Programs for you . . .

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

Columbia County Beekeepers Virtual Meeting  November 5th at 6pm, via Zoom video conference. Interactive discussion on what was learned this year, a presentation on winterizing hives and spring preparations, and board officer election. Email for login info: LindaZahlZ@gmail.com

Small Farm School Has Gone Online  Small Farm School 2020 will deliver sessions as online webinars offered twice weekly. Register: http://blogs.oregonstate.edu/smallfarmschool/registration/

Lower Nehalem Watershed Council  November 12th at 7pm, via Zoom video conference. Presentation “Connecting Oregon Lampreys with Oregonians” by ODFW Statewide Lamprey Coordinator, Benjamin Clemens who says, “Lamprey are a fascinating group of jawless, boneless, fishes that have endured for at least 400 million years! Ten species of lamprey, about 25% of all lamprey species, live in Oregon! Pacific Lamprey were harvested and used by Native Americans for culture, ceremony, medicine, and food.” Because there are so many species of lamprey in Oregon waters, they have diverse impacts on and needs in freshwater or marine habitats. Of the 10 Oregon lamprey species, five status assessments have been conducted. Every assessed lamprey species has been ranked on the state’s Sensitive Species List, making them Oregon Conservation Strategy species. This event is FREE and open to the public. Join the meeting online at https://us02web.zoom.us/j/87548589146

Chip Bubl, OSU Extension Faculty, Agriculture
In the garden

Fruit and vegetable garden year in review

This was an interesting year to tend a garden. Many people had more time to garden with COVID limitations on work and/or restrictions on normal social activities. At our office, the demand for gardening information increased significantly. Vegetable seed sold out at most of the local stores and even ordering on-line was more challenging. Transplants also were in short supply. But a lot of gardens were prepped and planted by mid-April.

Cool season crops planted early, like lettuce, cabbages, onions, beets, carrots etc. did well, even when it turned quite cool and damp in May through early June. However, our heat-loving vegetables like corn, green beans, tomatoes, peppers, and squash were slowed. It made no sense to plant tomatoes or peppers in those temperatures unless you had a way of keeping them warmer.

Gardeners discovered that modern corn varieties do not emerge well in cool soil conditions, especially left over seed from last year. Some corn had to be replanted when the weather warmed.

People also discovered that transplants of squash (summer and winter varieties), beans, and even corn did fairly well in that cool cycle. The virtue of transplants ready to put into the garden in late April and early May is that you can take advantage of the long days of spring. The more sun vegetables get, the faster they grow. It is a virtuous circle since, as plants grow bigger, they have more leaves to capture more sunlight to make even more leaves (and deeper roots). The advantage of having your own greenhouse or even a modest 4 x 8 foot cold frame is that you can grow your own transplants and take advantage of even a cool, wet spring.

Once we really hit summer, we had excellent growing weather for all our crops. Tomatoes were a little more prone to blossom end rot (that disorder on the bottom of the tomato) but crops were heavy. Peppers absolutely thrived.

I felt that, in general, there were fewer cabbage butterflies this summer (the white one that produces the green caterpillars in your kale and broccoli) and maybe a few more aphids. Slugs, once it got hot, disappeared except in dense foliage plants like lettuce and the cabbage family that are generally heavily watered. It is worth noting that slugs are active and breeding now so some baiting is in order.

For berries and tree fruits, it was a good year. Some raspberries got sunburned if they matured during the hot periods. Blueberries did very well. We had bumper apple and pear crops. Good pollination weather in April helped. Since many apple varieties are “alternate” bearing, the crop will be somewhat lower next year. Insect damage to apples was far less than normal. But that too will probably flip next year when they have fewer fruit to lay their eggs on.

Smoke from wildfires to the east of us did slow growth and maturity of some tomatoes, squash and tree fruit. That was most likely due to the reduced sunlight.
Finally, the tomato season ended with rains which enabled late blight to flourish and a slightly earlier than normal hard frost. Now it is time to lime the garden if you till in the fall and put the garden to bed with a nice leaf cover (whether you till or not) if you have the leaves. If you haven’t planted garlic, there is still time.

**Drought effects linger long after the rain has begun**

Columbia County had below normal rainfall for a number of years. There is a strong chance that the dry cycles will continue to affect trees and shrubs. Some of the damage is cumulative and will not show up until next spring or even for several years. Newly planted trees and shrubs are most at risk. New plants usually come to us with small root systems (bare root dormant trees) or somewhat constrained ones like those trees and shrubs that we get in containers.

Most gardeners are good about seeing that a proper planting hole is dug (wider as opposed to deep), that grass and weeds are taken care of and that the trees are kept well-watered the first year. But often, second year trees still lack vigorous root systems. Moisture competition from grass and skimp watering in August through October can send these plants into crisis when the soil profile dries out. Symptoms could include rapid drying of the leaves or individual limbs dying. Under the ground, roots may be damaged. Root injury often leads to the strange symptom of trees leafing out next spring and then quickly turning brown.

Drought stress may increase insect injury. A non-stressed tree often has resins, sap, or gum that helps it fight off trunk or limb borers. Weakened trees can’t mount the same level of defense. Roots that have partially died back can be more prone to root diseases that may cause significant and sometimes fatal problems in the coming years. There are no good treatments for root diseases or only marginally effective ones for insect borers.

Some of our native trees have very sophisticated stress response capacities. A lot of Oregon Garry oaks can be found in St. Helens on rocky, dry sites. In very hot summers, many have brown leaves by early August but have set buds on their branches and should, for the most part, leaf out normally the following year.

Douglas fir is a little more problematic. It now grows on lower elevation sites that originally had oaks. Though Douglas fir naturally goes dormant in the late summer, the degree of dryness this fall mirrors other years that caused problems for fir trees. Some trees have already turned brown and are dead. Others have limbs that have died but the tree is still alive. It is normal for conifers to shed needles in the fall from the inside out but drought stressed trees often dispense with more needles in response to lack of moisture. As noted above, a dry cycle can continue to produce dying trees for the next several years. A cold dry winter could aggravate that problem but right now, that doesn’t appear to be in the forecast.

The red “flagging” we see on western red cedars (patchy “branchlet” die-back) is normal and generally not of concern. An entire large cedar tree turning brown is a problem. But not one that you can do anything about. And, sadly, has become a serious concern. Dead cedars are everywhere.
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.

Planning
- Force spring bulbs for indoor blooms in December.

Maintenance and Clean Up
- All of Oregon: Service lawn mower prior to winter.
- Check potatoes in storage and remove any going bad.
- Place a portable cold frame over rows of winter vegetables.
- Place mulch around berries for winter protection.
- Cover rhubarb and asparagus beds with composted manure and straw.
- Rake and compost leaves that are free of diseases and insects. Use mulches to prevent erosion and compaction from rain.
- Protect built-in sprinkler systems: Drain the system, insulate the valve mechanisms.
- Clean and oil lawn mower, other garden equipment and tools before storing for winter. Drain and store hoses carefully to avoid damage from freezing. Renew mulch around perennial flower beds after removing weeds.
- Protect tender evergreens from drying wind.
- Tie limbs of upright evergreens to prevent breakage by snow or ice.
- Trim chrysanthemums to 4 to 6 inches after they finish blooming.
- Leave ornamental grasses up in winter to provide winter texture in the landscape. Cut them back a few inches above the ground in early spring.
- Last chance to plant cover crops for soil building. You can also use a 3- to 4-inch layer of leaves, spread over the garden plot, to eliminate winter weeds, suppress early spring weeds and prevent soil compaction by rain.
- Watch for wet soil and drainage problems in yard during heavy rains. Tiling, ditching, and French drains are possible solutions. Consider rain gardens and bioswales as a long term solution.
- Take cuttings of rhododendrons and camellias for propagation; propagate begonias from leaf cutting
- Prune roses to "knee-high" to prevent winter wind damage.

Planting/Propagation
- Plant window garden of lettuce, chives, parsley.
- Good time to plant trees and shrubs. Consider planting shrubs and trees that supply food and shelter to birds; e.g., sumac, elderberry, flowering currant, and mock orange.
- Still time to plant spring-flowering bulbs, such as tulips, daffodils, hyacinths, crocuses. Don't delay.
- Good time to plant garlic for harvest next summer, and to transplant landscape trees and shrubs.

Pest Monitoring and Management
- Monitor landscape plants for problems. Don’t treat unless a problem is identified.
- Rake and destroy leaves from fruit trees that were diseased this year. Remove and discard mummified fruit.
- Check firewood for insect infestations. Burn affected wood first and don’t store inside.
- Treat peaches 4 weeks after leaf fall spray for peach leaf curl and shothole diseases.
- Moss appearing in lawn may mean too much shade or poor drainage. Correct site conditions if moss is bothersome.
- Bait garden, flower beds for slugs during rainy periods. Use traps or new phosphate baits, which are pet-safe.

Houseplants and Indoor Gardening
- Reduce fertilizer applications to houseplants.
**Weed of the month: Velvet grass**

In Columbia County, we have two velvet grass species: common velvet grass (*Holcus lanatus*) and German velvet grass (*Holcus mollis*). They are both perennial grasses native to Europe. Their names give away the fact that their leaves are covered with dense hairs that are very soft to the touch. *H. mollis* tends to be hairier than *H. lanatus*. The hairs on both give the foliage a green-gray appearance.

Both are exceptional competitors, especially on disturbed sites like overgrazed pastures, weak lawns, or newly seeded fields. Once established, they spread through seed and, in the case of German velvet grass, through aggressively spreading rhizomes. When seed matures and drops to the ground, it can germinate immediately given favorable conditions. Both species can tolerate poor sites but also compete well on better sites if the vegetative cover has been weakened.

These species are not easily controlled. When young, livestock will graze the grass, especially if forced to by a good rotation grazing system. But as they mature, they become increasingly less palatable. Set stock grazing, where horses or livestock are allowed the freedom to graze whatever they like over a wide area, generally increases the percentage of velvet grass.

Managing pastures only for hay can also result in the same thing, especially if no fertilizer is applied to stimulate the better forage grasses and legumes. In pasture management, the options are to:

- **Fallow the field for a summer and do repeated tillage to destroy the root systems and rhizomes.**

- **Kill out the velvet grass and other species with an herbicide and then over-seed with a no-till drill or with light tillage that provides some bare ground for seeds to germinate on.**

In both situations, following up the control measures with a grain like oats for one rotation may help to improve the ultimate establishment of a velvet grass free pasture. In addition, planting lots of seed can improve the initial stand and help to suppress germination of velvet grass seeds.

In lawns, velvet grass drives people nuts. Its broad blades, hairiness, and odd grass color are not at all attractive mixed in with our standard lawn species. It will grow taller and faster than regular lawn grasses. And even under good lawn management, once established, it will increase in density, with German velvet grass a worse problem.

In both agricultural and lawn situations there may be some herbicide options that can help. Small infestations in lawns can be spot treated with glyphosate (Roundup™ and others) and the resulting bare patch over seeded. For more information about these options and other approaches, give me a call.
Beyond the fence

Alder cleans up

A rotation of alder has long been thought to suppress laminated root rot, a common disease in too many Douglas fir rotations.

The reasons were unclear but were thought to be based on two factors. First, since the root rot fungi doesn’t infect alder, it basically runs out of host targets and the population dwindles. Second, we have known for a long time that alder has “actinorrhizal” bacteria that fix nitrogen from the air into nodules formed on colonized alder roots. This feeds both the alder and, probably sped decay of woody material in the soil from the last Douglas firs that could have sustained the root rot fungus for a longer time.

Science often takes leaps when it can measure things that before were below the scientific radar, so to speak. Using modern genetic tools, forest research teams have discovered a complex web of relationships between the nitrogen fixer bacteria Frankia and a range of other bacteria that coexist in the root and root zone of alders. In fact, there are some alder stands that may have one bacterial community of three or more members and another stand might have a different bacterial neighborhood.

Some of the bacteria are known to exude antimicrobial compounds that may play a role in laminated root rot suppression. Other bacterial communities are adept at capturing phosphorus for the alder. Some may alter soil pH in a manner that may be improve mineral uptake in certain soils and/or reduce the vigor of the root rotting fungus. It is so darn complicated.

But the bottom line is that we could do with a lot more alder rotations on sites that will support them (and most sites in Columbia County will). The market for alder logs from well-managed 25-30 year-old stands is excellent. Alder leaves provide some complex nutritional benefits for salmon if planted in or near riparian zones. And when Doug fir are planted into recently logged alder ground, they grow at warp speed. What is not to like about that?
Farm and livestock notes

Remote Delivery Produce Safety Alliance Grower Training Course

The Oregon Department of Agriculture is offering the Produce Safety Alliance (PSA) Grower Training remotely. Remote classes are a temporary option developed by the PSA to serve growers during the COVID-19 pandemic.

The classes have limited seating and is offered on a first-come, first-serve basis. If you are interested in attending the course, please register soon. For more information visit: https://content.govdelivery.com/accounts/ORODA/bulletins/2a72340

I think this is a good idea

Tons of fresh fruit and vegetables are wasted in the supermarket and home refrigerator. There is also a lot of plastic used to protect fruit, especially soft fruit like berries and vegetables like Armenian cucumbers.

Research teams have been looking for coatings made from natural materials that could be applied to fresh produce to increase their shelf life and maintain their culinary and nutritional quality longer. This can be especially important in locations where food to market transport is challenging.

One product has broken through. It is made from byproducts of food processing such natural products as the skins and seeds of tomatoes. It is lipid (fatty acid) based. The extracted lipids are powdered and then put into water for application. The lipids are described as being able to self-assemble into super thin sheets when sprayed on apples, small fruit or vegetables like cucumbers. Fruit respiration is slowed (that is a good thing for keeping quality high), product moisture is not lost, and the thin covering is tasteless and not at all waxy or noticeable by the end consumer.

Avocado shelf-life increased by 50% in some trials. Store losses in the fruit aisle have been reduced 20% or more. The trade name of the product is “Apeel” and I expect we will see the label on produce in our grocery stores soon.

This is the kind of research and product development that might have a big impact.

Twinning in cattle

Twinning is rather uncommon in cattle. Twins can either be fraternal (the result of two eggs being fertilized at the same time) or identical (both calves coming from the same egg).

Multiple ovulations appear to be somewhat inherited with certain lines within a breed showing a higher tendency to fraternal twins. In addition, feeding a “twinning” cow a high protein and high energy diet may increase the potential for multiple eggs and thus, twins.

Identical twins are the result of a mechanical cleavage of the blastocyst (which develops from the fertilized egg) at about day 10 of pregnancy. A similar procedure has been used to produce identical twins in a laboratory setting for transplanting into cows.

While color patterns of identical twins may not be identical, they will be similar. Identical twins are always the same sex. Twins that look really different or are of opposite sexes can only be fraternal twins. When a set of twins is born and one is a bull calf and the other is a heifer calf, more than 90% of the time the female is infertile. The infertile female twin is called a freemartin.
**Weed control in November**

November can be a surprisingly good time to treat broadleaved weeds. Even after a frost, if the weeds look normal (no freeze-injury) control is possible. Of course, the weather has to cooperate. We need about six hours of no rain after spraying to insure adequate uptake of glyphosate (Roundup™ and other products). The phenoxy herbicides like 2,4-D and dicamba (Weedmaster™ is a mix of 2,4-D and dicamba and Crossbow™ is a mix of 2,4-D and triclopyr) may need less time but the same six hours are preferred.

Symptoms take much longer to develop in cooler temperatures. Often, the damage won’t be apparent until next spring when the plants are far less apparent. This is especially true of blackberries sprayed in the next several weeks. In fact, slow symptom development can often result in more effective control.

Some good target weeds: Tansy ragwort, Canada thistle, blackberries (both evergreen and Himalayan), Scotch broom, and oxeye daisy. It is worth your time to give this a try if we get the right weather.

**Why traceability is important for livestock**

In 2001, Foot and Mouth Disease (FMD) contaminated meat entered England from an airplane and some of it found its way into hog feed. The disease spread with mouth-dropping speed. Ultimately, 7 million cattle, sheep and hogs were slaughtered. The lifetime work of herd development for many farms was obliterated in a fortnight.

The same year, the Netherlands had 25 FMD cases but it had a traceability system and stopped the disease quickly. Same with France. And the 2007 outbreak in England took place after a much more vigorous FMD management and premise id system was in effect and little movement of the disease occurred.

There have been simulations of the current U.S. state of readiness. Without a good traceability system, our livestock industry faced with a FMD or other major disease outbreak would be in big trouble. While the system is voluntary, it is important that producers step up to the table, register their premises and develop a tracking system for their animals. And if you are selling to certain buyers and/or processors, they will insist on a strong traceability system if they are not doing so already.

If this sounds a bit like something we are experiencing now, albeit not involving livestock, you are right. Disease doesn’t have favorites. And we are all in the same bowl.

**Fall Pasture Reminder**

One of the most important things that happen this time of the year in a pasture is the production of new roots. Grasses and clovers in the pasture need to replace the old roots that die off so they can store energy for winter survival and spring growth. We have had an extremely dry period and pastures have not made much
growth without irrigation. Do not make the critical mistake of overgrazing because the animals are short of feed. If the animals graze the plants in the pasture down to the ground, there will be very little opportunity for the new roots to develop. A rule of thumb is that a plant is divided into roughly 50 percent above the soil as stem and leaves and the other half is below the soil in the form of roots. If there is very little above ground vegetation, there will be a lack of root development. Poor condition going into winter can lead to a three-week delay in spring growth and significant reductions in yield.

Most pasture experts agree that pastures should never be grazed below 3 inches in height. This three-inch height is a minimum for maintaining the health and vigor of a pasture. It also insures that autumn root growth will be adequate for the plants to grow and produce for many years to come.

These comments from Gene Pirelli, Mid-Willamette Valley Extension livestock Specialist, now retired.

Feeding the older horse

Estimates indicate that 25% of U.S. horses are over 20 years old. When horses lose condition, they can enter a downward spiral that may be hard to correct unless addressed promptly. Weight loss can come from several sources including inadequate or inappropriate feed, poor dental condition, competition for feed in the barn and less than optimal water consumption. Here are some suggestions:

Make sure that all your horses, especially the old and/or slow eater has equal access to feed.

If you suspect your horse isn’t drinking enough water, provide warm water. As it gets colder, horses tend to drink less anyway and this can lead to impaction. The teeth of older horses are thought to be more sensitive to cold and warming the water can relieve that stress. Manure covered with mucus is an indication of poor water intake.

Have your older horse’s teeth checked every six months. Teeth problems can slow food consumption. Have problems corrected by someone who knows how to work on older horses.

Feed for senior horses generally averages around 12-16% protein with some soluble fiber and easily digested fats. It could include a good grass hay, some alfalfa pellets and/or soy bran flakes. Talk to your vet or nutritionist about the right feed program for your horse. As horse teeth worsen, a pelleted ration or even a horse “soup” may be necessary.

Finally, the eye of the owner is the best medicine. With short daylight hours, it is easy to let days go by without a good look at your horses. Don’t let that happen. Make sure you take the time to watch your animals and take note of any changes in behavior. Call the vet before small problems grow to be big ones.
The Oregon Small Farm Wildfire Relief Fund is here!

Through the generosity of sustainable agriculture supporters in our region and throughout the world, the Portland Area CSA Coalition and Friends of Family Farmers has raised close to $30,000 to help our small farms recover from the September wildfires. A team of representatives from throughout the state has developed the process through which farmers can apply for these funds. We will be awarding grants of up to $1500 for repairing and rebuilding what was lost. Grants can also be used to compensate for lost crops and sales due to evacuation; farms do not have to have sustained fire damage to qualify. Applicants should meet the following eligibility criteria:

- Farmers that are actively working the land and are involved in the day-to-day operations of the farm
- The farm must be located in Oregon
- Farmers that primarily sell direct-to-market comestibles or seeds
- Farm operations that make less than $250,000 in gross sales annually

We encourage all farmers to apply. However, because of systems of historic inequity, we recognize that the most vulnerable populations are most likely to fall through the cracks of our traditional safety nets. For this reason, farmers of color, immigrant farmers, queer-identifying, and undocumented farmers will receive special consideration.

Oregon Small Farms Wildfire Relief Application – closes Nov. 18th. For questions, contact info@portlandcsa.org