



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/>

July 2014

Programs for you . . .

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

- July 3..... **Demonstration Garden and other MG Extension Projects Planning Meeting.** 3:15 p.m., OSU Extension Classroom, St. Helens
- July 3..... **Master Gardener™ Board Meeting.** 3:45 p.m., OSU Extension Classroom, St. Helens
- July 9..... **OSU Caneberry Field Day.** 1-5 p.m., NWREC, Aurora. Call for Details. Or visit their website: <http://oregonstate.edu/dept/NWREC/programs/berry-crops>
- July 10..... **Lower Columbia Watershed Council.** 7 p.m., SWCD office-35285 Millard Rd., St. Helens
- July 16-20..... **Columbia County Fair.** Columbia County Fairgrounds, St. Helens
- July 16..... **OSU Blueberry Field Day.** 1-5 p.m., NWREC, Aurora. Call for Details. Or visit their website: <http://oregonstate.edu/dept/NWREC/programs/berry-crops>
- July 18..... **Soil & Water Conservation District.** 7:30 p.m., SWCD office-35285 Millard Rd., St. Helens
- July 24..... **Upper Nehalem Watershed Council.** 7 p.m., Vernonia Grange, <http://nehalem.org/> 503-429-0869
- July 31..... **Canning Fruits & Pie Fillings.** 3-6 p.m., Grace Lutheran Church, Scappoose, part of a series of classes put on by Jenny Rudolph, OSU Educator - see back page for registration.

FOOD SAFETY/PRESERVATION HOTLINE - July 14 through October 17, 2014

1-800-354-7319

9 A.M. TO 4 P.M.; MONDAY-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



Agriculture, Family and Community Development, 4-H Youth, Forestry, 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.

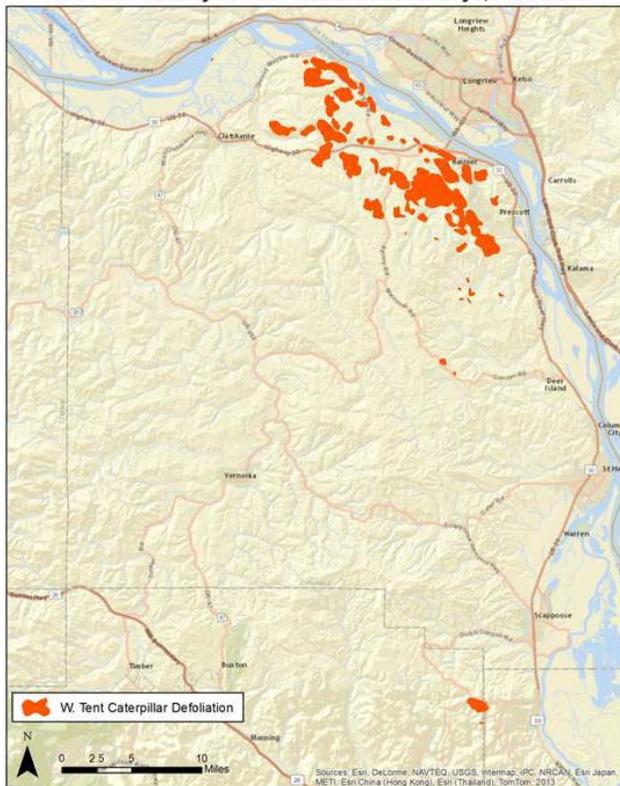
In the garden

The last tent caterpillar story for this year (I hope)

The caterpillars have slowed and so have the phone calls. The largest Western Tent Caterpillar outbreak in 20+ years is winding down as the caterpillars cease eating and spin their cocoons. The moths will fly in about 45



Western Tent Caterpillar Defoliation in Oregon as Detected by Forest Health Aerial Surveys, June 2014



days to mate and lay eggs on tree twigs and branches for next year's party. Given the huge numbers, I would be foolish to predict next year's crop. But our Forestry Extension agent, Amy Grotta, noticed signs of disease on several caterpillars. So we shall see. Most of the county was largely spared this infestation (see map of the 14,000+ acres that Oregon Department of Forestry aerial surveys showed to be the most affected). Moth flight patterns, predation and parasitism, and probably wind direction and other weather patterns will determine where and how many show up next year. Last year, there were lots of moths in the late summer in

the Warren/Scappoose area but the population didn't materialize.

There were a few surprises. I had never seen an apple tree completely stripped of leaves and fruit. I did this year. I also saw them on blueberry plants, normally not high in their food preferences. Next year, I would probably encourage more aggressive control on fruit trees than I did this year to protect the fruit crop. Leaves are starting to re-sprout on some of the earliest defoliated trees and most other affected trees and shrubs should soon be showing signs of revival.

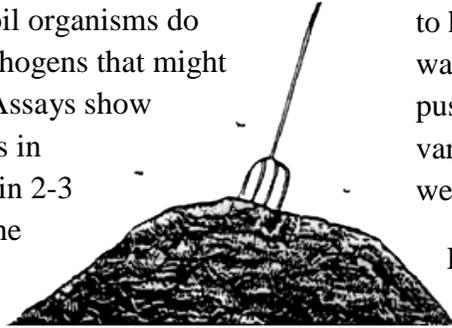
Manure and gardens

I get a lot of questions about the appropriate use of manure in gardens and organic farms. Here are several key points:

- Can manure be dangerous to human health? Yes, in certain circumstances. First, don't ever use manure from hogs, humans, or pets. There are potentially serious microbiological issues. Second, livestock, rabbit, or poultry manure can generally be used but they aren't completely microbiologically safe. Bacteria pathogenic to humans are not absorbed through roots into the crop but rather contaminate the surface of the food crop, i.e. leaf, bulb, stem, etc. Current National Organic Standards require that manure be incorporated into the soil 120 days before you harvest a crop like onions where the part you eat has direct contact with the soil. For other crops like corn, 90 days is the current standard. That may change.
- Manure that is composted must reach certain temperatures in the composting process and be held for certain periods of time before application on organic

farms. See the National Organic Standards for details.

- Sunlight and soil organisms do degrade the pathogens that might be in manure. Assays show great reductions in concentrations in 2-3 weeks during the summer. That doesn't eliminate risk but does reduce it substantially.



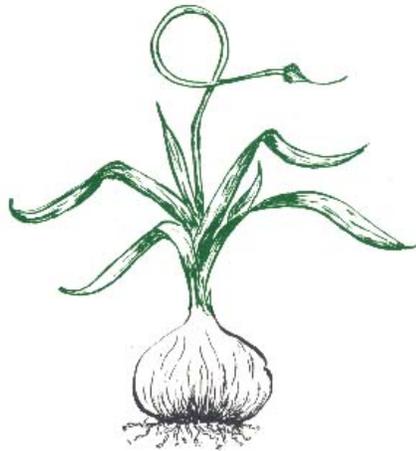
- I am not a fan of manure “teas”. They are a microbiological soup and do present higher levels of risk.
- Food that is cooked as part of its normal consumption pattern has a “kill-step” that generally eliminates microbiological risk. Salads and other raw vegetables or fruit in close proximity to the ground (greens, onions, strawberries or windfall apples, etc.) are riskier.
- All produce should be washed before eating, especially those that are served raw.
- Finally, manure is a great soil amendment. As it composts in the soil, it releases minerals and some nitrogen. Soil texture, tilth, and drainage are all improved as is summer soil moisture holding capacity. If you can get manure, use it. Just do so wisely.

Harvesting garlic

July is garlic month. Generally, garlic is ready to harvest in the second week of July. But the warm weather in April and May seems to have pushed the garlic a little faster and some varieties might be ready by July 5th, about a week earlier than normal.

How can you tell if the garlic is ripe? Look at a well-formed bulb and pull it apart. Count the number of “skins” to the outermost set of cloves. If the plant has lost all but three of the outer skins, harvest the bulbs. If there are more skins, you have a little time. Be sure to eat the garlic you have examined. The skins help to keep the garlic dormant during winter storage and also make the bulb look more attractive.

If you continue to water garlic after the skin count has dropped below three, you can lose all the skins. You can also increase storage disease.



Garlic doesn't have to be brown before harvest. Often, the garlic will have green tops at the best “skin” stage for

harvest. That is not a problem. When you harvest the bulbs, tie the tops into bundles and hang the bulbs from rafters in your garage or barn or place them on a screen so that they have good air circulation while they are curing. They shouldn't be exposed to the direct sun.

You can eat the garlic at any time and it cured for winter storage after thirty days.



That's the Way it Grows

Summertime Gardening

Having a vegetable garden is a lot of fun. Mine is just taking off. I have already planted way too many tomatoes, but I just couldn't help it. I have to have more than one beefsteak plant. And I had to have the San Marzano paste tomatoes again, because they are a terrific variety. Oregon Spring, because I can't wait for homegrown tomatoes. I also tried a current-style variety called Sweet Pea, which is supposed to produce tomatoes the size of a large pea. I had to try it. Of course, there are the plants I was given, because I can't throw a perfectly good plant in the compost. So, I have a few too many toms planted.

I've been a vegetable gardener since my parents gave me a corner of the family garden all my own. I think I was six years old. My first plants as a newlywed were cucumbers on the deck of our first apartment. When we bought our home and started to landscape, the first thing I did was plot out where the vegetable garden would be. I just love to grow veggies.

It's fun to watch how fast the seedlings grow and watch their daily progress until they start setting fruit or getting big enough to harvest. I love going out each day to check for what I can pick, and then making it part of a meal.

I can't imagine summer without fresh-picked green beans and sun-warmed, juicy beefsteak tomatoes, or pumpkins for the kids and the requisite zucchini.



I may have planted too many potatoes as well. Last year I had great success growing them in a raised bed. This year, I doubled the height of the raised bed. I placed the seed potatoes on the ground and added mulch as they grew, to the depth of about 18", and the plants are chest-high and sturdy.

Potatoes will grow tubers along the length of the buried stem, which is why you hill them. They start to grow tubers when the top growth blooms. I have a very hard time stopping myself from digging around for new potatoes. It's like finding buried treasure. I planted gold after all, Yukon Gold.

As we ease into summer and the accompanying drought, remember to water your fruit trees about an inch a week, to keep those little fruit developing nicely. Toward ripening, don't overwater soft fruits like peaches and plums, or your fruit may crack or be less sweet. Same goes for those tomatoes. They will definitely crack. Last year, we overwatered my son's beautiful huge cabbage, and it actually rotted from the inside out. Rotten cabbage has a very distinct smell.



Speaking of fruit trees, a little pruning of sucker growth will help direct the tree's energy into fruit production. It won't hurt the tree at all, and will actually help reduce sucker growth next year, since the tree won't require such hard pruning in the winter.

While it is hard to throw away plants, thinning seedlings is important. Crowded plants compete for resources, including water and minerals, which leads to reduced production. Do make sure you thin to the recommended spacing. I struggle with this one myself, but it has to be done. The plants don't go to waste if you compost them, and tender, young spinach, herbs, beet top and lettuces can be part of dinner.

I really couldn't bring myself to compost any tomato plants, though, which is why I'll be spending most of the summer making tomato sauce.

Enjoy the fruits of your labor this summer!

—Lisa M. Long
Columbia County Master Gardener™
Compost, rock and bark dust delivered; 397-2989

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

- Mound soil up around base of potatoes. Gather and eat a few "new" potatoes from each hill, when plants begin to flower.
- Early morning is the best time to water vegetable and flower gardens to reduce evaporation. Water the soil, rather than leaves to reduce disease. Water deeply and infrequently to encourage root growth.
- Hanging baskets of flowers or vegetable plantings need careful attention to watering and feeding during extended periods of hot weather.
- Weed and fertilize rhubarb and asparagus beds. A mulch of compost or rotted cow manure works well as fertilizer. Water deeply to develop crowns for next year.
- Mulch to conserve soil moisture with paper, plastic, sawdust, etc.
- Stake tall-growing flowering plants such as delphinium, hollyhocks, and lupine. Stake tomatoes, as necessary.
- If a green lawn is desired, make sure lawn areas are receiving adequate water (approximately 0.5 to 1.5 inches per week from June through August). Deep watering less often is more effective than frequent shallow watering.
- Make compost of lawn clippings and garden plants that are ready to be recycled. Do not use clippings if lawn has been treated with herbicide, including "weed-and-feed" products. Do not compost diseased plants unless you are using the "hot compost" method (120° to 150°F).

Planting/Propagation

- Midsummer plantings of beets, bush beans, carrots, cauliflower, broccoli, lettuce, kale, and peas will provide fall and winter crops.
- Dig spring bulbs when tops have died down; divide and store or replant.

Pest Monitoring and Management

- Continue monitoring raspberry, blackberry, blueberry, cherry and other plants that produce 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>.
- Control hollyhock rust by sanitation, picking affected leaves, or spraying with a registered fungicide. Read and follow label directions.
- Watch for cutworm damage in garden. (In July, climbing cutworms become a problem and large portions of foliage will begin to disappear on established plants.) Use barriers, remove by hand, use beneficial nematodes when soil temperature is above 55°F, or spray with *Bt-k* according to label directions.
- Late this month, begin to monitor for early and late blight on tomatoes.
- Place traps to catch adult apple maggot flies. You can use pheromone traps to monitor presence of pests.
- July 10: spray filbert trees for filbert worm, as necessary.
- July 10-15: spray peach and prune trees for peach tree borer, and peach twig borer, as necessary.
- July 17-23: third spray for codling moth in apple and pear trees, as necessary.
- Cover blueberry bushes with netting to keep birds from eating all the crop.
- Watch for early and blight on tomatoes. Correct by pruning for air circulation, picking off affected leaves, and/or treat with approved fungicide.
- Monitor camellias, holly, maple trees for scale insects. Treat if necessary.
- Monitor rhododendrons for adult root weevils. Look for fresh evidence of feeding (notching). Try sticky trap products on plant trunks to trap adult weevils. Manage root weevils with beneficial nematodes (if soil temperature is above 55°F). If root weevils are a consistent problem, consider removing plants and choosing resistant varieties (See <http://bit.ly/oDOScK> for a list of rhododendrons exhibiting resistance to adult root weevil feeding.)
- Check leafy vegetables for caterpillars. Pick off caterpillars as they appear. Use *Bt-k*, if necessary.
- Spider mites can become a problem on ornamental plants, vegetables, and fruit plants during hot, dry weather. Watch for dusty-looking foliage, loss of color, presence of tiny mites. Wash infested areas with water or spray with appropriate pesticides.

Remove cankered limbs from fruit and nut trees for control of diseases such as apple anthracnose and bacterial canker of stone fruit. Sterilize tools before each new cut.



The Grapevine
 News for Columbia County Master Gardeners™
www.columbiacountymastergardeners.org



July 2014

Deadline for THE GRAPEVINE - All materials will need to be into the OSU Extension office no later than the 20th of each month.

President's Corner

Greetings from the Garden! I'm certain that all of you gardeners have been taking advantage of all the great weather. Whether it is getting a garden planted or fixing the landscape, it is so much nicer to get a stretch of weather like we've had.

It's hard to believe, but it's also the time of year that we have to start planning for next year - not the garden but officers for our Chapter. We need to get people to step up and help fill positions to keep our Chapter running.

There are some very nice volunteers that agreed to work on the nominating committee that will be calling to find people to fill upcoming vacancies. We need to get all of you to consider helping. This is the only way to keep a viable Chapter.

A little money saving tip - We always plant pinto bean types for dried beans. This year we didn't plan ahead so well. We only got a small package of seeds and couldn't find any more locally. Went to the market and purchased a sack of pinto beans - 24 oz. size and planted a row. Nearly everyone came up and considerably less expensive than the little packages that we normally got!
--Happy Gardening, Dennis Snyder

County Fair Volunteer Opportunities

The Columbia County Fair (July 16 – 20) is fast approaching and the Demo Garden folks are out in full force to make sure that this year tops last year's exhibit. Because it worked so well last year, we are staffing the hours of the Fair with one Lead Person and at least 4 other Master Gardeners for each shift. The shifts will be 10 am/2 pm, 2 6 pm, and 6/8 pm, Wed. to Sat., 10 am/ 2 pm on Sunday.

Our "Bug Ladies" and other representatives of the Pollinator's Club will be present at the Insect Pavilion to answer those technical questions, but your enthusiasm as Master Gardeners is needed to help the public enjoy and learn from our beautiful garden.

Admission and parking passes are provided for volunteers. This is a great way to log in pay-back hours, and help visitors learn more about the Columbia County Master Gardeners program.

Please email Kit Gardes at kitgardes@yahoo.com or call 503-366-2950 to sign up to represent our

Calendar: At-A-Glance	
July 3 ...	Demonstration Garden and other MG Extension Projects Planning meeting, 3:15 p.m., Extension office
July 3 ..	Board Meeting, 3:45 p.m. Extension office
July 14.	<u>Demo Garden Work Day</u> – 10 a.m. Preparing for County Fair!
July 12-13 .	<u>Master Gardener Mini College</u> in Corvallis
July 16-20	<u>Columbia County Fair, St. Helens</u>
Don't forget that each Monday from 10 a.m. to Noon work is done at the Demo Garden	

organization. A big "Thank You!" goes out to all who have already signed up.

--Kit Gardes, Demonstration Garden Co-coordinator

Garden Competition

The St Helens garden roared to life this spring and is well ahead of the Scappoose Garden. By the first week of June, they had proudly donated 97 pound of produce to the Food Bank and Community Meals. Scappoose got off to a slower start, with 32 pounds distributed between Food Banks, Community Meals, and Meals on Wheels, but they are not about to be outdone and want to remind St Helens that their rows of cabbage and cauliflower are nearly ready to harvest.

Volunteers work at the St Helens garden, located beside the St Helens Senior Center, every Tuesday and Thursday, from 9 am – 11 am. At the Scappoose garden, located next to the Scappoose Senior Center, volunteers work Mondays and Thursdays, from 8:30 am – 11 am. You can't go wrong becoming a member of either team. Bring a hoe and help these to gardens succeed.

CCMG Annual Picnic-August 24th

The Annual Picnic for Columbia County Master Gardeners and immediate family is August 24th at the Scappoose Bay Marina, 1 to 3 p.m. Hamburgers, buns, condiments, corn on the cob, chips and water will be provided. Please bring your own dish to share and your own eating utensils (plates, silverware, and glasses). You must RSVP with Kathy Johnson (503-289-4894) by August 22nd. Parking fee of \$1 at Marina.



Farm and livestock notes

Crops that don't require irrigation (and big equipment)

Columbia County has a number of small-acreage farms (40 acres or less) that have traditionally raised livestock but could produce higher value crops. But most of those farms do not have an irrigation right and perfecting a new right is very difficult. Some farms with water rights may want to reduce their irrigation costs on part of their land. The following are some suggested crops that could be grown in Columbia County without irrigation on soils with decent drainage. Market savvy and attention to details are critical for all of these crops. There are other options but this is a starting point:

1. Christmas trees: A well-established crop that has gone through a number of ups and downs over the last 30 years. Prices are marginally better now but it takes 5-6 years or more depending on species and care for the first harvest.
2. Garlic: Fall-planted and harvested in July. Some new diseases have made this crop more challenging recently. Ground also needs to be rotated on a 4-5 year cycle so you would need something else to grow in the rotation years and the extra land to cover the rotation cycle.
3. Tree and nut crops: May need some irrigation during the establishment years. Weed control to reduce moisture loss is crucial. Apples, pears, plums, and hazelnuts are all promising. So are some newer/less traditional fruit species. Market strategy would need to be developed. Usually works best on Class 1



- and 2 well-drained soil types. Lots of management in pest control, harvest, and pruning.
4. Raspberries and blackberry types like the Marion, Logan and varieties: Historically, they were grown without irrigation on really good land. But as irrigation techniques improved, raspberries responded well and now most raspberries in western Oregon are irrigated. Still, it can be done, albeit with lower yields. The blackberry types would be the best bet in that they have more vigorous roots and less disease issues.
5. Strawberries: Again, significant strawberry acreage was grown without irrigation in Columbia County. Soil types are important and so are varieties. Weed control is crucial to conserving moisture and reducing disease. So is rotation.
6. Tomatoes: This one is really controversial and largely untested, at least in recent memory in western Oregon. In northern California in the coastal belt (Marin county and adjacent areas) they are growing some non-irrigated tomatoes. They are warmer than we are but not by a lot. They get 45 inches or more of rain in the winter but little summer rainfall. They plant tomatoes on good loam soils that have a deep profile. Transplants are put in when the soil temperatures reach 55 degrees or so. Row covers are used in some cases and not in others. The growers force the roots down into the stored moisture in the 2-3 foot zone below the soil surface. Weed control is critical. So is planting density and, I would guess, tomato variety. There really

are no assessments of root vigor except in the minds of those growers and they aren't saying much. Why do they do this? Some California farming regions are very short of irrigation options. In addition, the growers are said to get premium prices for these tomatoes that are reputed to be more intensely flavored. Grafted tomatoes with their more vigorous roots might be the way to go. But even that is a complex exercise since the rootstocks on these grafts all have different traits and qualities. So might direct seeding under cloches followed by row covers. Pretty good soils are also important. This is a long-term project that may not work well here at all. But it might be worth looking at.

7. Rhubarb: This one is a bit like raspberries and blackberries. Rhubarb can be grown without irrigation but yield is reduced. Careful management of harvest to make sure the crown has enough leaves to renew itself is critical. So is weed control, variety type, and market development.
8. Fava beans: They can be seeded in either the winter (many varieties overwinter) or as early in the spring as you can work and/or plant the crop. In one Columbia County test, they grew well but had some disease issues. Picking culinary varieties that are favored by the Mediterranean cultures will offer the best marketing options. Restaurant owners that tasted the trial output described English fava varieties as fit only for livestock. But they thought the mid-Eastern types were very acceptable. Market development is important.

9. Over-wintering peas: *Cascade* is a good variety to over-winter. But temperatures like we got last winter kill it. Spring disease can also be a problem. So it is a gamble. But if you can get the seed (and then save your own) it is a decent cover crop even if the cash crop doesn't work out.
10. Other over-wintering vegetables: This includes some varieties of onions, cauliflower, and most leeks and shallots. They are technically difficult, may freeze out, and often are damaged by spring diseases. And most have to be started with irrigation in the next month or so to be large enough to over-winter successfully.

There are other options that could be considered including some herbs, some cut flowers, and a few other plants. If you have further questions, give me a call.

Farm storage facility loans

The Farm Service Agency has recently broadened the scope of their storage facility loans. For fruit and vegetable growers, this program offers the opportunity to construct and/or upgrade their handling and storage facilities to both improve efficiency and meet some of the Food Safety Modernization Act goals. The recent revision allows the loans to be used for handling and processing equipment. This could include conveyors, brushers, spray cleaners, grading tables, boxing lines, cold storage, humidity management systems, and other similar types of post-harvest handling equipment. This program is targeted for established farms including smaller scale farms that are looking to expand their marketing capacity. Our local FSA office is in Hillsboro and can be reached at 1080 SW Baseline Suite B2, Hillsboro, OR 97123 (503) 648-3174

Columbia County Farmers Markets

- Scappoose: Saturday, 10am-4pm.
- Clatskanie: Saturday market at Cope's Park from 10am-2pm.
- Vernonia: Friday from 4pm-7pm.
- Goble: Third Saturday of the month from 9am-2pm at the Goble Tavern parking lot on Highway 30.

Scappoose is the oldest market. The rest started recently or are just going for the first time this year. It's always great to support our local growers.

Cow culling and high calf prices

Beef producers have a set of standards that determine when a cow should be culled from the herd. It costs about \$300-400 to get a cow through winter and her current value as a cull for slaughter is about \$1100. Cull prices won't always be this high. High on the list are cows that fail to conceive (the bull wasn't the problem), had multiple calving difficulties, or those that couldn't nurse a calf adequately.



The second screen for cow culling usually focuses on age issues, i.e. poor teeth and/or hoof or leg problems. These cows produce good calves but they are more difficult keepers and may be on the downward side of their productive years. But they do calve and that 500# calf might bring almost \$1000 assuming that current market assumptions hold. So you need to decide whether they are worth the extra effort to feed them separately with perhaps a little better feed or if their problems look to be less manageable and perhaps will get much worse soon.

Two final criteria are temperament (bad) or late calving. Temperament is a trait that it is worth selecting against. Feedlot operators don't want ill-tempered livestock and many studies show that these animals gain more slowly than the herd average because of their crankiness. So you wouldn't want to keep a heifer from one of these cows as a herd replacement. But with fall sale

calves at these prices, it might be worth keeping that cow that is mildly ornery but (since life is short) sell ones that would slam you into the panels.

The final culling decision is the cow that calves late and not timed for the most efficient use of the pasture resource. So its cost might be higher if supplemental feed is necessary and it may not be able to be marketed with the other calves. A cow that experienced calving difficulty often won't breed back as quickly. Supplemental feeding to get her into rebreeding good condition is helpful. Poor nutrition in general can throw off breeding cycles. This really comes down to quality of the pasture resource, managing it well over the winter, and matching the herd size to it. So rebreeding can sometimes be correctible by good management and, again with the price of calves, may be worth looking closely at the breeding and/or general problem history of each cow.

To sum up, any serious history of issues that aren't easily fixed by management argue for culling, especially at current cull cow prices. Those with lesser issues should be evaluated for their productive potential, either for market animals or replacement heifers.

Carbon footprint and herd efficiency

Ruminant livestock (cattle, sheep, and goats) are under the gun for gassing and belching too much. Each emission releases methane, which adds to global climate change concerns. But the other side of the equation for grass farmers is the carbon that is sequestered in the crowns and roots of a well-managed grass pasture. In fact, as pastures are well-managed, their grazing value improves, livestock gains improve, and more carbon is sequestered. It is a virtuous circle.

Thoughtful protein supplements in the winter to best use local hay, restricting access to winter pastures when they are so easily damaged, and attention to herd health increase efficiency and lead to more pounds produced per breeding animal. This improves financial bottom line and the carbon footprint of the farm.

Joy Creek Nursery Seminars

We are fortunate to have such an exceptional nursery like Joy Creek in our county. They have an outstanding series of seminars most Sundays throughout the summer. You can visit their website www.joycreek.com for a complete list. The seminars (which begin at 1:00 pm and are free unless otherwise indicated) are as follows

July 6 - Hydrangea Tour - with *Maurice Horn*; **July 13** - Versatile Alpines: Common and Uncommon Uses for These Small Wonders of the Plant World - with *Emma Elliott*; **July 19**, Saturday - Basic Plant Propagation - with *Leslie Gover*; **July 20** - Troughs the Easy Way - with *Christine Ebrahimi*; **July 27** - Small Water Features - with *Nadine Black*.



NOTE: Because of the nature of their Saturday workshops, please note that they can only accommodate 20 attendees per workshop. They will take registration beginning May 1st.

2014 Summer Food Preservation Classes, held in Scappoose

Call now to reserve your spot!



Back by popular demand are our summer food preservation classes. This series of classes is great for both the beginner and experienced canner. Classes will be held in Scappoose at the Grace Lutheran Church, 51737 Columbia River Hwy. Class size is limited to allow for hands-on involvement in the kitchen.

July 31, 3:00 to 6:00 pm – Canning Frits and Pie Fillings; August 7th, 3:00 to 6:00 p.m. – Pressure Canning Meat, Fish and Vegetables; August 14th, 3:00 to 6:00 p.m. – Pickling and Fermenting Vegetables; August 21st, 3:00 to 6:00 p.m. – Canning Tomatoes, Sauces and Salsas.

Cost to attend is \$25 per class or \$90 for all four. A small number of scholarships are available. Payment must be made in advance to hold your spot. Contact the OSU Extension Service – Columbia County office at 503-397-3462 to register.

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