will cover how to assess natural resources on a property, such as soil and water, to know what your options are. We will introduce the basic physical property and personal considerations for livestock, fruit, flower, and diverse vegetable operations. Due to the brief time we get together, we will not be covering production methods, costs of production, or marketing strategy, however, you will leave knowing what questions to ask in order to take the first step into farming and with a resource packet to help you along the way. There will be a facilitated question and answer session as well as opportunities to connect with other participants.



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Tomato Grafting for Dry-Farmed Production in Oregon

Vegetable grafting is widely practiced worldwide as a soilborne disease management strategy, with disease susceptible varieties grafted onto disease resistant rootstocks. This practice was first documented in Japan in the 1920s, with watermelons grafted onto squash rootstock (Kubota, 2016). Grafting of vegetables has not been widely practiced in the US until recently due to readilyavailable and cost-effective soil fumigants and the high labor costs associated with grafting; a growing interest in non-chemical soilborne disease control strategies and mechanization of the grafting process is expanding grafting interest and adoption in the US.

Vegetable grafting to improve drought and heat tolerance (climate resilience) is an emerging research area. In 2019, the OSU Vegetable Program/Stone laboratory, in partnership with the Small Farms Dry Farm Program, first compared Early Girl tomato



Tomato Presentation at the Dry Farm Field Day

grafted onto Fortamino rootstock with ungrafted Early Girl (WSARE project "Enhancing Vegetable Farm Resilience through Dryland Production"). Grafted Early Girl plants were less drought-stressed than ungrafted plants, and fruit yield and size were higher and blossom end rot incidence lower on grafted plants than on ungrafted

plants. These results suggested that grafting is a promising strategy to improve dry farmed tomato productivity in the Willamette Valley.

The WSARE project "Production and Marketing of Dry-farmed Tomatoes in Oregon" began in 2020 and has trialed more than 200 tomato varieties and scion/ rootstock combinations for

dry farm performance. In 2020, the project found that the rootstocks Fortamino, DRO141TX, Emperador, and Maxifort improved tomato dry farm performance, while Shin Cheong Gang did not. In 2021 (a hotter and drier year than 2020 with a record-setting heat dome in late June), DRO141TX, Emperador, and Fortamino were again shown to improve dry farm performance (Tables 1 and 2), with differences between DRO141TX and Fortamino detected. Across seven scions grafted onto them both, those grafted onto Fortamino exhibited lower blossom end rot incidence and were less drought-stressed, though a significant impact on vield and fruit size was not detected. Fruit of Big Beef and BHN-871 grafted onto either Fortamino or DRO141TX remained firm despite the extreme heat in 2021, while fruit of other combinations were unacceptably soft.

Summary

Grafting is a promising tool to improve dry-farmed tomato performance as it has the potential to reduce plant drought stress and blossom end rot incidence and increase fruit yield and

Big Beef and BHN-871 grafted onto either Fortamino or DRO141TX rootstocks are highly recommended for dry farm production as these scion/ rootstock combinations were high performing in 2020 and 2021 and produced the greatest yield of firm umblemished fruit in the extreme 2021 heat.

Plants grafted onto Emperador rootstock can be purchased from Log House Plants, Plug Connections, and Territorial Seed Company. Currently, none of these sources offer plants grafted onto Fortamino or DRO141TX.

Farmers can inexpensively produce grafted plants, however grafting techniques may require practice before

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Table 1: Yield and quality of ungrafted scions and scions grafted onto DRO141TX and Fortamino

Scion	Rootstock	Fruit number	Total yield	Fruit size	BER incidence	Heavy BER
		(fruit/acre)	(tons/acre)	(lbs/fruit)	(%)	incidence (%) ³
Astrakhanskie	DRO141TX	174,240	51.8	0.59	3	1
(OP¹ red)	Fortamino	151,734	46.5	0.61	5	1
	None	85,958	16.5	0.38	49	39
Big Beef	DRO141TX	368,808	68.5	0.37	18	3
(F1 ² red)	Fortamino	373,164	76.3	0.41	3	1
	None	260,779	39.8	0.31	66	31
Cosmonaut Volkov	DRO141TX	179,322	35.0	0.39	4	2
(OP red)	Fortamino	171,336	39.0	0.45	0	0
	None	124,146	21.9	0.35	12	2
Marmande	DRO141TX	374,035	50.1	0.27	0	0
(OP red)	Fortamino	401,914	48.7	0.24	0	0
	None	288,077	30.0	0.21	5	2
BHN 871	DRO141TX	265,426	51.9	0.39	7	2
(F1 orange)	Fortamino	282,269	62.2	0.44	3	1
	None	154,493	28.9	0.37	55	32
Azoychka	DRO141TX	211,411	35.1	0.33	6	3
(OP yellow)	Fortamino	279,510	52.3	0.37	2	1
	None	209,814	31.1	0.30	16	5
Baylor Paste	DRO141TX	491,357	28.3	0.11	6	4
(OP red paste)	Fortamino	762,784	52.6	0.14	3	1
	None	448,184	22.2	0.10	10	3

Table 2: Yield and quality of ungrafted scions and scions grafted onto Emperador

¹ open-pollinated | ² hybrid | ³ necrotic lesions that lead to fruit rot

Scion ¹	Rootstock	Fruit number (fruit/acre)	Total yield (tons/acre)	Fruit size (lbs/fruit)	BER incidence (%)	Heavy BER incidence ²
(%)*						
Thorburn's Terra	Emperador	319,440	48.2	0.30	8	2
Cotta (OP orange)	None	254,390	24.4	0.19	41	20
Cherokee Carbon	Emperador	201,828	43.5	0.43	2	2
(F1 purple)	None	175,982	35.4	0.40	46	15
Cherokee Purple	Emperador	255,552	48.9	0.38	1	0
(OP purple)	None	192,826	37.2	0.39	25	4
Cuor di Bue	Emperador	211,992	46.7	0.44	14	8
(OP red paste)	None	293,885	33.8	0.23	64	47
San Marzano	Emperador	707,124	39.0	0.11	24	9
(OP red paste)	None	601,128	40.9	0.14	53	46

¹scion/rootstock combinations commercially available from Log House Plants | ² necrotic lesions that lead to fruit rot

grafting success. For more information on how to graft tomatoes, see the Introduction to Grafting Manual. Fortamino is available as organic seed from High Mowing Seed

Company and DRO141TX (not available as organic seed) is available from Johnny's Selected Seeds.

Resources

Kubota, C., C. Miles, and X. Zhao, 2016. Manual: How

to produce grafted vegetable plants. Available at http://www. vegetablegrafting.org/resources/ grafting-manual/

Stone and Davis, 2021. OSU dry-farmed tomato project reports. Available at https://horticulture. oregonstate.edu/article/dry-farmtomato-production.







Agritourism Producer Survey: What Would You Like Us to Work on Next?

We want to hear from you! OSU Extension faculty in the Willamette Valley are conducting a survey to better serve farms with agritourism and/or direct to consumer sales in their business model. Farmers and producers, this

means you. Agritourism includes farm stores, U-picks, seasonal festivals, farm to table dinners, tours and classes, tastings, farm stays, on-farm nurseries, hiking and birdwatching, and more. These marketing strategies can enable an additional revenue stream, enable farm products to be sold at a higher price, help with farm succession, provide



employment for additional family members, and teach the public about agriculture.

I know, it is yet another survey. But these results will directly impact the types of support and educational resources offered to agritourism operations or those that are looking to add an agritourism activity in the future. This survey was developed with the sole purpose to better understand the need for agritourism educational programing and support that may benefit your farm. Our hope is that we can help keep family farms vibrant, strengthen local communities, and support sustainable food systems.

The survey is anticipated to take 5 minutes to complete and includes questions that will assist our agritourism and small farm programs. Please go to beav.es/Uuo or use the QR code to fill out the survey. It will be open through January 31. If you have any questions about this survey or other agritourism programing, please contact Audrey Comerford at audrey.comerford@oregonstate.edu

Commercial Agriculture Tree and Small Fruit

Erica Chernoh 541-344-1709 erica.chernoh@ oregonstate.edu



Orchard Vole Management

By Erica Chernoh

I recently visited a grower that is battling voles in their hazelnut orchard. Voles can be destructive in orchards, tunneling through fields and chewing on the tender green bark of young trees and on irrigation lines. Young trees with developing bark are particularly susceptible, voles chew on bark from 2 inches below to 5 inches above the soil line and can completely girdle a tree causing death. Voles also gnaw on older trees, but the damage rarely results in death. Voles resemble house mice and are often referred to as meadow mice. They are dark gray or gray-brown with a gray underside, and 4 to 5 inches long. Since they hide in their underground burrows, they are often identified by the mouse size holes and 'runway' paths they leave behind. While there are several different species of voles that exist in Oregon, the management approach is the same.

Monitoring for voles is important so that you detect the problem early before populations build and significant damage is done. Monitor your field monthly starting in mid-winter, looking for runways (1-2-inch-wide paths between tunnel openings), tunnel openings, and fresh vole droppings. Controlling voles will require

an integrated approach that utilizes multiple management techniques.

Cultural control

Voles are attracted to dense vegetation, weeds, and heavy mulch, which protect them from predators. Modifying the habitat to make it less suitable is one way to deter voles. Mow regularly, keep your mulch layer thin, and/or spray with herbicides to keep aisles and areas along the edges of the field clear of weeds and dense vegetation.

Young trees can be protected with trunk guards to prevent voles from girdling the trees, but the guards also offer shelter and protection for the voles. If you use trunk guards, bury the bottom of the trunk guard 6 inches deep in the soil so that the voles can't dig underneath it, and check the trees regularly to ensure the voles aren't hiding beneath the guards.

Physical/mechanical control

When populations are low, voles can be controlled through regular and persistent trapping. Simple wooden mouse traps baited with slices of apples or globs of peanut butter-oatmeal mixes can be used. Look for burrows and runways in grass or mulch, and place traps at a perpendicular angle to the runways. Attach the



Creeping vole (Microtus oregoni).



Vole runway and tunnel entrance.

trap to a stake so predators don't drag the vole and trap away. Check traps daily and reset them as needed.

Chemical control

Baiting is also effective, particularly for large fields. Zinc phosphide has been used for several decades, but there have been reports of it losing its efficacy. Some zinc phosphide products and several other rodenticides are restricted use and require a pesticide applicators license. Anticoagulant baits can't be directly applied to food crops but can be used along the edges of fields or during crop dormancy. They are slow acting and have to be consumed multiple times within a 5-day period. Baits are safer to use if placed in a baiting station. Always use baits with caution and read and follow all label directions to protect any children, pets or other animals that may be passing through the field. For more information on rodenticide options and directions on making a simple PVC pipe baiting station, refer to PNW 627 Meadow Voles and Pocket Gophers: Management in Lawns, Gardens and Cropland (https://catalog. extension.oregonstate.edu/ pnw627).

Biological control

Voles have many predators, including hawks, owls, covotes, foxes, and cats. Predators will not eliminate the entire population since they like to have a continuous food source, but predators can help keep a vole population in check. Placing an owl box or perch in your field can attract predators. For more information on attracting predators refer to OSU Extension publication EC 1641 Living on the Land: Attracting Birds of Prey for Rodent Control (https://catalog.extension. oregonstate.edu/ec1641).



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Forestry and Natural Resources

Seedling Sale, Woods Fair Hosted by Linn Small Woodlands Association

By Bonnie Marshall, LCSWA Seedling Sale Chairman

We are really looking forward to hosting our annual seedling sale in person and anticipate having our Local Woods Fair join us again in the Santiam Building on Saturday, February 5 from 8 a.m. until noon! We will follow current COVID-19 guidelines in a safe and pleasant environment. With that in mind, please be flexible and understanding if we need to make changes.

Because of the increasing popularity of our sale, and the uncertainty of the times, we strongly encourage everyone to pre-order early. There is a great selection of bareroot and plug seedlings this year, most of them natives. We are offering conifers, deciduous trees and shrubs, evergreen shrubs, and several native wildflowers to help meet your planting needs.

This is our 27th annual scholarship fundraiser! Proceeds from our sale continue to fund the chapter's forestry-related college scholarships, 4-H scholarships and other programs that promote forest and natural resource education. In 2021, we awarded \$7600 to our outstanding college scholars and 4-H students!

The Local Woods Fair, held in conjunction with our



seedling sale, is hoping to return with vendors selling wood-related products and organizations willing to talk about resources they have available, ways to help manage your woodland property, or just share their knowledge. Again, please be flexible with us if we need to make changes.

Preorders Recommended

For best selection, availability, and peace of mind (yours and ours), we encourage you to preorder your seedlings early. Our preorder deadline is January 22nd, 2022. Orders should be mailed with your check or money order to the address on the order form (see below). We cannot do online ordering at this time.

Feel free to share information about our

seedling sale with family and friends. An information packet and pre-order form (to print out and mail in) is available on our website (linncountyswa.org). There you will find:

- Sale information sheet
- Seedling information sheet
- Pre-order form.

If you have any questions, or want to be put on the electronic mailing list for future sales, you may contact me at bonniem@ wvi.com, or 503-769-6510. If we have your contact information, we will work diligently to keep you informed via email (or phone call) if there are major changes to this year's plan.

As always, we look forward to seeing you! Thank you for your support!

Fire Aware Fire Prepared. Fall Series Now Available Online

As people in western Oregon continue to adjust to the new awareness that we live in a fire landscape, we are working to

provide information to help adapt and prepare.

The OSU Forestry & Natural Resources Extension Fire Program along with many partner agencies and organizations presented some great educational webinars this year. Fire Aware



Fire Prepared was delivered in a spring series and a fall series. Both were recorded and all webinars are available on line at the Fire Program Website (https://extension.oregonstate.edu/fire-program). Click on the "Online Webinar Guide" button (in the navigation box on the left) to find webinar links and resources. I encourage everyone to grow their awareness about the hazards of fire, and work to be better prepared. Here are the topics from the fall series:

Fire Season 2021 - A Learning Opportunity

Provides a review of the 2021 Fire Season, discusses some of the lessons learned, and illustrates where preventative work made a difference.

Prioritizing your home hardening approach

In this webinar on Home Hardening, we take a closer look at the specific recommendations from experts that will enhance the survivability of your home in case of an approaching wildfire.

From the home to the landscape: Fall Edition

The actions you take in the rainy season will help reduce the chance of damage in the event a wildfire threatens your home. This webinar reviews the principles of defensible space, the home ignition zone (HIZ), and practical steps you can take this Fall (and winter) to prepare for the 2022 fire season.

Prescribed fire in Oregon (Recorded)

In Oregon and the West, there are concerns over, misconceptions, and limited knowledge about prescribed fire. However, other regions in the U.S. like the South have been utilizing prescribed fire as a forest and fuels management tool for decades. In this webinar, you will learn about prescribed fire: it's many uses; the benefits and challenges of its use; and hear stories about its application in parts of Oregon.

What's the Deal with Plant-Based Milks?



Nutritional Comparison for 1 Cup Serving (240 mL) of Various "Milks"

	2% Cow's Milk	Almond Milk (No added sugar)	Soy Milk (No added sugar)	Oat Milk (No added sugar)
Calories	130	35	80	130
Total Fat	5 g	3 g	4 g	7 g
Saturated Fat	3 g	0 g	0.5 g	1 g
Cholesterol	20 mg	0 mg	0 mg	0 mg
Sodium	125 mg	160 mg	75 mg	120 mg
Total Carbohydrat	e 12 g	1 g	3 g	15 g
Dietary Fiber	0 g	1 g	2g	0 g
Protein	8 g	1 g	7 g	2 g

By Kira Nesser, OSU Dietetic Intern

Plant-based milks are rapidly growing in popularity and are taking up more and more shelf space in our local supermarkets each year, including almond, coconut, hemp, flax, cashew, oat – the list goes on. Why have these "milks" grown so much in popularity, and how do they compare nutritionally to standard cow's milk?

Cow's milk is considered a whole food, providing 18 out of 22 essential nutrients*. It is a complete source of protein, containing 8 grams per cup. A cup of milk also contains 12 grams of carbohydrates, and the fat content will vary depending on whether the milk is whole (8 grams), 2% (5 grams), or fat-free (0 grams). Cow's milk is also a great source of vitamin D (added to fortify) and calcium.

Plant-based "milks" are made by grinding the plant and adding water, along with vitamins/minerals, flavors, and sometimes. additional sugar. There are no plant-based milks which match the nutritional profile of cow's milk entirely, however, soy and oat milk do share similarities to cow's milk, while "milks" like almond or cashew do not. For example, soy milk contains around 6 grams of protein and 3-4 grams of fat per cup and is also commonly fortified

with calcium and vitamin D. Oat milk, which many consider tasting very similar to cow's milk, contains 3 grams of protein per cup, although the fat and protein content can drastically vary depending on the brand. Plant-based "milks" such as almond and cashew are generally very low in calories and often contain trace amounts of protein and carbohydrates, with the main source of calories coming from fat.

Switching from cow's milk to a plant-based "milk" may be a great option for those who are lactose-intolerant (when the body cannot fully break down and digest the sugar lactose, found in dairy products), looking for a

lower-calorie substitute, or prefer the taste. However, it is important to remember that nutritionally, many of these milks are not an equal substitute for cow's milk. The nutritional content of plant-based milks can vary depending on the plant (almond, oat, coconut, flax, etc.), brand/manufacturer. and if it includes added sugar or flavors. Depending on your individual needs, some of these plant-based milks may be a great substitute for standard cow's milk, however, it is important to pay attention to the differences between the variety of plant-based milks to determine which may be the best choice for you.

An essential nutrient is a nutrient that the body cannot synthesize on its own and must be provided by dietary sources.

9 out of the 20 amino acids (the "building blocks" of protein) cannot be synthesized in the body and are considered essential - a food is considered a "complete protein" when it contains all of the 9 essential amino acids.

Animal protein sources, including milk, are "complete" sources of protein. Most plant foods are not considered complete sources of protein (they are missing some of the essential amino acids), however, there are some exceptions – soy and quinoa are some examples.

It is important to note that as long as you are eating a variety of nutrient-rich foods, you are most likely consuming an adequate level of essential amino acids within a 24-hour period.

Microgreens Grow Along

Get growing indoors with microgreens!

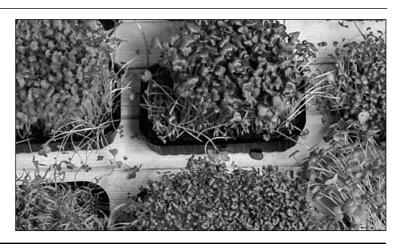
Join our FREE online program any day you choose and you'll be eating healthy and tasty microgreens in 14 days! Select a start date where you'll be able to check your microgreens every day.

Visit this link for a daily lesson with how-to videos

and tips and an optional private online sharing group: https://beav.es/UbJ.

Also, starting February 1st, you can grow along with the Food Hero team as they start their 14-day growing period. Follow along on Food Hero social media or join the Grow

This! challenge for an email reminder: https://foodhero. org/growthis. Visit https://extension.oregonstate. edu/microgreens-grow-along-taller-de-cultivo-de-microplantas to see a short bilingual video about the program.



Oregon releases state's top 20 agricultural commodities for 2020

The 2020 crop year is one to be celebrated by the 37,200 farms and ranches that make up Oregon's diverse agricultural community. Oregon is home to more than 225 commodities, everything from cattle to cherries to hazelnuts and hav. The ongoing COVID-19 pandemic presented several new challenges and opportunities for agriculture statewide. Growers and producers responded and adapted quickly to meet the needs of Oregonians.

Oregon's greenhouse and nursery industry experienced a COVID-19 boon with value of production topping one billion dollars for a second year in a row. Industry experts say the "stay home" orders meant boosted sales nationwide as more people took up gardening and landscaping. Historically, greenhouse and nursery and cattle and calves remain two of the top commodities by value of production.

New to Oregon's top 10 are cherries and hazelnuts. Cherries experienced a 78 percent increase in the value of production. High demand for Oregon cherries meant higher prices for growers in 2020. Oregon is currently the third largest producer of cherries in the nation, supplying 17 percent of the

U.S. market.

Hazelnuts had a record year with a nearly 24 percent increase in production and a nearly 57 percent increase in value of production. Hazelnut acreage has grown over the past ten years from about 30,000 acres to over 80,000 acres. Nearly 100 percent of the hazelnuts produced commercially in the U.S. are grown in the Willamette Valley.

Oregon's top-10 valued commodities by value for the 2020 crop year are:

- 1. Greenhouse & nursery, \$1,188,911,000
- 2. Cattle & calves, \$587,848,000
- 3. Hay, \$569,160,000
- 4. Milk, \$557,348,000
- 5. Grass seed, \$458,367,000
- 6. Wheat, \$273,760,000
- 7. Potatoes, \$216,810,000
- 8. Grapes for wine, \$157,900,000
- 9. Cherries, \$133,826,000
- 10. Hazelnuts, \$132,300,000

A majority of Oregon's agricultural commodities in the top twenty saw an increase in value of production including eggs (+29 percent), onions (+9 percent), potatoes (9 percent), sweet corn (+8 percent), Dungeness crab (+7 percent), hops (+4 percent), Christmas trees (+2 percent), apples (+1 percent), and milk

(+1 percent).

On the downside, grapes for wine experienced a decrease of 34 percent, while hay (-16 percent), blueberries (-11 percent), grass seed (-11 percent), pears (-10 percent), cattle & calves (-6 percent), and wheat (-3 percent) also recorded production value decreases. Rounding out the top twenty ag and fisheries commodities by value of production:

- 11. Blueberries, \$119,648,000
- 12. Onions, \$118,665,000
- 13. Christmas trees, \$106,912,000
- 14. Pears, \$97,552,000
- 15. Corn, grain, \$77,542,000
- 16. Hops, \$74,812,000
- 17. Eggs, \$72,999,000
- 18. Dungeness crab, \$72,643,709
- 19. Sweet corn, \$41,034,000
- 20. Apples, \$39,208,000

These newly released statistics are primarily from USDA's National Agricultural Statistics Service (NASS) compiled in collaboration with Dave Losh, Oregon State Statistician. Estimates were also provided by the Oregon Department of Agriculture, Oregon State University, Oregon Department of Fish and Wildlife, and the Oregon Wine Board.

Please note, hemp is not included in the agricultural commodities list. Beginning

potatoeŝ 12 hazelnuts blueberries onions cherries 16 corn for . grain Chṛistmas 17 19 Dungenes Based on 2020 data & estimates of value of production

in October, USDA's National Agricultural Statistics Service (NASS) will begin collecting information on the acreage, yield, production, price, and value of hemp in the United States. Results will be available in 2022.

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Linn County 4-H Youth Development

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Cloverbud Explorers Club Open to Youth Ages 5-8

Linn County 4-H is excited to offer Cloverbud Explorers to youth ages 5-8 years old! Cloverbud Explorers meet monthly on the first Tuesday of each month from 5-6:30 p.m., at the Linn County Extension office. Participants in Cloverbud Explorers learn about new project areas and try new activities each month that allow them to "explore" the 4-H program. Activities have included learning how to set a table, sewing a pumpkin, cookie decorating and participating in a service project. In January, participants will learn a simple knitting project.

Cloverbud Explorers are open to both youth enrolled in 4-H and youth interested in 4-H. Participants not currently enrolled in a 4-H club will enroll as a 4-Her in the Cloverbud Explorer Club.

Questions? Email Abby at abby.johnson@oregonstate. edu



on creating door hangers for the Lebanon Veterans Home.

Linn County Members recognized for their Record Books

We recently recognized the winners of the record book contest at the Clever Clovers 4-H club's Holiday Party. These members worked hard completing their records, including writing a story about their 4-H year and talking about all their projects.

- Judges Choice awards were given to three individuals that scored a 97 or better on their book.
- Junior Division (9-11 years old): Katie Fortner
- Intermediate Division (12-14 years old): Kaden Holt
- Senior Division (15-19 years old): Conner Tye

County Medals are available to recognize Intermediate and Senior 4-H members who have demonstrated advanced accomplishments in a 4-H project, as well as in leadership and citizenship activities. To be eligible for these awards, members must meet the following requirements: 1. County Medal recipients must be an Intermediate or Senior. 2.



Members received record book awards at the Clever Clovers Holiday

Members may receive only one project medal per year. 3. If merited by outstanding accomplishment, members may receive the same medal once as an Intermediate and once as a Senior. The 4-H leader nominates a member by filling out the County Medal.

County Medals were awarded to:

- Andrew Bradford in Communication/Public Speaking
- Gabriel Bradford in Personal Achievement
- Ryan Henry in Swine
- Haley Tye in Entomology
- Conner Tye in Foods



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Linn County 4-H is excited to be hosting monthly workshops on different project areas. Participants in the workshop who complete a project and

submit it for judging at the county fair will receive a prize! Watch Facebook and our website for registration information. Email Abby with any questions.

- Thursday, January 27: Educational Displays & Communication
- Thursday, February 12: Photography



Benton County and Linn County Extension programs may offer opportunities that are only open to the residents of their respective counties. Please check with your county Extension Office if you have any questions about participation eligibility for specific programs.

Holiday Craft Day a Success

Linn County 4-H returned with their Holiday Craft Day on Saturday, December 4. In total, 20 youth participated in a variety of holiday craft activities. Crafts included creating a holiday gnome, sewing a hand warmer, decorating a variety of ornaments, building their own snow globe, molding a clay plate, and designing holiday gift tags. Participants also created door hangers for the Lebanon Veterans Home service project. The day was a great success, and staff look forward to future Holiday Craft Days!



Nancy Lewis, a 4-H volunteer, helps a young participant create a gnome during the event.



Participants work on creating door hangers for the Veterans Home.



 $Participants \ sew \ hand \ warmers \ during \ the \ Holiday \ Craft \ Day.$



Participants (and their parents!) enjoyed thinking of creative designs for the door hangers at the Veterans Home.

Benton County 4-H Youth Development

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Volunteer Spotlight - Nova Prince Kelly - 2021 Outstanding Leader for the Horse Project

The Coaching Experience of Nova Prince-Kelly

By Rachael Vorster, 4-H member

If you have ever competed in the equine knowledge competitions in Benton County 4-H, then Nova Prince-Kelley's name should be familiar. If you haven't met her yourself, you probably know someone who has, as she has held the role of coach for the past two decades.

The 4-H Knowledge competitions are an integral part of the program and offer students an opportunity to compete without an animal. Nova has dedicated her time and energy into coaching the State and National teams since 2000.

Nova first began coaching when she started college. Her best friend Hope had begun coaching when she started college the year before, and naturally Nova followed.

"I just did whatever she did," Nova said, so as soon as she was able, she started coaching.

Although Nova followed Hope into coaching during college, her experience with the program began before that. She competed in the competitions during high school along with five other girls.

"There's six of us who have all gone to different counties in Oregon and coached," she added. "I have to give props to our coaches".

After college, Nova took a break to attend veterinary school, but started coaching again as soon as she finished. Although Nova has taken several breaks over the past years both for schooling and to raise her two daughters when they were little, she always came back to coaching.

"I'll probably do this for as long as I'm here," Nova said. She joked that every year she claims it will be the year she gives it up, but she always comes back.

When asked about how she balanced coaching with her work as a veterinarian and her home life, she said the answer was simple: she makes coaching a priority. She added that although it had been difficult to balance studying and coaching in college, and later raising her two children, the rest of the time, it was pretty easy.

When Nova began coaching, she wasn't planning on it being so long term. She shared that when she started the program, she actually didn't like kids. However, through coaching she found that kids, especially those middle-school aged and up, were full of spunk and life.

"Watching kids learn and grow and develop is an amazing thing," she said, and added that their enthusiasm both for the competitions and for horses was incredible.

Nova's role as coach includes prepping her students for the State competition that occurs every May, and, if they win, for Nationals the following fall. She shared she has a lot of anxiety around this time and questions whether she



Benton County 4-H Hippology Team competing in the Eastern National 4-H Horse Round Up Nationals in Louisville, Kentucky. From Left to right, members Madison Gray, Abby Lloyd, Coach Nova Prince Kelly, Carly Dowless, Rachael Vorster

has prepared them enough. However, she then added that one of the best parts of coaching is watching her students succeed at these competitions and the joy it brings them.

On the other hand, Nova revealed, coaching is not without its struggles. She recently attended a funeral for one of her students who she had coached almost 20 years ago.

"The hardest times have been losing kids," she shared. Because of the close bonds she has with her students, when one of them passes away it hits hard.

"I keep in touch with a lot of them," she said. Even after they graduate out of the program she stays in contact: "It's hard to see them go, but it's fun also to see them do their own thing."

Even when things are tough, Nova revealed that the students are what motivate her to keep going. Their dedication to learning inspires her.

"The 4-Hers want to be there and are excited about it," she said. During the pandemic it was her students who insisted they meet every week for practice, instead of twice a month.

Nova's latest coaching adventure was coaching the Benton County Nationals Hippology team, who went to Kentucky for the competition the first weekend in November. The Benton County Team did well! 10th overall in team Hippology, 4th in Team problems, 9th in written exams. Oregon, as a state, did very well too. Oregon was 3rd in judging, and 2nd in Horse Bowl.

2020-2021 Awards Program

The 68th Annual Benton County Awards Program was held virtually on Tuesday, November 30, 2021. It was a time to celebrate the accomplishments of Benton County 4-Her's and acknowledge the contributions of our 4-H leaders. Congratulations to our amazing 4-H members, leaders and families. It is truly a privilege and an honor to work with each and every one of you! Here are the 2020-2021 Award Recipients.

County Medal Awards4-H

County Medals are awards that can be earned in many different project areas by youth in 7th-12th grade. The recipients of these awards have been selected based on their strength in project work, leadership, and involvement and service to their community.

- Ben Baisted (Rabbit)
- Addison Cleveland (Goats)
- Dylan Creager (Beef)
- James Deaton (Clothing/ Sewing)
- Shelzza Deaton (Communication)
- Tanner Dowless (Sheep)
- Chloe Hendrickson (Community Service)
- Alexa Lindsey (Leadership)
- Brooke McKinley (Dog)
- Jessica McLennan (Horse)
- Maggie Moore (Sheep)
- Kendal Norcross (Horse)
- Lane Schell (Swine)
- Lorelei Schell (Swine)
- Trinity Serafin (Shooting Sports)
- Evelyn Vega (Swine)
- Kyah Weeber (Foods & Nutrition)
- Julia Weldon (Personal Development)

Record Medallion Awards

Record Medallions are given to 4-H members who have turned in top

performing record books. They are acknowledged across all program areas.

Junior division: Alyssa Lillie and Alyssa Weeber

Intermediate division: Tanner Dowless, Madison Gray, Chloe Hendrickson, Brooke McKinley, Jessica McLennan, Kyah Weeber, Megan Weldon

Senior division: Addison Cleveland, Shelzza Deaton, Alexa Lindsey, Trinity Serafin, Evelyn Vega, Julia Weldon

New Junior Leaders

Junior Leaders are 4-H members in 7th through 12th grade who mentor younger 4-H'ers and take on additional responsibilities for their club program.

Payton Bates, Ace Bozievich, Mason Luke, Jake McGaughy, Cameron McLennan, Jessica McLennan, Lucie Oster, Lane Schell, Cadence Stevens, Jayden Crabtree

First Year Teen Leader Pin

Teen Leaders are 4-H members who are equal partners with adult volunteers and help organize their 4-H club.

Addison Cleveland and Shelzza Deaton

Outstanding Leader Awards

The following leaders were nominated and selected to receive the Outstanding Leader Award in recognition of their excellence in leadership and programming in their respective program area:

- Tom Day, Wildlife Stewards Project
- Leslie Weeber, Family & Consumer Science, Arts & Sciences Project
- Rita Adams, Cloverbuds Project

- Tammie Serafin, Associated Projects
- Nova Prince Kelly, Horse Project
- Kerri Dowless, Large Animal Project
- Sherrie Deaton, Dog Project
- Alexis Scheidler, Small Animal Project

Cooperator Award

The Cooperator Award is given in recognition to individuals, businesses, or organizations, who make a major contribution to the Benton County 4-H program.

This year's Cooperator Award recipient is Papa's Pizza of Corvallis

Outstanding Members

These 4-Hers were selected by the Scholarship, Awards and Recognition Committee to interview for the title of Outstanding Intermediate or Senior division 4-H member. They were selected based upon their overall excellence in their 4-H careers.

Outstanding Intermediate 4-H member Finalists

- Tanner Dowless Runner Up
- Chloe Hendrickson -Awarded
- Jessica McLennan -Awarded
- Kyah Weeber Runner Up
- Megan Weldon

Outstanding Senior 4-H member Finalists

- Shelzza Deaton
- Alexa Lindsey Awarded
- Trinity Serafin Awarded
- · Evelyn Vega

Winter 4-H programming

Please check our website for the most up to date information on activities and events happening in Benton County 4-H.

We will share information about when/how the following programs will be delivered:

- Presentations Contest
- Junior Leader Training
- Records Training
- · Camp Counselor program

We thank you for your patience as we all work together to deliver programming to our Benton County youth with safety as a priority to our 4-H families and friends.

Benton County Annual Fund Campaign

We welcome your support of the Benton County 4-H program through our annual Benton County 4-H Fund Campaign! This yearly event provides support for the many educational activities offered to local youth through the 4-H program. Donations are now accepted online. Please visit www.bentoncounty4h.com/donate.

Any contribution is greatly appreciated! If you have donated in the past, we greatly appreciate your support! Your contribution helps our program focus on positive youth development for Benton County youth.

Get Free Activities to Spark Curiosity in Your Kids - with 4-H At Home

Sign up to download any (or all!) of our 4-H at Home Activity Guides for over 150 fun, hands-on, educational activities for kids of all ages. Learn how to save and pay for college, bake delicious holiday cookies, cook healthy meals, harness the power of mindfulness, and more! These fun, educational activities help your child learn valuable skills and gain experiences that will encourage them to continue learning and doing all year long. Go to: https://4-h.org/about/4-h-at-home/activity-guides/ to sign up for the activity guides today!

Benton County and Linn County Extension programs may offer opportunities that are only open to the residents of their respective counties. Please check with your county Extension Office if you have any questions about participation eligibility for specific programs.



Cloverbud-aged youth (5-8 years of age) spent an early December morning creating several crafts during a holiday craft workshop. This annual event has been on hold during Covid, so youth were extremely excited to participate again. At the workshop, participants created holiday cards, made foam elves with a picture of themselves as the faces, made snowman and gnome ornaments, played a game, and did fun winter-themed stretches. Afterward, one of the participants gushed about how much fun she had and participants rated the event 9 to 10 candy canes out of 10.

With events beginning to be held again in person, Cloverbuds and older 4–H members can look forward to many more events like this soon.

4-H Makes Plans for Potential Wildfire

In September, 2020, the Benton County 4-H community came together to help neighboring counties as they experienced the nightmare of a wildfire. The Benton County Fairgrounds opened its doors to house livestock and other animals temporarily while their owners were displaced during evacuations. 4-H members and volunteers jumped into action to help organize and care for the animals during that time.

As wildfires become more of a reality in the Willamette Valley, plans have been put into place thanks to the efforts of key organizers and volunteers. The fairgrounds have worked closely with Extension faculty, volunteers, the state veterinarian, and others to create a plan for housing animals in the future, if this type of natural disaster should occur again.

Types of natural disasters may be different between states, but every state faces this type of threat at some level. 4-H professionals from Benton and Linn County took their firsthand experience of working with volunteers and other agencies to coordinate efforts during the wildfires and presented at a national conference in late November so that others can learn from their experience and apply it to their own communities. It is through these shared resources and experiences, collaborations, and intentional planning that we can be best prepared dealing with natural disasters in the future.

Horse Bowl



Benton County held a 4-H Horse Bowl Contest on December 3, 2021. Horse bowl is a quiz bowl/Jeopardy-style contest where contestants are asked questions to test their equine knowledge, and must "buzz" in before answering. There were 23 participants, who were all excited to be able to compete in person! This is the qualifying contest to enter in the Statewide Spring Classic competition held in Spring, 2022.

Make a Nature Art Creation This Winter!

By Jody Einerson

In this space in the past, I have been suggesting taking children outdoors for learning and activity. If vou have done that, I can guess that you have collected many natural treasures over time. Children and adults alike are drawn to those treasures: interesting rocks, autumn leaves, cones and seeds, ocean shells, and feathers.

Consider creating some outdoor Nature Art with your treasures. Nature Art is a fun creative project that can take many forms and cost

nothing but your time.
Try a twig sculpture, writing with rocks, or make a patterned mandala. For more Nature
Art ideas do a web search for inspiration.

To make a circular mandala, start with an interesting object in the center, then build out

repeating patterns in circular layers, one layer at a time. This works great if you have lots of similar materials, like twigs, leaves or seed cones. Your finished project can be big or small, and better yet you can add to it over time.

One thing to remember is Nature Art is meant to be fleeting. Limit the art to natural materials so that it will not become a future litter problem. Enjoy the beauty now but know over time it will be blown away or decompose. Take a picture of your children building it to save and to remember the day. Now, go out and create!