



# Country Living

Provided to you by the  
**OSU Extension Service Columbia County**  
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Office hours: Monday-Friday, 8 a.m. to 5 p.m.  
The office will be closed Fridays from Noon to 1 p.m.  
Website: <http://extension.oregonstate.edu/columbia/>

## February 2016

## Programs for you . . .

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

- Feb. 9.....Lower Columbia Watershed Council. 7 p.m., SWCD office-35285 Millard Rd., St. Helens, 503-728-2945, [Magruder@clatskanie.com](mailto:Magruder@clatskanie.com)
- Feb. 12-14 .....Yard, Garden and Patio Show. Oregon Convention Center in Portland. There are many great speakers, exhibits, display gardens and lots of other events of interest to the new or experienced gardener. There is a modest entry cost that gets you in to all the seminars and other special events. For complete information and speaker schedules, visit their website at <http://www.ygpshow.com>
- Feb. 13 .....Grafting Workshop. 9 a.m. to Noon, OSU Extension Classroom; \$15 fee, call for reservations, 503-397-3462. Space is limited.
- Feb. 17 .....Soil & Water Conservation District. 7:30 p.m., SWCD office-35285 Millard Rd., St. Helens
- Feb. 18 .....Salmon Restoration at White-tailed Deer Refuge. 7:40 p.m., Keely Lopez of Cathlamet WA. Friends of Fox Creek meeting, El Tapatio Restaurant, Rainier OR, free to the public.
- Feb. 20 .....Oregon Small Farms Conference. OSU, Corvallis. <http://smallfarms.oregonstate.edu/sfc> see back page
- Feb. 25 .....Master Gardener™ Chapter Meeting. 6:30 p.m. Speaker will be Sarah Jovan & Geoffrey Donovan "Of Moss & Men", OSU Extension Classroom, St. Helens. **The public is invited. Free.**
- Feb. 25 .....Upper Nehalem Watershed Council. 7 p.m., Vernonia Grange, <http://nehalem.org/> 503-429-0869
- Mar. 12. ....Tree Sale - Columbia County Small Woodlands Association. 8:30 a.m., Lawrence Oil, St. Helens - Arrive early for best selections!



*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

## Heat unit final numbers

2015 was a warm growing season. Even better, the warmer than normal temperatures came early when the day lengths are the longest (April-late June). That got all our plants off to a great start. So here is the 4/1-10/31 heat unit (aka growing degree days) data by year and location:

### Scappoose/St. Helens

2015	<b>2954</b>
2014	2770
2013	2397
2012	2167
2011	1843
Avg. 2011-14:	<b>2294</b>

### Rainier

2015	<b>2579</b>
2014	2295
2013	2056
2012	1966
2011	1656
Avg. 2011-14:	<b>1993</b>

### Clatskanie

2015	<b>2390</b>
2014	2304
2013	2004
2012	1619
2011	1350
Avg. 2011-14:	<b>1819</b>

### Vernonia

2015	<b>2315</b>
2014	2345
2013	2076
2012	1890
2011	1576
Avg. 2011-14:	<b>1974</b>

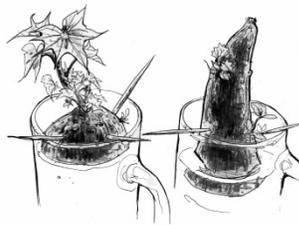
## Growing sweet potatoes in Columbia County

OSU Master Gardeners Susan and Denny Snyder harvest about a pound or more sweet potatoes per square foot in their Warren garden. Yields from their four by eight beds have ranged from thirty-four pounds to forty-five pounds per bed. They have gotten similar results in the OSU Master Gardeners Demonstration garden at the Fairgrounds. Other gardeners have learned from them and gotten equally good results (see picture of Yankton gardener Glen Werings' sweet potato).



Here is the Snyder method:

Sweet potatoes are grown from “slips” which are shoots that sprout from the sweet potato. Slips need to be started indoors in late January or early February. To get slips, the Snyders cut sweet potatoes (from last year’s harvest) in half width-wise. They put the cut end down in a shallow container that holds water on some half-inch clean round rocks and fill the container to cover the tubers up to about a half inch. They start the slips, at first, inside their house since sweet potatoes like warmth. They place the “slip” tray where it gets decent sun. Susan says that you need organic sweet potatoes to start with (they are more likely to sprout) but that not all



Clip art: Edible Arizona

tubers sprout consistently. Some tubers will rot before good slips are formed. Watch carefully and discard tubers that start to decay.

If all goes well, small slips start to grow. When the slips are 1 to 1.5 inches long, they

cut or gouge them out of the sweet potato and place the base of the slips in a shallow vase in water until they root well. Once they get good roots, they pot them up into 2 inch by 2 inch containers in nice loose potting mix. After a little settling in, they move the slip containers out to their greenhouse in trays that hold water. They put the tray on a heating mat to supply bottom heat. If the slips start to root out the bottom of the containers, they re-pot them into larger containers.

Sweet potatoes need loose soil. It is hard to overemphasize that requirement. If the soil isn't loose, the sweet potatoes tubers won't grow large. Denny prepares the four by eight-foot raised beds located in full sun when the soil is able to be worked easily, adding some fertilizer and lime at that time. He puts a soaker hose or drip tube that will water the sweet potatoes in the summer on the surface. Then he covers the beds tightly with black plastic. This warms the soil and keeps the weeds down.

They start to harden off the slips by giving them several hours per day outdoors in indirect sun several weeks before transplanting. Slips may lose leaves at transplanting (usually they re-sprout leaves).

When it comes time to plant (usually in early May), the Snyder method is to plant three slips per bed, evenly spaced down the center of the bed. They cut holes in the plastic to transplant the slips. One gardener (who learned from the Snyders) plants eight slips per bed. The planted beds are covered with row cover to provide extra heat and to reduce transplant shock. Row covers are removed in mid-June.

Consistent irrigation is necessary throughout the growing season. Vines will grow in a

tangled jungle with some stems getting 10 feet long. Deer eat the foliage and field mice (voles) like the tubers. Be prepared.

The Snyders harvest in late September. You have to dig carefully and gently as sweet potatoes can be quite brittle when first dug. Dry them in a bin. Separate out any damaged tubers and eat them first. Sweet potatoes store best between 50-65 degrees. Don't let them freeze. The Snyders are still enjoying last summer's crop. Sweet potato pie and sweet potato hummus are several of their favorite uses.

## Blister beetles

Several observant farmers and gardeners reported rather large groups of blister beetles this past summer. The most common one in Columbia County is the Punctate blister beetle (*Epicautis puncticollis*). The adult



Photo: Amateur Ecologist

has a soft somewhat segmented body that is fairly large, shiny black, and covered with fine hair (see picture). They appear to have a neck behind their head though insects don't really have necks.

Blister beetles go through a complex metamorphic cycle. The minute larvae often feed on the eggs of grasshoppers (that is generally a good thing) or ground nesting bees (not such a good thing). They get to the bee eggs by attaching themselves to bees' legs when they visit a flower where the larvae are waiting. Our punctate blister beetle appears to focus grasshopper eggs. The larvae apparently dig down into the soil, guided, one presumes, by either a smell or some other cue to find a clutch of grasshopper eggs. It then starts feasting on the eggs and can often devour

them all. It then pupates and eventually emerges as an adult.

The adults feed on foliage and flowers. Chicory seems to be a favorite flowering meal but they are also comfortable eating many legumes and some grasses. They often feed in very large tight groups.

The genus *Epicautus* translates roughly into “burn on the outside”. Cauterize is a term from the same Latin root. Anyway, they are called blister beetles because many species, including the *Epicautus*, produce an oily substance that can cause severe skin burns. Blister beetles are often called “oil beetles” for this reason. If beetles get baled into hay, horses and other livestock may get nasty blisters around their lips when they feed on the contaminated hay. This is more common in hay made east of the Cascades where grasshoppers and thus *Epicautus* blister beetles are more common.

Since science asks the tough questions, early nineteenth century naturalists learned that blister beetles are not in the bird diet. One person study the stomach contents of over 6,000 birds over a number of years and found only one blister beetle. Another scientist put out freshly killed beetles of many species on feeder trays and found that blister beetles were only eaten by immature jays. The other beetles were well-loved.

There is a long history of medical use but most of it was plainly cruel and without real medical value.

## Pruning blueberries

Proper pruning of highbush blueberries can make the difference between a mediocre and a bumper crop. The best time to prune blueberries is from January to early March, during the dormant period.

Annual, moderate pruning results in bushes with the fewest canes but with the greatest yield and largest fruit. When plants are not

pruned or pruned too lightly, they become dense with weak, twiggy growth. They fail to develop strong new wood for future fruit production and have small fruit.

Severe pruning leads to the production of fewer, larger berries and more new wood. Annual pruning helps give consistent production of quality fruit. If bushes are only pruned occasionally, then many young canes will be produced the year after heavy pruning. These canes will age together and become unproductive all at the same time. So maintaining a balance between canes of differing ages is a good objective for the home gardener.

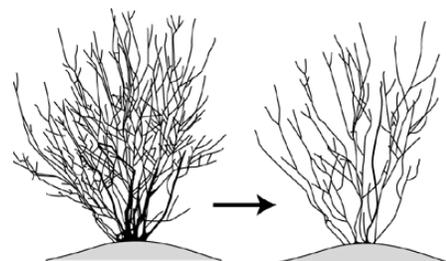
Follow these steps for pruning blueberries:

Remove the low growth that would touch the ground when loaded with fruit. Cut out short, soft shoots that develop from the base of the plant late in the season. Remove any damaged or diseased canes. Remove one or two of the older canes to stimulate new cane growth for future production.



Cut out enough remaining weak, twiggy wood to open up the plant interior to light.

For more information on blueberry pruning go to the OSU Extension publication *Growing Blueberries in Your Home Garden* at <https://catalog.extension.oregonstate.edu/sites/catalog.extension.oregonstate.edu/files/project/pdf/ec1304.pdf>





# *That's the Way it Grows*

## **Why My Lawn is Threadbare**

Chip wrote last month about a new lawn pest to be on the lookout for; the large yellow underwing moth. As I was reading the article, alarm set in. I have these guys! I've been finding the fat caterpillars for a couple of months and throwing them to the chickens.

The caterpillars are the larval stage of the *Noctua pronuba*, also known as the winter cutworm. They are cold tolerant and can feed all winter long on grasses, small grains, legumes and weeds. They appear in large numbers and have can cause heavy defoliation of above-ground parts and crowns. This damage to lawns late in the fall could deplete root reserves and reduce spring growth.

I am seeing this damage in my yard. While it's never been a golf course, right now most of my lawn is patchy and what I can only describe as threadbare. My husband was blaming it on the chickens, but the girls are helping me out by eating the caterpillars. I've watched them snatch up some huge ones and cheered them on.

The caterpillars range in color from green to olive, with a distinctive inverted Y marking on their heads. The color range may help them avoid some predation, but chickens can see in the ultraviolet range, and have no problem finding them!

The winter cutworm was first detected in Oregon in 2001. It was introduced, like so many pests, diseases and invasives, from outside of the United States. This pest comes from Eurasia. They are described as "gregarious," which is expert-speak for "they travel in huge gangs." The moths are strong fliers, and the larvae can cover ground quickly, so it's no surprise this pest is now widespread from coast to coast.

The moths lay eggs in patches on plants or grasses. Yard sanitation is helpful in controlling populations of caterpillars. Controlling weeds, grasses and debris such as leaves gives them fewer places to lay eggs, and less cover during the day.

These little eating machines (because that's all a caterpillar is, right?) come out at night to feed. To see if you have a problem, and to what degree, take a flashlight out at night and search a patch of your grass slowly.

They can be hard to find since they vary in color and blend in so well.

According to the December 16, 2015 OSU alert on the winter cutworm, "There are no known thresholds for winter cutworm, but Michigan State University and Cornell University suggest 4 to 6 larvae per square foot for armyworm management."

So, if you are finding more than 4-6 winter cutworms per square foot, you have a significant population of these pests. I found two cutworms recently in about a four-square-foot area, so my population isn't incredibly high right now.

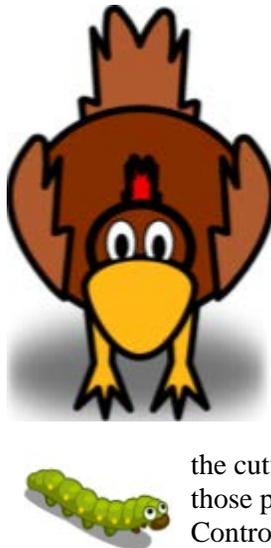
Encouraging natural enemies of caterpillars will help reduce the population. Predators include the ground beetle, birds, spiders, bats and ground-scratching birds. You could take your flashlight out and hand remove them if you want. Offer to pay the small children in your family per caterpillar—good old-fashioned family fun!

I checked the Pacific Northwest Insect Management Handbook. There are no direct recommendations for the yellow underwing moth yet, but it says since they are so similar to the cutworm and armyworm, it is likely that controls for those pests will be useful on the winter cutworm as well. Controls such as Bt or pyrethrins could be helpful, but there is no data yet.

Parasitic wasps, such as the trichogramma wasp, and parasitoid flies are natural enemies of caterpillars. There are sources to buy these beneficial insects and release them in our yards. Whenever we release beneficials, we need to time it well, so they have what they need to stick around and do the job for us.

I'm pretty sure my lawn will require over-seeding this spring. Specific recommendations for control of this pest are coming. Hang in there!

Lisa M. Long, Columbia County Master Gardener™  
Free gardening ebooks at:  
[Smashwords.com/profile/view/LisaMarieLong](http://Smashwords.com/profile/view/LisaMarieLong)



# FEBRURY

## 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: <http://bit.ly/ngufWK>.
- 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
- 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 and central Oregon
- 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.





**The Grapevine**  
 News for Columbia County Master Gardeners™  
[www.columbiacountymastergardeners.org](http://www.columbiacountymastergardeners.org)  
**February 2016**



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

**Recycling Garden Tools**

With spring coming, you may be feeling an urge to clean out the tool shed as well as the closets. If you have any hand tools you've been thinking about recycling, we have a couple of good projects that can put them back to work. We will take any weeding tool, spade, hoe, trowel, or cutters. Drop them off at the shed near the garden at the Scappoose Senior Center, 33342 SW Meadow Dr. (Take EM Watts, L on 4<sup>th</sup> St, L Meadow Dr) and we will clean them up and make them available to students taking the Seed to Supper classes in Clatskanie, Rainier, St Helens, and Scappoose. We can also use them for work projects at the Habitat for Humanity homes.

--*Deb Brimacombe*

**Dues – Due!**

It's that time of year once again! Your payment of just \$10 for dues enables CCMGA to present its great selection of speakers at our month meetings, to fund different projects in the local area such as the Demo Garden, Community Gardens in St Helens and Scappoose, to send members to Mini College and to present the hard work done by Bug Crew by presenting the bug cases.

If you have a change of email, mailing address or phone number, please let me or Vicki know a.s.a.p.

So please send in your 2016 dues to the Treasurer. Katherine Johnson, 4832 N. Girard St., Portland, OR 97203. Thank You!

--*Kathy Johnson, 2016 Treasurer*

**Of Moss & Men**

Who would think that lowly mosses, the unassuming (and sometimes maligned) denizens of our rooftops, trees, and dark crevices, might tell us something profound about human health? Without roots or the

<b>Calendar: At-A-Glance</b>	
Feb. 4 ..	Demonstration Garden and other MG Extension Projects Planning meeting, 10 a.m., Extension office
Feb. 4 ..	Board Meeting, 10:30 a.m. Extension office
Feb. 25.	Chapter Meeting, 6:30 p.m., Speaker: Sarah Jovan & Geoffrey Donovan, US Forest Service, OSU Extension Classroom, St. Helens

ability to store water, moss lives at the mercy of the elements, relying fully on the atmosphere for all moisture and nutrients. Their tiny leaves, one cell thick, have no protective layer. Often growing in dense low-lying cushions, mosses intercept and trap environmental contaminants from the air, providing a valuable record of air quality.

Please join us as *Sarah Jovan & Geoffrey Donovan* of the U.S. Forest Service, talks about current research that uses moss to map pollutants and indicate human exposure across the area on Feb. 25<sup>th</sup>.

<b>Master Gardeners Contacts</b>	
<b>Officers for 2016</b>	
<u>Title</u>	<u>Name</u>
President.....	Churck Petersen
Vice President ....	Linda Bainbridge
Past President .....	Wes Bevans
Secretary .....	Angela Sorensen
Treasurer .....	Kathy Johnson
Historian.....	Lavina Patterson
OMGA Rep.....	Pat LaPointe
OMGA Alt. Rep. ....	Wes Bevans
Demo Garden .....	Linda Bainbridge
.....	Mary Newell-Dickenson
Spring Fair .....	Kathy Johnson
<b>CCMG website:</b>	<a href="http://www.columbiacountymastergardeners.org">www.columbiacountymastergardeners.org</a>
Webmaster .....	Larry Byrum
<b>OSU Extension Service:</b>	
Extension Faculty.....	Chip Bubl
Secretary .....	Vicki Krenz
<b>Guide to Plant Disease Control:</b>	
OSU .....	<a href="http://plant-disease.ipcc.orst.edu">http://plant-disease.ipcc.orst.edu</a>

# Farm and livestock notes

## Organic grain

Farmers in Columbia County can grow all of the common grains (wheat, barley, oats, triticale) as well as some of the unconventional ones like flax seed, buckwheat, and other heirloom grains like teff, spelt, emmer, and quinoa. The grains are used for human food and/or animal feed. The organic grain market price is double or more than the non-organic price. Food grade grain gets a higher premium than animal grain. Markets are generally not a problem, at least at this time. So why isn't there more organic grain?

Organic certification is tied to particular pieces of land. The process to convert a field to organic production takes three years and may require significant investments in cover crops and the required testing of the soil. During that time, crop returns would be a lot lower than conventional production.

In addition, organic grain often doesn't produce the same tonnage per acre as conventional production. There can be higher fertilizer material and application costs. Grain diseases can be an issue, especially in wet springs where organic treatments are limited.

The biggest problems are the weeds. Weeds compete directly with a crop for sunlight. A grain crop that is weed-suppressed might not produce any harvestable yield or the yield may be below the cost of production, even with the organic premiums. An organic vegetable grower can afford some hand weeding and has tillage options for weed control that the organic grain grower doesn't have. It can take several years or more to lower the weed seed burden in the soil to the point that organic grain production starts to return a decent net income. That said, there are some large grain growers in the Willamette valley and that are taking a portion of their acreage and converting those pieces to organic production to take advantage of both the price and the fact that they already have most of the

equipment to plant and harvest crops grown either conventionally or organically.

## Heifers with calving problems

As the spring calving season begins, it is inevitable that a young cow (probably a two-year old heifer) will need assistance at calving time. After the event is over and the cow and calf are doing well, the rancher can't help but ask the question: "If a heifer has calving difficulty this year, what is the likelihood that she will have trouble again next year?" There will be a lot of money invested in this young heifer to grow her to a three-year old. Should she be culled next fall because of calving difficulty this spring?

A look back through the scientific literature sheds some light on this subject. Research conducted by Colorado State University and published in 1973 looked at calving records of 2733 Hereford calves sired by 123 bulls and born to 778 cows/heifers. A repeatability estimate was obtained from heifers calving both as 2 year- and 3-year-olds. The estimate was 4.5%. Of 195 heifers which had no difficulty in calving at two years of age, 7.2% had difficulty as 3 year olds. Of the 77 two-year old heifers which experienced calving difficulty, 11.7% had difficulty again as 3-year-olds.

Heifers that experienced calving difficulty as 2 year-olds weaned 59% of calves born, whereas, those having no difficulty weaned 70% of calves born. Calving difficulty as 2 year-olds affected the number of calves weaned when 3 years of age and also the weaning weight of those calves. Heifers having calving difficulty as 2-year-olds weaned a 63% calf crop as 3-year-olds. Heifers having no difficulty as 2 years-olds weaned a 77% calf crop as three-year-olds.

From this research we learned that calving difficulty as a two-year-old had an effect on productivity. The likelihood that calving difficulty will happen again next year is only slightly greater than in heifer counterparts that calved unassisted this year.

Proper heifer development to a body condition score of 5.5 or 6 at calving, along with breeding heifers to low birth weight EPD bulls should help reduce calving difficulty in two-year olds. - *Slightly edited from a report by Glen Selk, Oklahoma State University Extension Beef Specialist*

## Reproduction takes feed

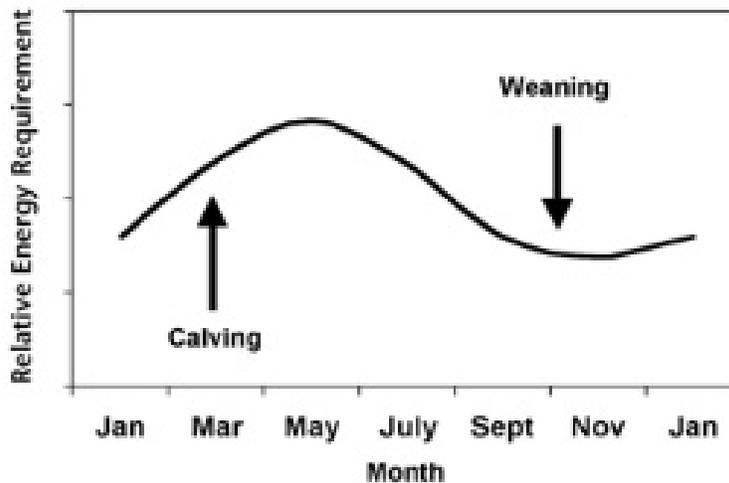
The profit in the beef herd is determined by the reproductive efficiency of the cows. A winter's feed bill plus no calf drains cash. One common cause of a failure to breed is the condition of the cow at breeding. Poor condition often is a result of the owner not understanding the nutritional demands on the cow in the last third of pregnancy and the months following birth. This much is crystal clear: the cow will do her utmost to maintain herself to provide milk for her calf **at the expense of later reproduction**, if necessary.

The graph below charts the nutritional needs of the cow. Following calving, the requirements for dry matter increase 50%, protein requirements increase a whopping 261% and energy goes up 70%.

Often our grass isn't vigorous enough to support good early milk flow.

Supplements that keep the cow going will ensure that she and her calf will really be able to

respond to the grass when it does appear. Failure to provide adequate feed will result in lower calving percentages next year and likely an extended calving season as well, since the animals will not be cycling together. Looking at your bottom line, none of these outcomes are good.



## Grass tetany time approaching

Columbia County livestock producers experienced higher than normal problems with grass tetany last year. 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 and 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.

## Grafting Workshop

We will have our annual grafting workshop Saturday, **February 13<sup>th</sup>** from 9 am – 12 at the Extension office in **St. Helens**. Space is limited. Call for reservations (503 397-3462). Cost will be \$15 and will include five dwarf apple rootstocks. If you have a favorite apple tree that you want to make “copies” of, take some 12” cuttings from last season’s growth (about pencil thickness), using the middle third of the shoots. Bundle and label the cuttings and place them in plastic bag and store them in the refrigerator until the workshop. Free cuttings will be available of several varieties.



## OSU Small Farms Conference



The OSU Small Farms Conference is an annual event held in Corvallis, this year on Saturday, **February 20<sup>th</sup>**. The event will be useful to almost anyone looking to diversify crop and/or marketing options. The small Farms team goes to great lengths to put together “meaty” topics of use to the serious farmer. A number of people from Columbia County have gone in the past and have felt it was worth their time. For complete information on the conference including offerings and cost, go to <http://smallfarms.oregonstate.edu/sfc>

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