



Country Living

Provided to you by the

OSU Extension Service Columbia County

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The office will be closed Fridays from Noon to 1 p.m.

Website: <http://extension.oregonstate.edu/columbia/>

September 2016

Programs for you . . .

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

- Sept. 13..... **Lower Columbia Watershed Council.** 7 p.m., SWCD office-35285 Millard Rd., St. Helens
- Sept. 15..... **Beekeeping.** 6:30-8 pm, OSU Extension Classroom, St. Helens
- Sept. 15..... **2016 Annual Small Farm School.** 8am-4:30pm, Clackamas Community College, register at website: <http://smallfarms.oregonstate.edu/small-farm-school>. (see back page for more info)
- Sept. 21..... **Soil & Water Conservation District.** 7:30 p.m., SWCD office-35285 Millard Rd., St. Helens
- Sept. 22 **Master Gardener™ Chapter Meeting.** 6:30 p.m. Speaker will be Maurice Horn, "Lowering water usage in our Gardens," OSU Extension Classroom, St. Helens. **The public is invited. Free.**
- Sept. 22 **Upper Nehalem Watershed Council.** 7 p.m., Vernonia Grange, <http://nehalem.org/> 503-429-0869
- Oct. 14 & 15..... **Goat AI clinic in Lowell Oregon.** Contact Richard Johnson, 541-554-0650, kiko@lookoutpointranch.com. Cost is \$475, \$200 deposit to hold your spot. Price includes lunch and refreshments on both days.
- Oct. 15 & 16..... **The All About Fruit Show.** The Clackamas County Fairplex, Canby OR. 10 a.m.-4 p.m. A great opportunity to taste hundreds of apples, pears, kiwi and grapes. You can order a custom-grafted tree, made just for you, to be delivered in the spring. Great speakers, experts to answer all your questions, pie baking contest, exotic fruit sorbet to taste. The ID Team will try to identify your mystery apples. <http://www.homeorchardsociety.org/events/2016-fruit-show/>

FOOD SAFETY/PRESERVATION HOTLINE - July 11 through October 14, 2016

1-800-354-7319 - 9 A.M. TO 4 P.M.: MONDAY thru FRIDAY, except holidays

Certified Family Food Education volunteers and OSU Extension staff will answer your questions. You can get the OSU Extension Service publications at <http://extension.oregonstate.edu/catalog>, click on nutrition and foods for publications on canning, drying, pickling and freezing too!



Chip Bubl

Chip Bubl, OSU Extension Faculty, Agriculture

Agricultural Sciences & Natural Resources, Family and Community Health, 4-H Youth, Forestry & Natural Resources, and Extension Sea Grant programs. Oregon State University, United States Department of Agriculture, and Columbia County cooperating. The Extension Service offers its programs and materials equally to all people.

In the garden

Apple anthracnose

Some apple varieties are prone to a bark girdling disease called apple anthracnose. It can produce severe oval or circular lesions on limbs. Limbs are infected in the fall when the rains start, but new lesions don't show up until spring. By late spring, the lesion is about as big as it will get but it can continue to spread spores for several more years. Severely diseased limbs can be pruned out when it is dry in the fall after the fruit is off. That will be early this year. Trees can be sprayed with copper by late September to early October and then again when the leaves have dropped. For more information, go to the OSU website on the subject: <http://pnwhandbooks.org/plantdisease/apple-malus-spp-anthracnose-bulls-eye-rot>

Early fall colors?

If you see a maple, ash, or other tree that is now showing early fall color, be warned: that tree is in trouble. Normally most trees start to put on their autumnal colors later in the year, especially after a good brisk cold snap. However yellow, red, or purple leaves at this time of year on trees that are not normally highly colored (such as purple plums) is a symptom of stress.

Look closely – does the tree have bare branches in the upper crown? Is there a wound on the stem from mechanical injury or sunscald? Is the tree in a zone where rooting is restricted? Was the tree never watered this summer? If the answer to one or more of these questions is yes, then it is no surprise the trees are starting to turn already. Root disease, recent disruption to roots from construction or grade changes, compaction from vehicular or foot traffic, and self-girdling roots can also result in premature fall colors.

Should anything be done? Yes! Try to determine the source of the stress and correct it. Little can be done about wounds that are already present, except to prevent further wounding. Mulching around trees will remove the temptation to mow or weed right up to the trunk. If compaction is a problem, try loosening the soil to a depth of 6-8 inches with a soil aerator (most likely this will have to be done professionally). Adding organic



matter or additives such as perlite will help to lighten the soil structure and improve moisture penetration and gas exchange. Make sure the tree receives sufficient water during the summer. I often hear “But it was so wet all winter!” Yes, it was wet, but normal rainfall in the summer is thin, and during all of July and August there may not have been two inches total rainfall. Eight weeks with a full canopy of leaves and the sun bearing down, increasing evaporation, can be a long time without any supplemental water.

Trees at risk (those showing fall colors now) should be marked for special care next year, including summer irrigation and spring fertilization. *Article from Melodie Putnam, OSU Plant Pathologist Extraordinaire*

Vegetable beds benefit from cover crops

No one wants to think of harvest's end as the garden reaches peak, but 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, according to Nick Andrews, OSU small farms specialist.

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 need to get your vegetables in," Andrews said. "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 Gardeners East of the Cascades](#) and [West of the Cascades](#); and [Cover Crop Methods for Gardeners](#), all publications by Washington State University that Andrews collaborated on. For beginners, Andrews advises:

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.

- *Kym Pokorny, OSU Extension Communications*

Native plant of the month: Oregon Crab Apple (*Malus fusca*)

Our native crab apple is not well known or often noticed. Prior to European settlement of Columbia County, it was found mixed along stream channels and lower elevation seasonally flooded or water saturated clay soils with alder, cascara, willows, dogwoods, and other low land shrubs and trees. Since it is a prolific seeder, it sometimes formed dense thickets. Seedlings can tolerate fairly dense shade and maturing plants can get by with a sun/shade mix. They are slow growing. One tree with an 11 inch diameter was 102 years old. It is less common now but can be seen on properties that have a good complement of native vegetation on the low benches along streams near the Columbia River.

Oregon crab apples trees are rarely over 30 feet tall. They can become quite “twiggy” with branches interlaced in the canopy. The deciduous egg or lance-shaped leaves are arranged alternately along the shoots. Some leaves can be slightly lobed or “mitten” in form. They turn a beautiful yellow or red in the fall. Crab apple bark becomes quite fissured with age and can darken to almost black.

Flowers can be white or pink and bloom fragrantly in late April through June, depending on location and weather. Flowers are pollinated by mason and honey bees and probably other pollinators. It is not clear how much they can cross with other apple species.

Fruits are somewhat oblong and about quarter sized. They are borne in clusters

(corymbs) from long-lived spurs. The spurs can feel spine like on older trees. They mature yellow with a red side that can sometimes cover most of the fruit. The fruit can darken considerably to almost black as it hangs on the tree into winter. There are 2-5 seeds in the fruit.

The fruit is crisp, acidic and tannic as it nears maturity with the tannins decreasing and the sugars increasing as it fully matures. The fruits are edible and were widely harvested and preserved by the native populations by storing them in containers under water. Over the winter, they softened and got sweeter.

Foragers make jams and jellies out of the fruit. The fine grained wood was used for tools by both the indigenous populations and European settlers.

Deer relish crab apple leaves and shoots, and fruits when they can get them. Grouse and other bird eat crab apples and the thickets can be great nesting and escape sites for songbirds. Butterfly larva of some species probably feed on the leaves.



Bears and insects

Bears favor a varied diet and are quite fond of both underground and above ground yellow jacket nests. They tear up the ground and fling the nest widely, apparently immune to the stings of the guard yellow jackets. Their target is the juicy protein-rich larva inside the nest. Both skunks and raccoons will take on ground nested yellow jackets for the larva.

Bear also consume the mound building ant nests as well as carpenter ants and termites in decaying wood in the forest. There are probably other larva they eat but no one has followed their eating patterns that closely.





That's the Way it Grows

Yeah, I Really Need more Plants

I have a fairly large yard, so there is a lot of room to plant. Now that I have started dividing some of my perennials, I have plants stuck all over the place.

While sometimes strenuous—those root balls can get huge!—dividing your perennials is helpful to reduce their size or corral the growth of vigorous plants, and rejuvenate overgrown plants. The bonus is you get all those divisions—new plants!

I like to divide most of my perennials in late summer, when they are done flowering. Spring is just so wet to be digging and messing with the soil structure. When planted in fall, the divisions will have several months for root development before blooming again.

Most plants only need dividing every few years or so, unless you want to reduce their size, or want divisions. You can tell that a plant *needs* dividing when the blooms are smaller than normal, the center is dying out, stems are mostly floppy, or the lower foliage is sparse. Basically, if the plant isn't looking as great as it did last year, then it might just need a little invigorating.

In the course of digging and dividing the irises I didn't get divided last year, I found a clump that hadn't been dug up in six years. One fan had over a foot-long string of seven rhizomes connected to it, just like tree rings. Those clumps were so overgrown and this year's growth was very puny. They really needed dividing a couple of years ago.

I find that watering the day before I'm digging a plant helps get it out of the soil much easier. It also helps the plant to retain moisture throughout the process of prying it out of the ground, chopping bits off of it and sticking it back in the ground. All of that weakens its ability to take up water after replanting.

I generally work outside in the evenings, so I am digging plants during a cooler part of the day. Digging during hot, sunny days will dry out your divisions.

Dividing a plant is pretty basic: 1. Dig it up; 2. Break, cut or slice it into smaller pieces; 3. Plant those pieces.

Trim back the foliage to about six inches before digging, when the plant is done blooming for the season. This reduces moisture loss after replanting.

Dig, pry, chop or otherwise lift the plant from the soil. If it has:

A root ball; slice it with your shovel or a knife into smaller pieces with roots, stems and leaves.

Rhizomes; break the rhizomes apart, replanting those with leaves and cutting off the older rhizomes with no growth

Tubers; plant individual tubers with growth and several

eyes.

Woody stem; Don't Divide! These are small shrubs, such as lavender and boxwood. Layer stems or root some cuttings to propagate new plants.

Be sure to plant divisions right away, if possible. The less they dry out, the better. If you can't plant them right away, keep the roots covered with wet burlap, newspaper or the like, and keep them in a cooler spot, out of the sun. You can soak them in a bucket for an hour before planting to rehydrate roots.

When planting, obviously you should water in well, and plant the divisions at the same depth as they were. Water every day two until they are established.

And that is it. Not much to it really. The hardest part is having to compost the puny-looking divisions. My new neighbor said he was interested in some irises. That was a mistake. He may end up with more than he wants!

I have two hostas, a coreopsis and a few overgrown daylilies to divide and replant, and I will be done for this season. Next spring, I'm gonna have an explosion of blooms!



—Lisa M. Long

Columbia County Master Gardener™

Free gardening ebooks at:

Smashwords.com/profile/view/LisaMarieLong

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SEPTEMBER

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
- 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. To learn how to monitor for SWD flies and larval infestations in fruit, visit <http://swd.hort.oregonstate.edu/gardeners>.
- 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

Farm and livestock notes

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 \$20. 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 the 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

http://extension.oregonstate.edu/sorec/sites/default/files/laboratories-soil-water_em8677.pdf. In most cases, you will have results back in a week.

Hops are toxic to dogs

There have been a number of cases where dogs have eaten brewer's "spent" grains that had hops in the mix. The grains had been used for home brewing or brought to the farm to feed livestock (it is excellent hog feed) and left where dogs could eat it. The hops in the spent grains cause an increase in body temperature (hyperthermia) of roughly two degrees every five minutes. The dog starts to pant and its heart rate spikes up. The dog may show muscle spasms or may appear lethargic. Symptoms may take a period of time, sometimes several hours or more after eating the hops to develop. There are treatments if caught quickly.

It appears fresh hop cones and hop vines can be toxic as well though it isn't clear how attractive they are to dogs. Beer has often been used as a slug bait and there are cases of dogs consuming beer and displaying strange symptoms. Until recently, hops were used with a very light hand in the beers that were most commonly available. Not anymore. Many micro brews are highly hopped and should be regarded as very dangerous to dogs. Don't use beer as a slug bait.

Many breeds have been affected and it is presumed that many cases have gone undiagnosed. It also isn't clear how the hop dose to weight of the dog plays out but it seems that even small amounts can be quite toxic. Our beagle would eat almost anything once and many dogs have adventurous palates. It appears cats are also susceptible but they are much pickier.

So be careful how you use spent beer grains. If you compost them, make sure the dog can't get

at the compost pile. Don't bury them in the garden (sheet composting) since dogs could dig the fresh material up. Don't feed spent grains to livestock where the dog can get them. For more information, see

<http://www.sovsc.com/Forms/DYK/Hops%20Ingestion%20DYK%2012-09.pdf>

Winter mud and cattle

As we move into fall and winter, prolonged periods of mud and moisture can significantly hinder cattle performance and profitability. Mud and deep manure problems can also be encountered inside buildings if pens become dirtier and deeper in manure than is ideal.

For cow-calf producers, mud can negate the insulation value of the hair coat. Of distinct concern are newborn calves born in or near mud holes or muddy areas. Calves can become chilled by mud, trapped in it, or sickened by pathogens thriving in it.

This is why it is so important to closely monitor calving, routinely check cattle, and move cow-calf pairs to fresh pasture soon after calving. Additionally, mud on udders contributes to poor udder hygiene conditions. And can increase the risk of foot problems such as foot rot.

Mud creates suction on hooves and makes it more difficult for cattle to move around in a muddy area. They expend more energy moving through mud. One only has to walk into a feeding area with deep mud once to realize just how difficult it is to take steps. Boots must be held securely on feet or the mud will claim them quickly.

With mild mud conditions, just 4 to 8 inches of mud, cattle dry matter intake is reduced by 15 percent versus what it would be under the same conditions without any mud. When severe mud

conditions are present, 1 foot or more of mud, dry matter intake plummets by 30% relative to the same conditions without any mud. It is no wonder that it becomes challenging to maintain good body condition on cows and desirable weight gains on calves when mud is all around.

From a feedlot perspective, when cattle are standing in four to eight inches of mud, gain can decrease by nearly 15 percent. A feedlot with mud that is belly deep can depress gain by nearly 25 percent. Consequently, the negative impact of mud on feed efficiency can result in up to a 56 percent increase in cost of gain as more days on feed are necessary to reach finish.



Factors that figure in to this profit loss situation include: 1) Cattle make fewer trips to the feedbunk during muddy conditions which results in lower feed intake. 2) Cattle utilize more energy slogging through the mud to reach the feedbunk. Muddy conditions can increase energy requirements by 10 percent. 3)

Wet cattle in cold weather need to metabolize more energy to stay warm, also resulting in reduced growth and production.

Pen maintenance and design in combination with management and plenty of bedding can greatly influence the level of moisture in the cattle housing areas. Proper drainage and prevention of runoff water from entering pens is the first step in reducing mud within the pen. Providing adequate space per animal can reduce mud depth especially in the high traffic areas around water troughs and feedbunks. Moving cattle to different areas during this time and perhaps constructing some feeding areas and other heavy use areas will help get through mud season.

Beef producers may want to consider checking with their NRCS office to see if cost sharing is

available to help with construction of improved cattle housing facilities to help combat the mud.

Although adverse weather conditions cannot always be predicted or prevented, preparing for these unfavorable circumstances by having a plan in place can help. *Slightly edited from a Drovers article*

Prudent use of antibiotics

Pathogen resistance to antibiotics is an important global concern. Livestock operations need to use these products thoughtfully or risk losing many of them.

When thinking about antibiotics, keep in mind some of these principles:

Never use medicine to substitute for good management. Work to feed correctly and to lower stress your livestock face.

Develop with your veterinarian a proper immunization plan. Vets are great resources for information on good management. Have a working relationship before a crisis hits.

“Extra-label” use of an antibiotic (a use that goes beyond the label) requires a valid farmer/vet relationship related to that use.

Get a good diagnosis. Too many people use products while guessing about the disease. This can make the problem worse and can contribute substantially to disease resistance.

Understand how the products work and what length of treatment needs to be followed. Avoid treatment of chronic cases. Cull those animals.

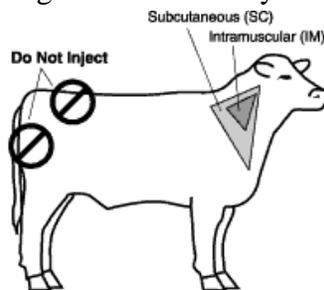
Use directed treatments where appropriate (topical, intrauterine, etc.) rather than systemic treatments.

Don't use combination antibiotics unless you are sure that they work together to improve

disease outcomes. Some actually interfere with each other (thus not curing the problem) and may hasten resistance.

Never treat all the stock with antibiotics whether they show signs of illness or not. Use where needed.

Deliver the antibiotic where it will be effective and not cause tissue damage that will later need to be cut out after slaughter. This hurts your reputation and is a problem for the beef industry as a whole.



Cultured gelatin

Gelatin is very valuable in the kitchen. It also represents an indirect source of income to livestock producers since it is a saleable by-product of meat packing. It is produced by hydrolyzing the protein in collagen, a compound found in animal skin, bones, and connective tissue. Since it is an animal product, vegetarians won't use it. They use various plant based materials, alone or in combination, like agar from seaweed, pectin from fruits, and some plant gums. But none work as well as gelatin in candies, desserts, and other culinary items.

Recently, a company announced that it perfected a fermentation production process that produced the proteins and also carried the genes to turn those proteins into collagen. The catch for many is that the bacteria were genetically engineered to be able to do the process. The genes were animal derived though (not directly from animals but replicated from the sequences in their DNA that produced collagen. In fact the first DNA sequence they used was from a mastodon. Anyway, will this change the gelatin industry? If so, it could be a hit to the bottom line of livestock producers. It will be interesting to see how this plays out



5th Annual Small Farm School
September 15, 2016 from 8 a.m. – 4:30 p.m.

Registration is open. Clackamas Community College in Oregon City. The program and complete registration information are available at: <http://smallfarms.oregonstate.edu/small-farm-school>. Cost: \$75 if registered by Aug. 31. Small Farm School is an all-day event for beginning farmers and small acreage landowners. Check out the flyer on the website. *Small Farm School is presented by OSU Extension in cooperation with Clackamas County Soil and Water Conservation District and Clackamas Community College.*

Beekeeping class: Getting beehives ready for winter
September 15, 2016 from 6:30 to 8 p.m.

There will be a free class at the OSU Extension Office at 505 N. Columbia River Highway in St. Helens about preparing your hives for a successful wintering over. This class is a follow-up to the beginning beekeeping class that was held several months ago. But you don't have to have had that class to attend this one. Many beehives are lost due to poor winter preparation. This class should help guide you through the options you have to reach spring with strong hives. If you are interested in becoming a beekeeper, this will also be useful in understanding how bees are managed through a challenging time of the year. For more information, call the Extension Office at 503- 397-3462.

2017 OSU Master Gardener™ class will be held in Vernonia

The Columbia County/OSU Master Gardener™ training will be held in Vernonia on ten consecutive Tuesdays from about 9:30 am to 3:30 pm starting on **February 21, 2017**. If you think you might be interested, call the OSU Extension office in St. Helens at 503 397-3462 or email either myself (chip.bubl@oregonstate.edu) or Vicki Krenz (vicki.krenz@oregonstate.edu) to get on a mailing list for the classes when the informational packets and applications are sent out starting in October. The class will be held at the new health building and space is somewhat limited. Cost of the class is \$80 and there are a few scholarships available.

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