Country Living

Provided to you by the
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March 2023

Programs for you . . .

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

March — ***Columbia County Bee School 2023***. Columbia County Oregon Beekeepers will hold a class for beginning beekeepers. First, you need to become a member of the club ($25 individual or $30 family) and then Bee School is $25. It includes three two-hour online classes March 1st, March 2nd, and March 6th from 6:30-8:30pm. Then an afternoon in the hive educational visit will be held on either April 8th (or 15th if the weather is bad on the 8th) from 11am-4pm in the St Helens area address to be announced to participants. Contact Linda Zahl to register 503-799-7073.

March 2nd — ***Columbia County Beekeepers Monthly meeting***. Thursday, March 2nd at 7pm. Judy Scher, OSU Master Beekeeper, will talk on Winter into Spring a Honeybee Colony Perspective. We will meet in person at the Columbia County Extension Office in St. Helens and by Zoom. Contact columbiacountyoregonbeekeepers@gmail.com for Zoom info.

March 9th — ***Meat Science & On-Farm Butchery***. Featured Instructor: Nate Parker, OSU. Thursday, March 9th from 6:30pm -8pm. This Zoom (digital) course will discuss how to evaluate when livestock are ready for harvest, post-mortem changes and carcass characteristics that affect meat quality, and how to optimize carcass processing to obtain a blend of value and quality from your cuts. Cost: $15. To register: https://secure.everyaction.com/y5Qx6d06t0CuJDl-YeSlWQ2 This is sponsored by the Oregon Pasture Network

March 11th — ***Columbia County Small Woodlands Tree Sale***. The Columbia County Small Woodlands Association has an annual tree sale in St. Helens. You can purchase a variety of trees in very small quantities. The sale this year will be on Saturday, March11th at the Lawrence Oil parking lot (845 N. Columbia River Highway) in St. Helens from 8:30 am- 1:30 pm. They sell both forest tree seedlings, some native shrubs, and some ornamental tree seedlings. Get there early for the best selection.

March 21st — ***Chat with Chip***. A roughly one-and-a-half-hour interactive Zoom program on garden and related topics with Chip Bubl. Tuesday, March 21st from 6:30 – 8pm. You are invited to attend! Reserve a place: https://beav.es/STR

Oregon State University Extension Service Columbia County

Chip Bubl

Chip Bubl, OSU Extension Faculty, Agriculture

In the garden

Adding organic nitrogen to gardens

The most common problem in home gardens is a shortage of nitrogen. This element is critical for plant growth. Without it, plants are stunted and don't develop the deep green color we associate with healthy crops.

Unfortunately, nitrogen is very soluble. After the 45" of rain we get from October through May, there is precious little N left in our gardens. That is very clear in winter/spring soil test results.

This means that all the nitrogen you will need for your garden must be applied in some form in the spring and summer.

There are inorganic and organic sources of nitrogen. Many gardeners prefer the organic sources. How do you figure how much you need?

The garden will require 3 to 4 pounds of actual nitrogen per 1000 square feet. To translate this into amounts of fertilizer applied, you have to learn to read the numbers on the bags.

Nutrients are listed as percentages of actual nitrogen, phosphorus, and potassium (N-P-K), always in that order.

Blood meal is 12.5 - 1.5 - 0.6. From 100#s you would get twelve and one-half pounds of actual N, one and one-half pounds of P and six tenths of a pound of K.

To add 4 pounds of actual nitrogen from blood meal, you would need to apply about 35 pounds of blood meal per 1000 square feet.

Dried steer manure is about one-half percent actual nitrogen. Since one hundred pounds would give you one-half pound actual N, you would need 800#s of steer manure per 1000 square feet to give you four pounds of actual nitrogen.

Fresh manures vary considerably in nutrient content, but average 1% nitrogen.

If you add a lot of organic matter to the soil (generally a good idea on our clay based gardens), **you must add some extra nitrogen** (besides what you are adding for your vegetables) to help feed the bacteria and fungi that will break down the organic matter into humus. Failure to do so can create a nitrogen deficiency in your crop.

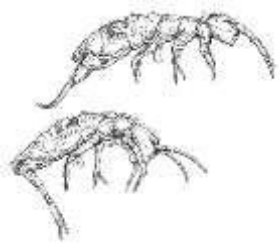
Legume cover crops may provide enough N Mid-July forward as they break down, but nitrogen should be added in the spring to get your plants off to a good start. If you had a good legume cover crop and worked it in, the spring application could be ~ 2 pounds of actual N per 1000 square feet.

If you notice a nitrogen deficiency (pale, stunted corn), you can side dress some nitrogen containing fertilizer beside the plants and water it in. Done early enough, the plants may recover.

That purple patch is …. moving!

After some very cold and snowy weather, gardeners often report seeing large violet patches on soil or pavement. On close inspection, the frightening discovery is made that these are insects, literally billions of insects, jumping about.

What are these intense little rascals? They are springtails or collembola. They get their name from an anatomical feature (a furcula) that acts as a spring on the rear of their tiny bodies. Springtails appear this time of year, often after a snowfall melts or when there have been periods of freezing and thawing with enough rain to keep everything moist. Some species are brown or gray but the popular color this winter has been violet.



Collembola aggregate in areas with high microbial activity. Collembola feed selectively on fungi and use odor to discriminate between them.

Another important factor for the aggregating behavior of Collembola is pheromones. There seems to be a clear relationship between pheromone concentration and springtail movement. With increasing pheromone concentration, activity rapidly decreases, resulting in an aggregation of animals in patches where pheromone concentration is high.

Do they cause problems? No. They disappear after about a week or less. Given the deep snow and very cold weather we have just had, they may well make an appearance.

Rhubarb is easy to grow

If you are from the rural Midwest, you grew up eating rhubarb. This vegetable is the harbinger of better weather for snow-bound residents. Rhubarb was stewed, preserved or baked into pies. Rhubarb is a very hardy plant. It is also perennial, which means that it comes back each year with a minimum of care.

The desirable parts of rhubarb are the stems. The leaves are poisonous and not to be eaten.

Rhubarb stems can be green, with some pink speckles, to intense red. It all depends on the variety you grow. The variety *Victoria* has green stems with the pink speckling, *Crimson Cherry* has red color throughout the thick red stalks as does *Canada Red*.

This is the time to plant rhubarb if you don't already have it in your garden. It is worth noting that the plant is quite decorative and will shine with other ornamental plants. It is a big plant, though, so give it space. Rhubarb is started by planting crowns, which you can purchase at your local garden center or feed and seed. It is not particular as to soil unless your soil is very heavy clay. In that case, make a 6 inch tall raised bed to plant the crowns in.

Work organic matter like compost or manure into the soil. Lime the soil and plant the crowns. Keep the plants watered during the dry summer, mulch for weed control and cover the bed with manure-rich bedding in the fall when the rhubarb goes dormant.

The first year, let the plant grow without harvesting any stems. The second year you should be able to take a light cutting and after that, more heavily. You must always leave some leaves to let the plant rebuild its root reserves. Rhubarb should be divided every five to six years. Some varieties are prone to put up seed stalks. These should be removed when noticed. Rhubarb isn't much bothered by insects.

Rhubarb is tart, which means that you need to add sugar to the chopped stems when cooking with them. Lots of sugar. I have a great recipe

for a rhubarb/ginger preserve that is very tasty.

Did you know the Oregon is one of the top producers of rhubarb in the U.S. if not the top? Most of it comes from Clackamas, Washington, and Marion Counties.

For more information on rhubarb in general, see https://catalog.extension.oregonstate.edu/ec797/html

Shade tree pruning

Shade trees are not pruned in the same manner as fruit trees. The pruning objective for shade trees is to create strong branch attachments and a shape consistent with the "native" look of the tree species. Fruit trees have the same objective as far as branch attachment but their shape is distorted to encourage good air circulation, sun into the canopy for fruit production, and easy of picking and spraying.

Shade tree pruning should emphasize good branch angles (think 10 or 2 o'clock). This will provide a strong structure to the tree. More upright limb attachments tend to lead to "weak crotches" which in turn, are more likely to break in an ice storm.

Attention is paid to the spacing of limbs as the tree grows. Limbs should be arranged around the trunk and ideally all limbs should receive a good amount of sunlight. Prune out "watersprouts" and crossing or rubbing branches. If the tree develops two leaders, remove one.

Finally, understand how the tree should look. Is it a vase shaped tree like an elm or should it have a more rounded crown like a maple? Prune selectively and with a light hand to emphasize the natural shape of the tree.

Finally, look at lower limbs and determine whether they will become a problem later on. Remove those limbs as early as possible in the life of the tree.

A newish paper wasp

As plant an insect species travel with ease from continent to continent, it is no surprise that Columbia County has a new wasp. This European import is paper wasp(*Polistes dominulus*) that looks much like a small yellow jacket. One distinguishing physical feature is a bright yellow to orange antenna. As a paper wasp, it creates single paper combs that are not enclosed (unlike the yellow jacket which encloses its nest). Also unlike a yellow jacket, the female P. dominulus will reuse last year's nest combs, unheard of in the yellow jacket world. Even more unusual, several females will cooperatively rear and tend eggs in a single nest.

Paper wasp colonies die out in the late fall (as do yellow jackets). Pregnant queens who left the nest hunker down for the winter. While yellow jacket queens hunker in solitude, this paper wasp is a bit gregarious and it is not uncommon to have a number of them hunkering together, often in attics or other human constructed structures. People who have bird boxes have noticed that the over-wintering cluster like those spaces and may discourage birds who nest early from occupying the boxes.

They do sting, repeatedly and painfully, just like a yellow jacket. They are not be as aggressive as ground-nesting yellow jackets but should be treated with respect.

There is a silver lining. They get going early in the spring. In fact, during warm spells, like we had last week, some females from an over-

wintering cluster will go out and get insects for the rest to feed on. Nest building starts early as well, often in human constructed spaces. This early activity provides useful insect predation at a time when other predatory insects are just warming up.

Clearly there are areas where paper nests are inappropriate. Those nests are best removed in the early-mid spring before the first brood hatches. But if you can live with their choice of nesting space, they will provide you a lot of caterpillar, aphid and other insect control.

Weeding a perennial flower bed without herbicides

Perennial flowers add form, color and grace to many gardens. Often, these plants are grouped in beds. These beds are not immune to weed pressure. Annual and perennial weeds find their way into the mix and can pose quite a puzzle to the gardener.

If you are an organic gardener, what can you do? Here are some steps that will help you manage those weeds:

▣ If you have the opportunity, get your planting beds started right. Lay the beds out and cover the ground and grass 3-6 months prior to planting with several thicknesses of newspaper or one sheet of cardboard. Pile compost and soil mix on top to a depth of at least 6 inches. Let everything sit until late spring/early summer and then plant into the beds. The pile will kill most of the perennial grasses and bury some of the weed seed burden that was surely in the soil to start with. Additionally, this preparation will help to provide a good soil mix for the plants.

▣ Grow vigorous plants. Know what they need in terms of fertilizer, sun and water. Native plants can be good choices.

▣ Group plants of similar requirements for sun and water.

▣ Be consistent about weeding the first several growing years. Some perennials take off quickly while others can be slow starters. Once they are established, many perennials are fairly resistant to weeds because they are so vigorous themselves. Hostas and daylilies are good examples of fairly space-controlling plants. During this early phase, you can hand weed and continue to mulch with weed-seed free material.

▣ Corn gluten meal is a by-product of the corn oil extraction process. It is used for livestock feed and is sometime used as a “natural” herbicide. Worked into the soil around established emerged perennials, it will prevent the germination of some weed seeds, though local trials haven’t been very promising. As it breaks down, it releases nitrogen that the plants can use. Corn gluten meal will <u>not</u> control established perennial weeds like quackgrass, horsetail, morning glory or Canada thistle. Those weeds require hand pulling…. and pulling….and pulling. Persistence is a great virtue.

▣ Watch your beds and remove plants that are struggling. They probably aren’t planted ion the right place and their lack of vigor will give weeds more room to grow. Replace them with something more suitable.

▣ Mulch in the fall with at least two inches of compost. This won’t stop all those pesky winter annuals but will reduce their numbers and offer you some hope. Again, continue to hand-weed.

▣ There is light at the end of the weed tunnel. As the perennials get a few years on them, they begin to act like they own the space. Your weed problems should be much reduced.

March Gardening Hints from OSU Extension

Planning

- Plan the vegetable garden carefully for spring, summer, and fall vegetables that can be eaten fresh or preserved. If you lack in-ground gardening space, plan an outdoor container garden.
- Use a soil thermometer to help you know when to plant vegetables. Some cool season crops (onions, kale, lettuce, spinach) can be planted when the soil is **consistently** at or above 40^0F.

Maintenance and Clean Up

- Lawn mowing: set blade at 0.75 to 1 inch for bentgrass lawns; 1.5 to 2.5 inches for bluegrasses, fine fescues, and ryegrasses.
- Compost grass clippings and yard waste, except for clippings from lawns where weed-and-feed products or herbicides (weed killers) have been used.
- Spread compost over garden and landscape areas.
- Prune gooseberries and currants; fertilize with manure or a complete fertilizer.
- Fertilize evergreen shrubs and trees, only if needed. If established and healthy, their nutrient needs should be minimal.
- If needed, fertilize rhododendrons, camellias, azaleas with acid-type fertilizer. If established and healthy, their nutrient needs should be minimal.
- **Western Oregon:** Prune spring-flowering shrubs after blossoms fade.
- **Western Oregon:** Fertilize caneberries (broadcast or band a complete fertilizer or manure).

Planting/Propagation

- Divide hosta, daylilies, and mums.
- Plant insectary plants (e.g. Alyssum, Phacelia, coriander, candytuft, sunflower, yarrow, dill) to attract beneficial insects to the garden. See https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/pnw550.pdf.
    - **If soil is dry enough**, prepare vegetable garden and plant early cool-season crops (carrots, beets, broccoli, leeks, parsley, chives, rhubarb, peas, radish). Plant onions outdoors as soon as the soil is dry enough to work. Plant berry crops (strawberries, raspberries, blueberries, blackberries, currants, gooseberries, and other berry-producing crop plants). See OSU Extension publications for varieties.

Pest Monitoring and Management

- Monitor landscape plants for problems.
- Protect new plant growth from slugs. Lest toxic management options include barriers and traps. Baits are also available for slug control; iron phosphate baits are safe to use around pets. Read and follow all label directions prior to using baits, or any other chemical control.
- Learn to identify the predatory insects that can help to keep aphids and other pests under control. See: https://catalog.extension.oregonstate.edu/ec1613
- Spray to control leaf and twig fungus diseases in dogwood, sycamore, hawthorn, and willow trees.
- Prune ornamentals for air circulation and to help prevent fungus diseases.
- Monitor for European crane fly and treat lawns if damage has been verified.

Houseplants and Indoor Gardening

- Trim or shear heather when bloom period is finished.
- Start tuberous begonias indoors.
- Take geraniums, begonias, and fuchsias from storage. Water and fertilize. Cut back if necessary. Move outdoors next month.

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

Farm and livestock notes

How food and farming will change

Life on earth depends on the ability of plants to convert carbon dioxide and water into sugars using the sun's energy to drive the process. This is "C3" photosynthesis. In some ways, it is still a cobbled together process with inefficiencies and "molecular mistakes" that need to be discarded. And it has other limitations. If the weather was too hot and/or soil moisture was in short supply, the C3 plants had to shut down early in the day. When they shut down to conserve moisture, they can't capture the CO_2 the plant needs to build carbohydrates.

About 50 million years ago, a series of gene mutations led to a much more efficient photosynthetic process. This new pathway, called the "C4" photosynthesis, was, in the landscape of the time, very powerful. It led to the evolution of new plants that could significantly outperform many existing C3 species, especially in prehistoric regions that were drenched in sunlight and somewhat prone to cycles of less rainfall, i.e. tropical lands bunched on either side of the Equator.

Four C4 plants have become central for human survival: corn, sorghum, millet, and sugar cane. In addition, there are a number of C4 grasses that feed wildlife and domesticated animals. C4 plants comprise about 2% of the cultivated plant species yet provide 28% of our food, either by direct consumption or by feeding it to meat producers. Other C4 plants, like pigweed and purslane are both foods and weeds, depending on local culinary customs.

Still, most of the plants on earth are C3 plants. They include all the other very important food crops (rice, wheat, and soybeans), a lot of grasses, and almost all of the trees.

So how will climate change affect C3 and C4 plants? This is where it gets interesting. C3 plants will be under more stress with higher temperatures and more drought conditions. That said, the CO2 enriched atmosphere will increase their photosynthetic efficiency. It also gives C3 plants a greater ability to close down and conserve moisture, a useful trait.

Higher CO2 levels are already producing higher plant biomass and harvestable C3 crops (12-14% on crop yields, upwards of 20% on whole plant biomass). Still, the best growing zones for soybeans and other important C3 crops will tend to migrate towards the poles where it will be cooler and there will be more rainfall. This will profoundly change the world's agriculture picture.

C4 plants will grow further north as well and command lots of the ag land. How equatorial regions fare is of great concern. Hotter and drier regions around the equator may be lost to food production, except, perhaps, at higher elevations.

But there is one other eerie catch. Nitrogen is very important to plant growth. Nitrogen is largely extracted from the air and deposited in the soil. Legumes, with their microbial partners, are very adept at this. But there are plenty of other ways nitrogen can be bio-accumulated through other microbiological species.

In an enriched carbon dioxide atmosphere, we are counting on plants to grab a lot of the excess CO2 and store it in the ground through their root systems. That could slow the pace of climate change. But they will need more N

to do so. And the nitrogen fixing plants/microbes don't capture as much N when temperatures get above 77°F.

So the climate is warming due to excess CO2 but the plants can't take it out of circulation fast enough because the N providers are slowing down because it is getting too hot.

Yikes! This is one bad feedback loop for our planet.

There are lot of bright people working on remedies involving plant breeding and the search and domestication of some soil living and N fixing microbes that could capture more N and help maintain crop systems. But non-cropped areas without those solutions will be under tremendous pressure to find paths that allow them to compete and survive. Many won't make it. Others will, but be drastically changed in the evolutionary process. And it's all happening at breakneck speed.

From a long-term perspective, Columbia County options for farming will increase. We should have enough water and some remaining land to farm. But we will probably regret creating as many pits as we have of prime agricultural land, especially in south county.

Be ready. Animal antibiotics will soon require a prescription.

By June 11, 2023, over-the-counter, medically important antimicrobial products will require a prescription from your veterinarian in order to purchase, but you are not required to purchase antibiotics through your veterinarian. Producers can use online pharmacies, but you must have a prescription.
Producers must have a clear **veterinarian-client-patient-relationship (VCPR)**, in order to obtain affected antibiotics. See the following for a list of those products covered by this rule: https://www.fda.gov/animal-veterinary/antimicrobial-resistance/list-approved-new-animal-drug-applications-affected-gfi-263 This means a formal relationship with the vet who serves as your primary contact for all veterinary services and is familiar with you, your livestock, and your farm operation. Both the veterinarian and client should sign a form to document the Veterinarian of Record.

Three requirements must be met to establish a VCPR:

✓ The veterinarian has assumed the responsibility for making clinical judgments regarding the health of the animal and the need for medical treatment, and the client has agreed to follow the veterinarian's instructions.

✓ The veterinarian has sufficient knowledge of the animal to initiate at least a general or preliminary diagnosis. This means the veterinarian has recently seen and is personally acquainted with the care of the animal by examining the animal or by medically appropriate and timely visits to the premises where the animal is kept.

✓ The veterinarian is readily available or has arranged emergency coverage and follow-up evaluation in the event of adverse reactions or the failure of the treatment regimen.

Note: Most vaccines, de-wormers, injectable and oral nutritional supplements, ionophores, pro/prebiotics and topical non-antibiotic treatments will not require a veterinary prescription. However, there are some exceptions. **Always read and follow the label!**

Calving season

Let's hope all of you reading this have one of those magic years and everything goes just fine. But just in case, it is important to diagnosis a problem quickly and to know when to call for help. Often vets are called when it is a lost cause. If called early, vets can sometimes change that loss to at least break even.

1) Bed the cows on clean pasture or clean stalls near the house.
2) Check at least every 4 hours – every 2 hours is best.
3) Know when to call the vet. In the beginning, the vet has lots of options, but the longer it goes, the fewer choices he/she has when they arrive.
    a. Cows: Call vet after 2 hours of hard labor (most old cows calve in 15-20 minutes)
    b. Heifers: Call after hour or hard labor.
4) If you try to assist, clean up. Remember that the opening starts to close after several hours of labor – don't fool around until she's closed up and then expect the vet to make it right.

Some Specific Cases:

1) Vet is called quickly. Calf is alive and cow is up. Vet can pull. Best outcome.
2) Vet is called quickly. Calf is alive but can't be pulled. Cow is up and strong. Cesarean section. Cow will generally rebreed normally. Second best outcome
3) Vet is called later. Cow is down (calf pullers often put cows down), calf can't be pulled. Calf still alive or recently dead. Embryotomy – the cow is saved – probably will rebreed. Calf lost. Value: $700 loss in loss of calf, vet cost and winter cow maintenance costs.
4) Vet is called long after calf died. Infection in uterus. Cow probably worthless. Calf dead. Loss of $900 at best.

Vets don't like to see those last two cases. A healthy cattle industry is the wish of every vet and Extension agent in Oregon.

Selenium deficiency

Most livestock raisers are aware that Columbia County is deficient in the trace mineral selenium. Sheep and cattle get "white muscle" disease which can lead to weak offspring, slow growth, or in extreme cases, to death. Animals fed solely on local hay are at risk. Selenium levels of .01-.03 ppm are common. Feed that is lower than .05 ppm is considered severely deficient.

I can't overemphasize how important this mineral is to good livestock nutrition. There are several ways to provide selenium. Talk to your vet about a program that fits your needs.

Colostrum is <u>so</u> important

Colostrum is a mother's first milk. It is packed with disease-fighting antibodies that are absorbed by the newborn lamb, calf, or kid. Offspring can best absorb the colostral antibodies in the **first 4-6 hours** after birth. Many studies with cattle show that upwards of 40% of the calves do not get enough colostrum in the first six hours. Nervous first time mothers, poor teat conformation, weak calves, or weather stressing conditions may cause poor nursing. It is important for the stock person to monitor the nursing and if it isn't going well, to intervene soon enough. Have extra on-hand in the refrigerator!

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Contact: chip.bubl@oregonstate.edu
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Publications of interest:

Small-Scale Harvesting for Woodland Owners: Timber harvest presents challenges for woodland owners with small acreages. Planning the harvest, working with contractors and selling the logs are tasks that can seem intimidating. Here's how to make a plan, find help and avoid pitfalls —while keeping costs down and increasing revenue. See it at: https://catalog.extension.oregonstate.edu/em9129

Soil: The Dirty Secrets of a Living Landscape: Soil is a living ecosystem that includes minerals, air, water, habitat for creatures and the creatures themselves. Soil provides plants with nutrients, water, physical support and air for roots. Soil also houses macro- and microorganisms, which are nature's prime recyclers. On a wider scale, soil plays a vital role in the global carbon cycle. Learn how to care for the soil you steward with this set of worksheets and guide, part of the Land Steward Rural Resource Guidelines series. See it at https://catalog.extension.oregonstate.edu/em9304/html

Pressure Canners, Pressure Cookers, and Electric Pressure Cookers: This illustrated fact sheet explains the difference between pressure canners, pressure cookers and electric pressure cookers. Pressure canners are recommended for food preservation **but pressure cookers and electric pressure cookers are not.** See why at: https://catalog.extension.oregonstate.edu/em9152