Programs for you . . .

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

Feb. 5 ........... Scappoose Bay Watershed Council 6:30 p.m. 57420 Old Portland Road, Warren.
Feb. 7 ........... Master Gardener™ Board Meeting 10:30 a.m. OSU Extension Classroom, St. Helens
Feb. 12 .......... Lower Columbia River Watershed Council 7 p.m. Clatskanie PUD, 495 Hwy 30
Feb. 25 .......... Farm Bureau Meeting 6:30 pm Extension Service, Small Conference Room
Feb. 28 .......... Master Gardener™ Chapter Mtg 6:30 pm Kenn Parry "All About Lillies" Public Welcome!
Feb. 28 .......... Upper Nehalem Watershed Council 6:30 p.m. 1201 Texas Ave in Vernonia
Mar. 9 .......... CCSWA Annual Tree Seedling Sale 7 a.m. Pacific Pride parking lot. Hwy 30, St. Helens
Mar. 9 .......... Grafting Workshop 9-noon $15, pre-registration required. Hands-on workshop to learn fruit tree grafting techniques. Includes 5 dwarf apple rootstocks to graft and take home!
Mar. 12 ......... 2019 Basic Woodland Management Shortcourse *Register by March 1st, see last page.
In the garden

Looking toward spring gardens

Soon, it will be time to start vegetable plants in your greenhouse or cold frame. Vegetable species are started at different times depending on their tolerance to cool conditions and light frosts. For example, cabbage family plants are generally tolerant of temperatures down to 28°F once they have gotten to a certain size and have been hardened off. They can be started now. Hardening off means taking your transplants out of the greenhouse environment for several hours per day prior to transplanting. They are placed in indirect light and allowed to adjust to cooler conditions. Plants develop a thicker leaf cuticle and resistance to wind. A week of hardening is often enough.

After transplanting, vegetables can be protected by hot caps, floating row covers (a gauzy fabric that traps some heat) or plastic cloches. Cloches add more heat but must be opened and closed to avoid "cooking" the transplants.

Row covers available again

Interest in row covers continues to increase. For those of you that missed the buzz, row covers are made from a gauzy fabric. They come in twelve-foot widths and, when we cut the roll, in lengths of 25 or 50 feet. Row covers are used in vegetable production on farms and home gardens.

Spring frost date planning

<table>
<thead>
<tr>
<th>Location</th>
<th>Average last date (90%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24°F</td>
</tr>
<tr>
<td>Portland</td>
<td>2/27</td>
</tr>
<tr>
<td>Hillsboro</td>
<td>2/28</td>
</tr>
<tr>
<td>Vernonia</td>
<td>4/7</td>
</tr>
<tr>
<td>Astoria</td>
<td>2/15</td>
</tr>
</tbody>
</table>

These averages represent the 90% certainty that the last spring temperatures will occur by that date. These dates do not represent climate change data that indicates the spring numbers should be 8 days earlier and the first fall frost numbers (not shown above) 8 days later.

Many people use the 50% average which usually backs the last spring temperature about 3 weeks earlier or the first fall one also about three weeks earlier. I think the St. Helens and Scappoose area track well with the Portland station but as we go into the hills, Hillsboro data becomes more accurate. Vernonia is significantly different on both ends of the growing season, i.e. later last spring frost and earlier first fall frost. Clatskanie is generally cooler overall but with frost dates between Astoria and Portland.
Row covers serve several purposes:

- Covers increase temperatures around transplants and growing plants by 4-6 degrees during the day and 3-4 degrees at night. This is valuable heat in the spring and fall.
- Seeds planted under row covers aren’t seen by crows.
- Soils warm with the covers but don’t crust, so seed emergence is faster and more even. Covers can be left with enough slack so that broccoli-sized plants can grow tall underneath them.
- Covers can keep insects out like carrot rust flies and cabbage root maggots.
- However, slugs love it under covers so slug controls are needed. Weeds also like it under cover, so persistent weeding pays.

Two years ago, we sold, in 25 or 50 foot pieces, about a mile (!!!) of cover. We are selling 1.5 ounce covers. The cost is $30 for a 12’ x 50’ piece or $15 for a 25’ one. With some care, the row cover can last several years or more. You cut them down further to fit your gardening needs. Call our office if you want some: 503-397-3462. It went fast the last time we sold it two years ago.

**Grafting workshop March 9th**

The OSU Extension office in St. Helens will be hosting a grafting workshop on March 9th from 9 a.m.-12:00 p.m. Participants will be taught how to graft apple scions onto dwarf apple rootstocks. Each participant will receive 5 rootstocks to work with and supplies to secure the graft. Scion varieties will be available for free or participants can bring their own varieties they wish to graft.

Cost of the workshop is $15. The class is limited to 20 people so early registration will assure a place. To register or for more information, call the Extension office at: 503-397-3462.

**Fertilizing landscape plants**

Vegetable are heavy users of minerals since they are bred to grow quickly and produce heavily, mostly in 100 days or less. But what about landscape beds? They are generally a mix of herbaceous perennial plants like daylilies, bulbs, or hostas and woody trees and shrubs. There may be annuals mixed in as well. Their fertilizer needs are different.

If the beds are old and established, they might not need much at all. Often decaying mulch or compost (annually applied) can provide the plant all that it needs. For acid loving plants like rhododendrons, it might help to apply something like ammonium sulfate or plain sulfur dust to lower the pH every few years. For the rest of the landscape beds, lime at the rate of 50 pounds per 1000 square feet once every five years will be helpful.

For new beds or for beds that seem to be growing slower than you think they should, you might apply nitrogen. Organic forms include blood meal and chicken feather meal. These products tend to slow-release naturally. Also, slow release lawn products *(no weed and feed or you will kill the plants!)* are excellent for providing nitrogen all summer long. A sign of nitrogen deficiency is yellow-green leaves versus deep green ones.

But there are times when the leaves seems to be saying they are “N short” when in fact, they have root problems. That is a much more challenging problem to diagnose and solve.
Native plant of the month: Douglas Spiraea

Douglas spiraea, also known as hardhack, rose spiraea, and steeple bush is a colony-forming deciduous shrub common to moist, sunny locations in Columbia County. It can grow to seven feet or so tall and will form dense thickets that are almost impenetrable, hence the “hard hack” needed to get through them. It is a striking plant in bloom with panicles of tiny rose-pink flowers. After bloom, they turn brown and those seed cases remain through most of the winter.

It isn’t recommended as a garden specimen plant since it spreads from rhizomes so easily. But it is quite desirable in open boggy or riparian locations where its resilience and holding capacity is useful. It can be found with soft rushes, sedges, cattails, willows, western red cedar, salmonberry, evergreen huckleberry, wood rose, thimble berry and some native Ribes species that like boggy sites.

It is sometimes browsed by black-tailed deer but does not seem to be a primary forage. Cattle will lightly browse it but generally, you don’t want cattle browsing where hardhack grows the best.

Douglas spiraea is reputed to be an exceptional pollinator species for hummingbirds, bees and butterflies but I could find few records of actual species collected and/or observed. It has a fairly long bloom cycle from June into September, depending on location. Birds eat the seeds in the winter and seek shelter in the thickets spring through the fall for nesting. Grouse have been specifically mentioned as being spiraea seed eaters.

There isn’t much written about native American uses. Woody stems were used to smoke or dry salmon. Small stems were bound together to make brooms. Infused seed extracts were used as an anti-diarrhea medicine.

The plant can be easily propagated by root pieces or seeds. It should be noted that Douglas spiraea was introduced into Europe and has become an invasive plant in Poland, Germany, and the Netherlands.

There are two plants sometimes confused with Douglas spiraea. The first, fireweed, blooms pink about the same time but is not woody or a water loving plant and is generally easy to distinguish from hardhack. The other look-alike is more challenging. It is purple loosestrife. It has to have its roots in wet, boggy areas and is also woody, growing up to 6 feet. The red-purple flower spikes are different from the fine, fuzzy flower spikes of spiraea. But, at a distance, they can be hard to tell apart.

Purple loosestrife is a serious invasive plant. It is found most commonly along the slough banks of the Columbia River and in the dikelands adjacent to it. It sometimes appears further inland from seeds carried by birds. It can also form thickets. If you find a significant amount of purple loosestrife, note the location, take a picture with your smart phone if possible, and send the information to either the Extension office or the Columbia SWCD.

Drawings are from the wonderful Field Guide to Common Wetland Plants of Western Washington and Northwest Oregon.
Columbia Soil & Water Conservation District is conducting a Noxious Weed Survey. This information is useful as they develop a noxious weed program for the county.


Help spot invasive plants in your area! See a weed? Call CSWCD: 1.800.741.6105
Dream of Producing a Value-added Food Product for Sale? No Idea Where to Start? “Field-to-Market” is for YOU!

Field-to-Market Workshop

Why participate?

- Learn from the experts about the ODA regulations, recipe selection, labeling guidelines, pH testing, record keeping, marketing tips, and pricing. Learn about research-based processing techniques under extension service faculty.

Who should attend?

- Fruit and vegetable farmers, and other food entrepreneurs interested in producing value-added products for sale, as well as those already producing a product and seeking additional guidance.

- Individuals managing farm-direct venues seeking more information on implementing the Farm-Direct, Value-Added law.

COLUMBIA SOIL & WATER CONSERVATION DISTRICT
35285 MILLARD ROAD
ST. HELENS, OR 97051

Registration fee: $25/person, $40/couple, includes snacks and resources. Scholarships available; please call 503-397-3462 to inquire.

To Register: http://bit.ly/2019FTM or call 503-397-3462

THE ESSENTIALS
THURSDAY, MARCH 7TH, 2019
9:00 AM - 1:00 PM
FEBRUARY

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.

Planning
- Tune up lawn mower and garden equipment before the busy season begins.
- Have soil test performed on garden plot to determine nutrient needs. Contact your local Extension office for a list of testing laboratories or view EM 8677 online.
- 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 for interest in the landscape. Among the choices are parsley, sage, chives, lavender. Choose a sunny spot for the herb bed, and plant seeds or transplants after danger of frost has passed (late April-early May in the Willamette Valley and Central Coast; June-July in Eastern and Central Oregon).
- Plan to add herbaceous perennial flowers to your flowering landscape this spring. Examples include candytuft, peony, penstemon, 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; wait until April in high elevations of eastern & central OR
- Prune and train trailing blackberries (if not done prior late August); prune black raspberries
- Prune fall-bearing raspberries (late in Feb. or early March)
- Prune clematis, Virginia creeper, and other vining ornamentals.

Planting/Propagation
- Plant windowsill container gardens of carrots, lettuce, or parsley.
- Plan to add herbaceous perennial flowers to your flowering landscape this spring: astilbe, candytuft, peony, anemone.
- Good time to plant fruit trees and deciduous shrubs. Replace varieties of ornamental plants that are susceptible to disease with resistant cultivars.
- Plant asparagus if the ground is warm enough.
- Plant seed flats of cole crops (cabbage, cauliflower, broccoli, Brussels sprouts), indoors or in 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, 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.
Planting forests, big or small (and the justly famous Columbia County Small Woodlands Association seedling sale)

Many landowners in Columbia County have a mix of forested and open ground. Often, people want to plant a small amount of trees to fill in an unused part of the property. There are several ways to acquire the appropriate trees, however, seedlings have been in short supply in recent years—you might contact your local ODF office for information on suppliers.

The Columbia County Small Woodlands Association has an annual tree sale in St. Helens. Here you can purchase a variety of trees in very small quantities. The sale this year will be on Saturday, March 9th in St. Helens at Lawrence Oil on Highway 30 from 8:30am-1:30pm. *Plan to come early!!

It is possible to transplant wild seedlings. Sometimes, you can find them on a road right-of-way. It is always a good idea to contact the County Road Department to check that it is ok to remove them. Dig smaller trees, looking for those that haven’t been growing in deep shade. Trees should come from an elevation similar to the one where they will be grown. It is best to not dig trees on cold days or from frozen ground.

Finally, trees should be transplanted as soon as possible after digging or placed in a garden bed for another year of growing before transplanting. Forest tree planting should be complete by the end of March at the very latest. The earlier the trees are planted, the better their survival. If you can’t get them in, place them in a garden bed to grow one more year and transplant the following winter.

Deer protection is very important for tree survival. You can make your own re-usable individual tree protectors out of lighter gauge metal fencing or purchase plastic Vexar-type tube protectors, also somewhat re-usable.

Deer repellents can work but need to be applied several times in the spring and for several years until the top leader of the tree is well above the deer browse height. The best commercial repellents seem to be Plantskydd and rotten egg based products like Deer Away and BGR. There are homemade formulas involving eggs and sour milk that can also be effective if used repeatedly.

Protect from field mice girdling by wrapping the base of the stem with aluminum foil.

Snags and downed trees for wildlife

Recent storms have provided an ample supply of new snags and downed trees. Rural landowners may want to leave some of the newly killed material for wildlife habitat, as long as it doesn’t poses a safety risk.

Fallen trees and branches and standing broken off trees make excellent places for wildlife to nest, rest, court, preen, feed, store food, hibernate, perch, and roost. In western Oregon 100 species use snags and 53 depend on cavities for some part of their life cycle. Up to 150 species use logs for part of their life cycle. Some examples include:

- Flying squirrels and wood ducks nest in natural cavities in standing wood.
- Woodpeckers excavate oblong holes looking for insects and nesting areas and chickadees often follow with their own nests.
- Bats roost under bark on dead standing trees; tree frogs also find cover there.
- Dark-eyed juncos nest around the roots of downed trees.
- Squirrels and deer mice store food in fallen trees and decomposing logs.

From Dan Edge, OSU
**Farm and livestock notes**

**Is there a place for a high tunnel?**

High tunnels are basically greenhouses that produce crops directly in the soil. Most are not heated. They accommodate small tractors. They are designed to get crops to market earlier and extend the production season further into fall. I have worked with fresh market growers that use high tunnels for cane berries, peppers, tomatoes, salad greens, strawberries, and other fruit, vegetables, and herb crops.

There are several things to consider. First, if all were to go well, can you market your early crops? For most, that is a resounding, yes! But if you sell solely in a farmers market that doesn’t open until late May, that might not be so attractive. I think, for most small farms, marketing wouldn’t be an issue.

Second, since the crops are generally grown directly in soil, it is best to improve the soil fertility and texture by liming and adding compost before the high tunnel is installed. Cover cropping the area for several years could be very helpful to reduce compaction and add organic matter. Thought needs to be given to handling the water coming from the plastic covering over the tunnels though, generally, one of the virtues of high tunnels is that the ground stays workable for a longer period of time in the winter. There are also special fertilizer considerations in high tunnels that need some thought and planning.

Finally, if the tunnel will have its cover on during the winter, you have to be prepared for wet, heavy snow which can destroy tunnels fast. Having a good set of 2x4 braces that you can place under the metal frame will help as will snow removal as fast as possible.

The Columbia SWCD/NRCS has been partially funding some high tunnels for small farms with some production history. Contact them at 503-397-4555 to see what is currently available. For more information, see:

- [http://blogs.cornell.edu/hightunnels/](http://blogs.cornell.edu/hightunnels/)

**Soil compaction**

Horticultural and field crop and pasture yields can all be damaged by compacted soil. Some soils with lots of clay or silt (which is very common in Columbia County) compact easily while sandy soils rarely compact. So what is compaction and how and when does it happen?

Compaction starts with compression of the soil into a denser mass of soil particles. When that happens, soils drain water more slowly and air within the soil profile is greatly reduced. That by itself reduces root growth. Add increasing difficulty faced by the roots in physically penetrating to deeper soil depths and you are on a downward crop curve. It is not uncommon to have poor crop performance blamed on fertilizer issues when compaction is the more likely culprit. In addition, compacted
soils on slopes will have more runoff and erosion during significant rain events.

On farms, compaction generally starts with hard grazing on wet ground or doing tractor work in the same situation. Certain tillage techniques done on wet soils can create plow pans along with clods that refuse to die. Anxious home gardeners often try to get a head start on garden soil preparation and end up creating some nasty soil environments. Patience in farming and gardening is a virtue. Modern farming tools and techniques are often designed to minimize soil compaction issues.

Winter livestock grazing probably creates most of our difficult compaction renovation projects. The compaction is usually centered in areas where livestock congregate or are fed. If the operation is small and way too heavily stocked with cattle and/or horses, the entire pasture can be compacted. Little in the way of valuable forage is usually there, just the unpalatable “survivor” weeds.

To cut to the chase, how do you know your soil is compacted? Often you can tell by the grass or crop growth. You can follow up this observation by using a soil probe to pull some plugs of dry soil at various depths. In compacted zones, the probe may not penetrate past a certain point or do so with great difficulty. The depth at which that starts is the depth the compaction is fully formed. I have been on some farms where the soil probe wouldn’t go in two inches. It was no surprise that dog fennel was the only plant around.

I have had some clients think this is easy to fix. They want to get a “ripper” tool and put it on their small tractor and go to work. But effective ripping of seriously compacted soil takes some good-sized ripping equipment and some serious tractor horsepower to power it through the soil.

Creating a sacrifice yard can take livestock pressure off the pasture during the vulnerable winter months and allow some improvement to take place naturally. Some less challenging tillage than ripping followed by thoughtful grazing management can also improve the situation over time.

**Grass tetany time approaching**

Columbia County livestock producers periodically experience problems with grass tetany. This metabolic disorder, also called grass staggers, is a problem for animals grazing lush spring pastures.

Lush early pastures tend to be short of magnesium and that deficiency causes the disorder. Animals can go down quickly. Unless promptly treated with an intravenous magnesium shot, they will die.

**Prevention is the key!** Regular mineral supplements do not have enough magnesium to meet animal needs in the early spring. Therefore, these supplements need to be modified or replaced with ones that have high
magnesium levels. Adding 15-25% magnesium oxide to a granular salt mix is one solution. Since a magnesium mix is somewhat less palatable, all other salt must be removed to encourage consumption. Use of commercially prepared “hi mag” mineral supplements or “mol mag” blocks will do the trick. Make sure there are enough feeding places for all the animals to get enough magnesium. Try to monitor consumption. Supplements should start right now to avoid problems later!

Mature forages (especially with clover) generally contain enough magnesium. Thus, animals full fed good hay before they go out to pasture each day will not be as vulnerable. 

Drawing by the famous English sculptor, Henry Moore

**Animal grazing behavior**

Our OSU Rangelands Extension Specialist Mike Borman reviewed some interesting literature relating to grazing animal behavior. Here are some of the highlights:

Performance on poor quality foods like straw, mature pasture grasses, or brushy fields increases dramatically if young animals are exposed with their mother to the diets that they will be eating.

Cattle can be trained to use upland rather than riparian areas and that preference will be passed on to their calves.

Supplemented sheep and goats (energy/protein concentrates) may eat more brush than those without supplements. This study was done on sagebrush but may well relate to other brush species. Combining grass and legumes in pastures balances carbohydrates and proteins. This improves rumen microbial function and enhances animal intake and performance.

**Did you know….?**

Cows should calve within the first 22 minutes of hard labor, heifers in 50 minutes.

**Each 10 minute increase in these times will**

- Decrease conception rate by 6% for the next rebreeding
- Increase by two days the interval between calving and the next estrous

If the worst happens, the cow may not rebreed and the calf could die. Check your animals frequently and call the Vet when you need help. You can’t afford cows that don’t rebreed.

**Warming newborn livestock**

A University of Alberta study where newborn calves were chilled to a body temperature of 86°F and then warmed to normal body temperature with either: 1) a combination of a heat lamp, blanket and housing at 72°F; or 2) immersing the calf in 100°F water in a bathtub, greatly favored the tub method. The calves warmed up twice as fast in the warm water and expended half as much metabolic energy as those under the heat lamp.

Researchers remind producers not to forget to hold the calf’s or lamb’s head out of the water as it is warming up and remember to dry it off before returning it to its’ mother. Also, they suggest saving some of the afterbirth or fluids to rub on the calf to help the mother claim it after being warmed up.
Hello there!! Do you live on a farm, manage a woodlot, like to raise vegetables, honeybees or farm animals, or maybe just have some questions about your soil or water? If so, we would like your input! Please take a few minutes to take our 2019 Columbia County “Citizen Needs Assessment Survey” so we can work toward designing better programs and informative workshops that will be beneficial in your life: http://bit.ly/CC2019NAS. Thanks!

Registration is now open for the 2019 Basic Woodland Management Shortcourse! This five-session course is ideal for anyone who is just starting out taking care of a woodland property. Topics include: Getting started: assessing your property & site * What’s going on in your woods? Understanding tree biology, forest ecology & habitat * Taking care of your woods: tree planting, care for an established forest, weed control * Getting it done: Timber sale logistics, laws & regulations * Field trip to see first-hand examples of what you’ve learned!

Dates: Tuesday/Thursday, March 12th, 14th, 19th, 21st. Saturday field trip TBD (probably March 23 or 30)
Time: 6:00 pm - 8:30 pm  Location: Columbia County Extension office, 505 N. Columbia River Hwy, St. Helens
Cost: $40/person; $50/couple sharing materials  Register by 3/1/19: https://tinyurl.com/basicwoodland2019

Oregon State University Extension Service offers educational programs, activities, and materials without discrimination based on age, color, disability, gender identity or expression, genetic information, marital status, national origin, race, religion, sex, sexual orientation, or veteran’s status. Oregon State University Extension Service is an Equal Opportunity Employer. OSU Extension programs will provide reasonable accommodation to persons with physical or mental disabilities. Contact the Columbia County Extension office at 503.397.3462 to request reasonable accommodation. This publication will be made available in accessible formats upon request. Please call for information.