Programs for you . . .

Listen to the Gardening Spot on KOHI (1600 am) radio - Every Saturday, 8:05 to 8:15 a.m.

Sept. 2 ........ Office Closed for Labor Day   Enjoy your holiday!
Sept. 5 ........ Master Gardener™ Board Meeting  10:30 a.m.  OSU Extension Service, St. Helens.
Sept. 5 ........ Columbia County Oregon Beekeepers  6:00 p.m. Columbia River PUD, 64001 Hwy 30.
Sept. 10 ...... Lower Columbia River Watershed Council  7:00 p.m. Clatskanie PUD, 495 Hwy 30.
Sept. 14 ...... Scappoose 30th Anniversary Sauerkraut Festival  10:00 a.m. - 9:00 p.m., Heritage Park.
Sept. 17 ...... Scappoose Bay Watershed Council  6:30 p.m. 57420 Old Portland Road, Warren.
Sept. 23 ...... Farm Bureau Meeting  7:30 p.m. OSU Extension Service, St. Helens.
Sept. 26 ...... Upper Nehalem Watershed Council  5:30 p.m. UNWC Office, 1201 Texas Ave, Vernonia
Sept. 26 ...... Master Gardener™ Chapter Meeting  6:30 p.m. Extension Service, Guest Presentation by local author, Amy Campion on “Growing Perennials from Seed” - Free, open to the public.
Sept. 28 ...... Clatskanie Farmers Market Cider Pressing Festival  10-2pm, Copes Park, Bring your apples and clean juice containers - they'll squeeze the cider for you! Free tastes, recipes, more!
Sept. 29 ...... Low Water Gardening Workshop @ Joy Creek Nursery  1:00 pm. Registration required.
$15 class includes 30% off purchase coupon! *See page 10 for further details.

Oct. 3 .......... Video Conference, Pesticide Safety Education Recertification Course  10 am - 3:00 pm.
*Held at the Extension Service. $20. Registration Required. See back page for details.
In the garden

**Rose stem girdler starting to hit raspberries and other cane berries**

Rose stem girdler damage is increasing. Most gardeners see berry canes that swell and then snap in about the middle of the cane. Sometimes there is only a subtle circular tunneling of the cane. Both are caused by feeding of the larval stem borer. Often, the portion of the cane above the feeding will wilt and die without snapping.

There is some evidence to suggest that stressed plants are more susceptible but it is increasingly clear that stem girdlers will also attack healthy plants.

The adult is smallish, torpedo-shaped with bronze metallic colored wing covers. Adults emerge from stems in April through early June. They feed on leaf edges creating a tattered appearance, mate, and lay eggs on the stem. The hatched larvae burrow into the stem, first feeding close to the surface and later, in the pith as they go through their instars (phase between molting periods.) Once they’ve fed enough, they pupate in the pith and emerge next spring as adults to start causing trouble.

Control options for homeowners are removal of infested canes below the swelling. Since adults are active when the plants may be in flower, spraying must be done with products that are bee-friendly or are timed to avoid bee contact. Sprays are focused on the lower half of the canes.

Since we have lots of wild blackberries for them to infest, we will never be rid of them. The problem will probably get worse. They also infest the canes of roses.

*Picture credits: Adult girdler, Whitney Cranshaw, Colorado State University; Rose stem, James Amine, West. Va. University. Both from bugwood.org.*

**“Organic” neem oils had other insecticides in them**

An Oregon organic grower who used a neem oil insecticide decided to have it tested. The product test came back showing compounds that shouldn’t have been in the neem oil. He alerted the Oregon Department of Agriculture. ODA discovered that six different neem oil products (all with organic labels) indeed had more than neem oil in them.

These products contained some very non-organic insecticides including malathion, chlorpyrifos, and permethrin. This is totally illegal.

The label of any pesticide, organic or conventional, is required to list all active ingredients. None of those three ingredients were listed. As a result of these tests, ODA banned the sale of certain neem oil products from Bonide, Safer, Bayer Advanced, Certis, Garden Safe, and Monterey companies. It’s not clear what happened. It might have been very sloppy manufacturing techniques by one company that labeled for a variety of retail suppliers. Or, worst case, intentional fraud. If you have one of these products, it can be disposed at a hazardous waste collection day. For more information, see https://www.oregon.gov/ODA/programs/Pesticides/Pages/PesticidesCurrentIssues.aspx
Vegetable beds benefit from cover crops

Now's the time to plan for cover crops. These hardworking plants can add organic matter and aerate the soil, protect it from compaction caused by rain, suppress weeds and reduce erosion -- some even add nitrogen to the soil.

Not a bad deal for an almost no-maintenance plant. All that's needed is to seed it in fall, water a couple of times until the rains start, leave it through winter and dig or till it in spring.

However, timing is key. You want to get overwintering cover crops seeded by September or early October so they get established before the weather turns cold and wet. It's also important that plants are cut or mown down in spring before they set seed.

Do this about four weeks before planting vegetables again so the crop decomposes properly. It all depends on when you plant your vegetables. It's best to let cover crops decompose before you plant.

Cover crops, also called green manure, include grains like winter oats and cereal rye. Legumes, such as crimson clover, Austrian field pea and common vetch, are nitrogen "fixers." Beneficial bacteria in legume root nodules take nitrogen from the air and supply it to the plant. When the cover crop decomposes, some of the nitrogen becomes available to other plants.

Make sure when you plant that the seed has good contact with the soil. Larger seeds like peas, vetch and cereals should be raked in lightly. Mix small seeds with sand to make them easier to broadcast and then use a sprinkler to water in. If the weather is still dry, keep the seed bed irrigated.

When it comes time to incorporate the crop, shorter plants can be tilled right into the soil. If the plant is too tall to turn under easily, mow first or use a weed trimmer. Tough-stemmed plants can be cut and left to decompose above ground. Or the tops can be carted to the compost pile and the roots dug in. Either way, let the turned-under material sit for about four weeks before planting.

For more information, refer to the OSU Extension guide Cover Crops for Home Gardeners.

Or check out: Cover Crops for Home Gardens West of the Cascades, published by Washington State University.

For beginners, start with a cover crop that is easy to grow and manage. For example, crimson clover is relatively easy to incorporate into the soil.

The first time you try cover crops, plant them in an area of your garden that you can leave for vegetables typically planted in late spring or early summer. This will buy you time to learn how to manage the cover crop residues in spring.

Try another cover crop that fits in a different niche of your garden plan after you have successfully used one cover crop. Then when you gain experience, experiment with others. Consider inter-seeding cover crops during the summer into late-harvested crops like tomatoes.

- Nick Andrews, OSU Small Farms specialist and Kym Pokorny, OSU Extension Communications
Beyond Bees… Unusual Pollinators

One of the most important insect-pollinated crops might not be a fruit or a vegetable! It may actually be alfalfa, because of the volume fed to cattle for dairy and meat production. Alfalfa was introduced in California during the gold rush, and today is the 3rd largest US crop after corn and soybeans. Upon the arrival of alfalfa, a few species of native pollinators (mostly bumble bees and solitary bees) quickly adapted to efficiently pollinate this legume, due to its similarity to other papilionaceous (butterfly-like) blossoms they were already familiar with.

Honey bees were not present in California when the earliest fields of alfalfa were cultivated… the first beehive arrived in 1853 and it took many years for the honey bee populations to build up to significant levels. This didn’t matter for the success of alfalfa, because the native bees did an excellent job!

Of course, bees are the most well-known pollinator, but their diversity far exceeds just honeybees. In the United States, there are over 4,000 species of native bees! Familiar native bees visiting garden flowers are the colorful, fuzzy, yellow-and-black striped bumblebees, metallic-green sweat bees and the mason bees. These flower-seeking pollen magnets purposefully visit flowers to collect pollen and nectar for food for themselves and their young. Bees typically visit blue or yellow flowers (they cannot see red) that are full of nectar, sweetly aromatic or minty, and provide a landing platform, such as snapdragons, borage or roses.

However, many other animal pollinators play a crucial role in flowering plant reproduction and in the production of most fruits and vegetables. Many plants require the assistance of pollinators to produce seeds and fruit. Pollinators visit flowers in search of food, mates, shelter and nest-building materials. The energy that powers their growth, metamorphosis, flight, and reproduction comes from sugars in nectar, and the proteins, fats, vitamins and minerals from pollen grains. Let’s take a closer look at a few:

ANTS, in their amazing social groups, are great lovers of flower nectar! These busy insects are often observed visiting inconspicuous, low-growing flowers such as stonecrop and sedums, though they are not terribly effective at cross-pollination.

BEETLES are important pollinators for pond lilies, magnolias, trillium, goldenrod and spirea. The flowers that beetles visit are typically bowl-shaped with sexual organs exposed, white, to dull white or green and strongly fruity.

BIRDS are very important pollinators of wildflowers throughout the world. Birds typically visit brightly colored, odorless, tubular shaped flowers (unlike bees, birds can see red but have a poor sense of smell) and have petals that are curved to be out of the way.

BUTTERFLIES are very active during the day and visit a variety of wildflowers though they are not very efficient at moving pollen between plants. In their quest for nectar, butterflies favor red, yellow and orange flat, clustered flowers with a landing pad for their long legs and abundant rewards.

FLIES, GNATS & MOSQUITOS, the insect group with two wings, is quite large. Many of them visit and pollinate flowers, though they are not as hairy or efficient as bees. Flies are drawn to pale and dull to dark brown or purple flowers that often have a putrid or unique smell such as trillium or catnip.

MOTHS take over the night shift for the pollination of nocturnal flowers with pale or white flowers heavy with fragrance and copious dilute nectar, such as morning glory and gardenia.

WASPS even visit flowers! The common yellow-jacket pollinates a woodland orchid and even certain figs have an incredible partnership with their pollinator wasp partners! ~ Sonia Reagan
**SEPTMBER**

Garden hints from your OSU Extension Agent

Oregon State University Extension Service encourages sustainable gardening practices. Always identify and monitor problems before acting. First, consider cultural controls; then physical, biological, and chemical controls (which include insecticidal soaps, horticultural oils, botanical insecticides, organic and synthetic pesticides). Always consider the least toxic approach first. All recommendations in this calendar are not necessarily applicable to all areas of Oregon. For more information, contact your local office of the OSU Extension Service.

**Maintenance and Clean Up**

- Recycle disease-free plant material and kitchen vegetable and fruit scraps into compost. Don’t compost diseased plants unless you are using the "hot compost" method (120° to 150°F).
- Harvest winter squash when the "ground spot" changes from white to a cream or gold color.
- Pick and store winter squash; mulch carrot, parsnip, and beets for winter harvesting.
- Protect tomatoes and/or pick green tomatoes and ripen indoors if frost threatens.
- Reduce water on trees, shrubs, and vines east of Cascades to harden them off for winter.
- Stake tall flowers to keep them from blowing over in fall winds.
- Dig, clean, and store tuberous begonias if frost threatens.
- Harvest potatoes when the tops die down. Store them in a dark location.
- Optimal time for establishing a new lawn is August through Mid-September.
- Aerate lawns.
- (Early-September): Apply 1 lb. nitrogen per 1,000 sq.ft. to lawns. Reduce risks of run-off into local waterways by not fertilizing just prior to rain, and not over-irrigating so that water runs off of lawn and onto sidewalk or street.
- Stop irrigating your lawn after Labor Day to suppress European crane fly populations.

**Planting/Propagation**

- Divide peonies and iris.
- Plant garden cover crops as garden is harvested. Spread manure or compost over unplanted garden areas.
- Plant or transplant woody ornamentals and mature herbaceous perennials. Fall planting of trees, shrubs and perennials can encourage healthy root growth over the winter.
- Plant daffodils, tulips, and crocus for spring bloom. Work calcium and phosphorus into the soil below the bulbs at planting time. Remember when purchasing bulbs, the size of the bulb is directly correlated to the size of the flower yet to come in spring.
- Plant winter cover of annual rye or winter peas in vegetable garden.

**Pest Monitoring and Management**

- Continue monitoring late-season soft fruits and berries for Spotted Wing Drosophila (SWD). If SWD are present, use an integrated and least toxic approach to manage the pests.
- Apply parasitic nematodes to moist soil beneath rhododendrons and azaleas that show root weevil damage (notched leaves).
- Bait for slugs with traps or iron phosphate products that are safe for use around pets.
- Monitor trailing berries for leaf and cane spot. Treat if necessary.
- As necessary, apply copper spray for peach and cherry trees.
- Spray for juniper twig blight, as necessary, after pruning away dead and infected twigs.
- Spray susceptible varieties of potatoes and tomatoes for early and late blight.

**Houseplants and Indoor Gardening**

- Clean houseplants, check for insects, and repot and fertilize if necessary; then bring them indoors.
The natural world

How will invasive weeds do in a warmer climate?

Most areas of the continental U.S. are experiencing warmer winters. Winter survival strategies are crucial to plants in this latitude.

Herbaceous perennials die back to a soil-protected crown. Woody deciduous plants go dormant with their buds protected by coverings and their stems by bark. Woody evergreens just tough it out. Biennials survive as a rosette above ground, ready to flower next summer. Annuals pass the winter as seed, except the winter annuals.

Anyway, there are cues that push plants into dormancy, generally shortening fall day length. Then there are other cues that the plants measure to emerge from their deep sleep. This time it is not day length driven but exposure to a certain number of “chilling” hours. The plant “clocks” those hours (below roughly 45 degrees depending on species) which unlocks dormancy. Then warming or oscillating warm and cool temperatures creates the final push to bud break and spring growth.

The scientific question is whether some plants will respond more quickly to shorter winters than others. The evolutionary process tends to be conservative. Woody species that bud out too early are the ones that get killed by a hard, late freeze. But there is also a competitive advantage to growing earlier than the surrounding plants (the plants that capture the most sunlight, win!)

Research is starting to focus on the timing of bud break and flowering of both native and non-native species. This study, which is called phenology, has been used for years to predict fruit crop harvest dates, insect emergence, and other day length and temperature dependent biological processes in agriculture. But with climate change, it is being used to assess the resiliency of our native landscapes and their competitiveness with some invasive species that may be more adept at growing and reproducing in the changing seasonal climate patterns. Stay tuned.

Pokeweed flourishing. Get rid of it!

Pokeweed (Phytolacca americana) is often found in isolation, a plant here, a plant there. But not this year as it seems to be everywhere. It is a rather gangly herbaceous perennial with one to several stout red/purple stems and large alternately-arranged leaves. It can grow tall, up to 10 feet in full sun. From late June through the rest of the summer, pokeweed produces spectacular elongated clusters of deep-purple berries from small green/white flowers. This really gets your attention. The plant is striking and quite attractive. But be warned, those berries and the rest of the plant are poisonous! Birds eat the berries to seed new pokeweeds.

For more information, see my November 2018 newsletter: https://extension.oregonstate.edu/sites/default/files/documents/10911/november-cl-2018.pdf
Farm and livestock notes

Help pastures grow

Leaves are the solar panels of plants. They capture the energy in sunlight and convert it to carbohydrates, proteins and other compounds. Low leaf area = little to no root and shoot growth. That can spell the end of a perfectly good pasture plant.

Clover and grass pastures grow most efficiently if you hold them at 2.5 to 6 inch height. Pastures in Phase 1 (1 inch high, 450 lb. dry matter per acre) grow very slowly both above and below ground because they lack leaf area for photosynthesis.

In Phase 2 (2.5 - 6 inches, 900-2200 lb. dry matter per acre), the plants make the most rapid and efficient growth; their leaf area is great enough to use all the sunlight falling on the area.

Pasture growth slows in Phase 3 (6-12 inches high) as lower leaves become shaded and die.

Best practices to increase lamb productivity

Even though sheep production practices in the U.S. vary widely, there are lamb crop best practices that will benefit every flock. Key indicators have been developed to help identify which lamb crop best practices will be most beneficial for various production styles. The entire set of fact sheets are available at: https://lambresourcecenter.com/wp-content/uploads/2016/01/Lamb_Crop_Fact_Sheets_ALL_06_12_171.pdf

Meat goat herds will benefit from many of these suggestions as well.

Hay hauling permit gone

The legal requirement to have a hay ownership form in your possession when hauling hay has been eliminated. The statute came into being almost 50 years ago when hay “rustling” was apparently more common. It was rarely enforced but recently, was used to stop someone in Columbia County. That stop (which resulted in a warning) led to an effort to eliminate the statute. That was accomplished in the last legislative session.
Cyanobacteria, ponds, and livestock poisoning

Cyanobacteria are ancient bacteria capable of photosynthesizing sugars from sunlight. They are incorrectly called blue-green algae. There are many genera and species and they play an important role in carbon capture, oxygen release, and food in a number of settings. Individually, they are microscopic, often aggregated in long chains. A number of species are found in Oregon. Several species are common in stagnant fresh water and can cover a pond with green to tan “slime.” However, within the common pond/slough species are several that produce serious toxins. If humans or livestock and other animals, wild or domestic, drink toxin-infused water, they may die. The following is from a North Dakota State University Extension publication:

Toxic cyanobacterial blooms occur because of favorable conditions, including hot, sunny days and warm, nutrient-rich water. The blooms commonly occur in late summer and early autumn. Under favorable conditions, bacterial numbers multiply rapidly, doubling in one day or less. Blooms usually do not last long. Rain, heavy winds or cooler temperatures often inhibit growth or break up the blooms, mixing the bacteria into the water body within a few days. However, under continuing favorable conditions, blooms may last for several weeks. Cyanobacteria can survive under ice and throughout winter conditions.

Signs of neurotoxin poisoning usually appear within 20 minutes of ingestion. In animals, symptoms include weakness, staggering, difficulty in breathing, convulsions and, ultimately, death. Animals affected by liver toxins may exhibit weakness, pale-colored mucous membranes, mental derangement, bloody diarrhea and, ultimately, death. Typically, livestock are found dead before producers observe symptoms.

Livestock that do survive cyanobacterial poisoning may lose weight and, in some cases, develop photosensitivity. Livestock that develop photosensitivity are prone to sunburns affecting lighter areas of skin, including the muzzle, udder, vulva/anus and areas with white hide. Affected skin will dry out, turn black and peel, exposing fresh, new skin.

No known antidotes are available for poisoning resulting from cyanobacteria. The best solution is to be aware of conditions that spawn cyanobacterial blooms. Under those conditions, keep cattle from drinking in areas having accumulated bacterial concentrations.

Here are some complicating factors:

There is no visual way to tell if a bloom is toxic. Tests by a water lab are needed. But that takes time and the water may be safe (or not) by the time the test results are back. Best advice is to keep humans and livestock out of ponds in the summer, especially if you see lots of “pond scum.” Toxicity ebbs and flows in unpredictable ways.

Treatment with pond-labeled copper materials in the early summer can reduce potential blooms but there are some issues with the use of those materials on certain fish. Barley straw applied early in May can also help. Western Oregon does get toxic blooms as do eastern and southern Oregon. Currently, there are three advisories in western Oregon, one each in Clatsop, Douglas and Coos Counties. These are for public recreation areas only. Drinking water for cities is sampled separately but for local ponds, not at all.

Climate change may increase the number of days and/or amount of toxin in ponds.

I believe there have been several cattle cases in Columbia County over the years but no confirmatory testing was done. Here are some links for more information:


https://www.ag.ndsu.edu/publications/livestock/cyanobacteria-poisoning-blue-green-algae
**Forage testing**

This was a mixed year for local hay. Bales put up in that brief heat wave in May are excellent. Then we got almost a month of cool weather that shut down hay baling. When good drying weather returned, some fields were still somewhat green while others were very mature. Why does that matter? Because the more mature the grass, the less protein and digestible energy it contains. That hay isn’t useless, it just needs to be supplemented with a good protein source. Alfalfa hay or soybean meal will support a strong population of rumen bacteria that will unlock the energy in the hay and allow your animals to consume the volume of hay that they need.

If all your hay came from the same field cut at the same time, it might be worth getting it tested to see where it stands. Cost of the test is about $25. You will need to collect a composite sample. That means either opening about ten bales and pulling a handful of hay from each or borrowing a hay coring tool (which is run by an electric drill you supply) that we have at the Extension office. With that, take ten samples from different bales by coring into the bale ends. With both methods, put all the cores or hand-pulled samples into a bucket and mix them up thoroughly. Then take a one-quart freezer bag sized sample out of the mix and that is what you send to the lab. You will get a hay analysis back that can be used to decide how much to feed for which type of livestock and what protein supplements, if any, are needed to keep your stock in top condition this winter. For a list of laboratories, see [https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/em8677.pdf](https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/em8677.pdf). In most cases, you will have results back in a week.

**Weaning management**

October is the traditional time in western Oregon to work the cow/calf herd. This includes vaccinating, weaning, and if not already done, castrating and dehorning.

This is clearly a stressful month for both mom and offspring. Weather in October can add to the stress. Wet and cold days sap the energy of calves that aren’t vigorous eaters. Often we have 40-degree differences between the daily high and low ambient temperatures. These conditions can cause pneumonia or related respiratory illnesses, particularly in calves already stressed from weaning and/or castrating.

A good manager will reduce weaning risks. Some can be started in September.

Common sense steps include:

- Castrate and dehorn at birth or well before weaning.
- Get the calves used to supplementary feed before weaning and provide them with ample feed and water after weaning.
- Keep the calves on the familiar pasture and move the cows. If the calves and cows are in adjacent pastures, this is called “fenceline” weaning and is less stressful on both mother and calf.
- Watch the calves closely for any sign of problems and be ready to treat promptly.
- Consider vaccinating next year a month (right now!) before weaning.

Treat both cows and calves for internal and external parasites. Contact your vet for specific recommendations.
Low Water Gardening with Maurice Horn

Maurice Horn, as co-owner of Joy Creek Nursery, has had the opportunity to trial a vast variety of perennials and shrubs. He is ever eager to find ways to create exciting gardens that use low to no water. He has conducted gravel gardening workshops for Metro, the Hardy Plant Society of Oregon (at Reed College), Portland State University and Heronswood Nursery. Recently, Maurice designed a dry land garden in cooperation with PGE, ODOT and the OSU Master Gardeners™.

September 29th @ 1 p.m. at Joy Creek Nursery: 20300 NW Watson Road in Scappoose, (503) 543-7474

In this last class of the year, Maurice Horn will present a class focused on dry gardening solutions to minimize summer watering. Recent years have brought record cold winters and record hot, dry summers. At Joy Creek Nursery, they have been pleased with how well the plants in their low-water and no-water borders have fared despite the weather. This is testament to the plants themselves, of course, but also to the soil amendments and preparation that make these borders possible. During this two-hour workshop, Maurice will present in detail various methods for amending soils, appropriate plant choices and ways for combining plants to maintain year-round interest in the garden. There is a $15 fee for this class. You will receive a store coupon for 30% off all plants in the nursery for the day!
Statewide Videoconference Course

4 CORE Credits

October 3, 2019
10 am to 3 pm

OR

December 12, 2019
10 am to 3 pm

For up-to-date information about local Extension Offices participating in this event, please call your local Extension Office or Online at: Beav.es/ZW9

Oregon State University

Register Online Here: Beav.es/Zmg

For questions and concerns, call the Pesticide Safety Education Program (PSEP) at (541) 737-6257