



# 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/>

## AUGUST 2014

## Programs for you . . .

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

- Aug. 7..... **Demonstration Garden.** 3:15 p.m., & **Master Gardener™ Board Meeting.** 3:45 p.m., OSU Extension Classroom, St. Helens
- Aug. 7..... **Pressure Canning Meat, Fish & Vegetables.** 3-6 p.m., Grace Lutheran Church, Scappoose, part of a series of classes put on by Jenny Rudolph, OSU Educator - call to register, \$25
- Aug. 12..... **Lower Columbia Watershed Council.** 7 p.m., SWCD office-35285 Millard Rd., St. Helens
- Aug. 14..... **Pickling & Fermenting Vegetables.** 3-6 p.m., Grace Lutheran Church, Scappoose, part of a series of classes put on by Jenny Rudolph, OSU Educator - call to register, \$25
- Aug. 14..... **Twilight Tour-Native Plants Restoration.** 6-8 p.m., 78210 Rutters Rd., Clatskanie. Paul Wilson and Linda Farris have been actively restoring a range of native grasses, shrubs and trees to what was a neglected, invasives-filled hillside on their small woodland property. No RSVP needed. Plan for walking up and downhill short distances on gravel. For detailed directions call 503-397-3462.
- Aug. 20..... **Soil & Water Conservation District.** 7:30 p.m., SWCD office-35285 Millard Rd., St. Helens
- Aug. 21..... **Canning Tomatoes, Sauces & Salsas.** 3-6 p.m., Grace Lutheran Church, Scappoose, part of a series of classes put on by Jenny Rudolph, OSU Educator - call to register, \$25
- Aug. 23..... **Rural Living Field Day.** 8:30 a.m. to 2:30 p.m. Howell Territorial Park on Sauvie Island. To register, just visit the West Multnomah Soil & Water Conservation District website at [www.wmswcd.org](http://www.wmswcd.org) and click on "Events." The cost is only \$15 per person or \$20 for families. Morning beverages and snacks will be served as well as a fully catered lunch!
- Aug. 24..... **Columbia County Master Gardener's Annual Picnic.** 1 to 3 p.m., Scappoose Bay Marina, Old Portland Hwy, Warren. RSVP to Kathy Johnson by August 22 at 503-289-4894
- Aug. 28..... **Upper Nehalem Watershed Council.** 7 p.m., Vernonia Grange, <http://nehalem.org/> 503-429-0869
- Sept. 6..... **3<sup>rd</sup> Annual Small Farm School.** 8am-4:30pm, Clackamas Community College, register at website: <http://smallfarms.oregonstate.edu/node/175835> (by August 22 or until filled)



*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

### Leaf miners of summer

I have had a number of calls about leaf blotches on chard, spinach, beets, and a few ornamentals like lilacs and boxwoods. The symptoms are medium to large brown and some translucent areas on leaves. If you look carefully, you might see a tiny caterpillar or maggot eating out the juicy bits between the upper and lower leaf surface. There will be droppings in that space as well.

There are actually a number of different



orders that like to lay their eggs within the leaf and give their young'uns a place to feed, somewhat protected from predators and the elements. For example, the lilac leaf miner adult is a moth but the ones on boxwoods and the spinach family are flies.

Control is a challenge. For the spinach/chard/beet leaf crops, physical exclusion is most effective. That is best done by covering the planting with floating row covers as it matures. That is followed by tolerance and simply removing and destroying the parts of the leaves that are infested and depending on your squeamish index, eating the remaining good parts of the leaf.

It would be impossible to cover boxwood or lilacs to protect them. There are some insecticides that may be helpful for those plants but timing is problematic so usually,

we just let it go. Good fall leaf cleanup in the case of the lilac may help. There are natural predators of both leaf miners. Leaf miners will not kill, though they can weaken, plants

### Plants and skin issues

Becky volunteered to work at the Neely House demonstration garden on a cool, sunny July morning. She wore long sleeves, long pants and gloves being super cautious about sunburns and insect bites. By 1:00 PM, everyone who was volunteering for the day had finished weeding their section of the garden and was getting ready to leave. When Becky took off her gloves, her trademark Bakelite bracelet slipped off and fell in the compost heap of recently pulled weeds and invasive plants she had created from her garden section. She reached down with her left hand and found her bracelet deep in the pile.

On the drive home to Seattle, it was so warm she kept her car window down. Two days later, Becky had a red, blistered rash that caused a severe burning sensation on her left wrist and the back of her left hand. The blisters eventually healed but the skin was brown and discolored everywhere the rash had been present.

Do you know what caused the rash? Becky had phytophotodermatitis, a rash caused by exposure to a plant that contains certain chemicals called psoralens and then subsequent exposure to ultraviolet light. The offending plant was rue that was in the compost pile she had reached into to find her bracelet. The sunlight on her arm when she drove home was the source of ultraviolet light.

Even though there are over 300,000 classified species of plants, the majority of plants are harmless to human skin. Phyto dermatitis is the term used for skin rashes caused by plants. Plants can cause five different types of

reactions. Some plants can cause more than one type of reaction. With many of the plants, only specific parts cause the reactions. The reactions can be minor to severe. This article will briefly describe the five reactions to plants.

**Mechanical Injury:** cuts, abrasions and puncture wounds from thorns, spines, razor-edged leaves and hairy appendages on the plants. The wounds can become infected with bacteria and fungus. Prickly pear, pineapple, roses, blackberries, yucca, cactus, bamboo, barberry and devil's walkingstick are examples of plants that cause these reactions. Falling coconuts are another example of mechanical injury caused by plants, in some cases fatal.

**Irritant Reactions:** are caused by chemicals in the plants such as acids, proteolytic enzymes and calcium oxylate crystals. Anybody with enough exposure to the chemical can develop a reaction. This is not an allergic reaction. Spurge (especially the common garden spurge, petty spurge) is an example of a plant that has a sap so irritating to the skin that beggars used to rub it on their skin to cause blisters to invoke sympathy. It was also used to blind people as a form of punishment. Examples of other plants that cause problems are chile peppers, mustards, pineapple, cowhage and dieffenbachia.

**Phytophotodermatitis:** was the rash Becky developed from exposure to the psoralen chemicals in rue and sunlight. This is not an allergic reaction. When the blisters from this type of reaction heal, the affected skin is left with a dark pigmentation for months. Giant hogweed, limes, dog fennel, St. John's wort, Queen Anne's lace, bergamot oranges and celery are examples of plants that

can cause this reaction. Squeezing a lime and rolling the lime peel on the skin while sunbathing is classic for causing this reaction. A famous perfume called Shalimar, which contained the oil from bergamot oranges, caused numerous problems in the 1960s. Grocery workers who handle celery that is infected with a fungus can also develop this reaction.

**Urticaria (hives):** from contact with a plant can be an allergic or non-allergic reaction. The reaction is usually immediate and will clear within a few hours. The stinging nettle is an example of a non-allergic reaction. There are pharmacological chemicals in the plants that cause hives on the skin when the plant is touched. This reaction can happen in anybody. The allergic type of hives develops only in certain persons who are allergic to the plant. Plants that cause allergic hives include strawberries, onions, garlic, tulips and lilies.

**Allergic contact dermatitis:** requires a person's immune system to be sensitized to a chemical in the plant prior to reacting.

Therefore, not everybody will have a problem with these plants if they are not susceptible. (For example, not everybody develops allergies to ragweed pollen.) This skin reaction usually takes over 24 hours to develop and can last for a few weeks. Poison oak/ivy dermatitis, which is caused by a reaction to urushiol oil in the plant, is the most common cause of plant allergic contact dermatitis. Numerous species of plants in the Compositae family also cause allergic reactions.

The sensitizing chemicals are called sesquiterpene lactones. Chrysanthemums, dandelions, goldenrod, daisies and tansy are examples. Tulips and Alstroemeria can cause serious problems with florists who are allergic to these plants.



**Phytophotodermatitis:** can be a problem for some persons in their occupation if there is exposure to plants. Florists, firefighters, farmers, agricultural, nursery and forestry workers, landscapers and food handlers are examples of occupations where exposure to plants can cause serious plant reactions in the skin. It can also be a problem for gardeners, hikers, campers and fishing enthusiasts. In other words, anywhere there is exposure to plants there is the potential for problems.

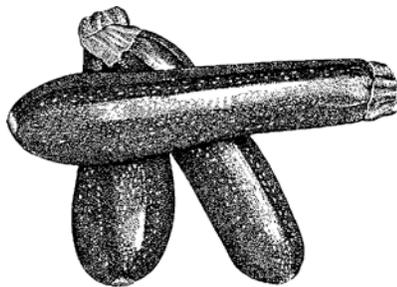
A list of plants, the types of skin reactions caused by the plants and more complete information about phytophotodermatitis can be obtained from the Safety and Health and Research for Prevention (SHARP) Program with the Washington State Department of Labor and Industries.

<http://www.lni.wa.gov/safety/research/dermatitis/files/phytophotoderm.pdf>

If you think you are having skin problems from plants, see a dermatologist. Not all reactions to plants are allergic, but you can be evaluated for possible allergies to plants if it is appropriate. As for Becky, she should stop wearing her Bakelite bracelet to Master Gardener activities and be more vigilant at identifying potentially harmful plants. *Written by Christina Marino, a dermatologist and a graduate of the King County Master Gardener Program*

### Sheet-mulch grasses.

Digging out tough turf to start new beds is a real back-breaker and often fails to remove roots effectively. Save your back and improve your soil by sheet mulching instead of digging. First cut or knock down tall grasses and weeds. Then apply some compost or fertilizer to jump start the composting process, and water. Next, cover the area with a biodegradable weed barrier such as cardboard or 4-6 sheets of newspaper, overlapping edges by 6-8 inches, and water



again. Then, cover weed barrier with 3 to 5 inches of organic mulch such as chipped tree trimmings or straw and leaves. Now sit back and relax while your weedy grasses die, your soil improves, and your back thanks you.

*From King County Weed News*

### Start preparations for lawn planting or renovation

August is not the best time to plant lawns. It can just be too hot to keep the germinating seeds well-watered. But as the temperatures cool in September, that month is the best month to plant or renew a lawn. That makes August the best month to get ready to plant your lawn. This means killing out any weedy species first. Then, if you want to re-grade, add lime, or add organic matter, you will need to roto-till the area. Lime is best used at the rate of about 75-100 pounds per 1000 square feet. Add organic material as you see fit. Heavy clay soils can be a challenge to get ready, even with lots of organic amendments. Never add sand to clay without adding lots of organic matter since clay and sand can sometimes combine to create a low-grade concrete. When you have finished roto-tilling, rake the soil to the right contour, roll it and let it sit until the lawn-planting days of September arrive.

### Keep picking your squash and beans

Summer squash like zucchini and crooknecks need to be picked, even if the fruit is too large to eat. If fruit continue to mature on the plant, the zucchini thinks that its work is done and stops setting new fruit. Same goes for pole beans and cucumbers. So eat lots of fresh produce, process some for winter eating, donate some to the food bank in your community and share your bounty with your children or neighbors. But keep picking.



# That's the Way it Grows

## Propagating from Cuttings

I really like growing plants. I've always enjoyed starting seeds, ever since I received a Jiffy starter kit for my 9th birthday. Years later, I always have something growing in my little greenhouse on the patio. Usually, it is plants I've propagated or perennial seedlings.

Right now, I have a good number of newly planted cuttings I'm trying to root. Propagating plants from cuttings is a way to clone the parent plant. It's easy, cheap and fun.

I've got a huge trailing euonymus that I am trying to dig out. The root ball is enormous. Last year, I cut off and potted up some branches that had rooted themselves next to the plant, so I have clones waiting to take its place. I have a couple of dianthus that are too floppy, so I will take some cuttings and eventually replace them with new, vigorous plants.

Propagating plants from cuttings is really very easy. Basil is extremely easy to root on a windowsill in a cup of water. Many plants are, but I don't have any luck with poinsettia. I've had a cutting in water for about 8 months, and while the leaves still look fresh, there's not a root in sight. I'm going to try it in soil now.

I've had very good luck rooting cuttings from my yard. Boxwood, euonymus, herbs, even a fir tree have all rooted well for me. Whenever I trim my topiary elephant, I stick a bunch of cuttings into soil.

The list of plants well-suited to rooting is quite long, and includes evergreen and deciduous plants, trees and shrubs, both woody and soft-stemmed.

Rooting cuttings is very easy: Simply clip, strip and stick.

**Clip:** Take 3- to 5- inch cuttings from healthy branches with a sharp tool. Cut just below a node, where the plant has natural rooting hormones.

**Strip:** Remove all the leaves on the lower half by gently pulling them off. Conifers and plants with waxy leaves, like boxwood and euonymus, will not lose as much moisture, so you can leave a couple of short branches.

**Stick:** Wet the stripped stem area, dip it in rooting hormone powder and poke a hole in the soil medium. Then just stick in the cutting and firm the soil around it.

And that's it. Pretty cheap and easy way to get yourself a lot of plants, albeit a very slow way. It takes patience and a couple of years to get plants large enough to plant into the garden.

It is pretty uncommon to have 100% success rate in rooting cuttings, but there are ways to help them along.

**Choosing cuttings:** You want to start with the best possible cuttings. Choose healthy stems that are actively growing, preferably from the current or last season's growth. Remove any flowers or flower buds, because you want the energy to go into root production.



**Moisture Loss:** Take cuttings in the morning, when plants are most turgid. Plant them right away, or wrap them in a wet paper towel. Once planted, keep your flats/pots out of direct sun and wind. If your cuttings have pretty large leaves, then cut them back halfway to reduce the amount of transpiration, and cover the pot and all with a plastic bag, using stakes or a coat hanger, etc. to keep the bag from touching the leaves. They also enjoy being misted.

**Soil:** Use a sterile mix or potting soil, or a sandy mixture to root your cuttings, instead of garden soil. You want a light mix that will retain moisture without being soggy. Water the soil before sticking the cuttings, and then keep it moist. Water from the bottom until the cuttings root, so they don't get dislodged and damage any rootlets. Do not fertilize the cuttings, as they have no roots to take up the nutrients. Rooting relies on the energy in the cutting itself.

After a few weeks, gently pull on cuttings to see if they have rooted, or look for roots in the drainage holes. Plastic can be removed when the weather turns cooler for good air flow. Over-winter them in a protected spot so your cuttings don't get waterlogged, but do make sure they get adequate water. Rooted cuttings can be transplanted to larger pots as needed, but should be given a good long time before they are given a garden spot to ensure their success.

I have a whole bunch of cuttings from my favorite, most flavorful blueberry. It's been run into by the lawnmower for years, so I want to make sure I don't lose the variety. I'm sure I'll have way too many plants by this time next year. I need a bigger yard.

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



# AUGUST 2014

## 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

- Dampwood termites begin flying late this month. Make sure your home is free of wet wood or places where wood and soil are in contact.
- Optimal time for establishing a new lawn is August through Mid-September.

### Maintenance and Clean Up

- Make compost of lawn clippings and garden plants that are ready to be recycled. Don't use clippings if lawn has been treated with herbicide, including "weed-and-feed" products. Don't compost diseased plants unless you are using the "hot compost" method (120° to 150°F).
- Fertilize cucumbers, summer squash, and broccoli to maintain production while you continue harvesting.
- Clean and fertilize strawberry beds.
- Use mulch to protect ornamentals and garden plants from hot weather damage. If needed, provide temporary shade, especially for recent plantings.
- Camellias need deep watering to develop flower buds for next spring.
- Prune raspberries, boysenberries, and other caneberries after harvest. Check raspberries for holes made by crown borers, near the soil line, at base of plant. Remove infested wood before adults emerge (approximately mid-August).
- Monitor garden irrigation closely so crops and ornamentals don't dry out.
- 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.
- Prune out dead fruiting canes in trailing blackberry and train new primocanes prior to end of month

### Planting/Propagation

- Plant winter cover crops in vacant space in the vegetable garden.
- Plant winter kale, Brussels sprouts, turnips, parsnips, parsley, and Chinese cabbage.
- Mid-summer planting of peas; use enation-virus-resistant varieties, plant fall crops of cabbage, cauliflower, and broccoli.
- Plant cauliflower, broccoli, Brussels sprouts, spinach, turnips, and parsnips.

### Pest Monitoring and Management

- Continue monitoring peaches, plums, prunes, figs, fall-bearing raspberries and strawberries, 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>.
- Check apple maggot traps; spray tree if needed.
- Control yellowjackets and wasps with traps and lures as necessary. Keep in mind they are beneficial insects and help control pest insects in the home garden.
- First week: if necessary second spray for peach tree borer and/or peach twig borer.
- First week: if necessary, spray for walnut husk fly.
- First week: if necessary, second spray of filbert trees for filbertworm.
- Check for root weevils in ornamental shrubs and flowers; codling moth and spider mite in apple trees; scale insects in camellias, holly, maples. Treat as necessary.
- Watch for corn earworm on early corn--treat as needed.
- Control caterpillars on leafy vegetables, as needed, with *Bt-k*, or by hand picking and removal.
- For mite control on ornamentals and most vegetables, hose off foliage, spray with approved miticide if necessary.
- 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.
- Corn may need protection from earworm. Spray new silks with appropriate pesticides if necessary.



# The Grapevine

News for Columbia County Master Gardeners™

[www.columbiacountymastergardeners.org](http://www.columbiacountymastergardeners.org)

August 2014

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.



## President's Corner

It's that time of year! Fair is a thing of the past. My wife and I judged the 4-H Horticulture entries and interviewed those who had their work entered. What an absolute joy to watch them answer questions and tell all about their knowledge of plants and what they did to get plants ready for show. I have no doubt that in a few years some of them will be in a Master Gardener program.

Recently I have talked to two apple growers that have trees infected with Anthracnose. This is a fungal problem - infection happens in the fall but the cankers appear in the spring. The first sign is a small sunken area on either limbs or the trunk. This area becomes shrunken and shriveled (it looks like the area has been physically damages). Later in the summer, fungal spores will appear and are scattered by wind and rain.

If left unchecked the tree can be severely damaged - entire limbs may die if the area girdles with limb.

Early detection and treatment are the key. If the spot is small it may be trimmed out with a knife or the limb can be pruned off. All the removed material should be burned.

This should be done along with chemical control. Check with the Extension Office for recommended treatments. (Chip, 503-397-3462). The key is early detection before it spreads and good sanitation.

--Happy Gardening, Dennis Snyder



**Calendar: At-A-Glance**

	Aug. 7 .	Demonstration Garden and other MG Extension Projects Planning meeting, 3:15 p.m., Extension office	
	Aug. 7 .	Board Meeting, 3:45 p.m. Extension office	
	Aug. 24.	Chapter Annual Picnic, Scappoose Bay Marina, Scappoose Bay Marina, 1 to 3 pm – see article for details	
	<b>Demo garden work days each Monday from 10 a.m. to Noon.</b>		

## From the Garden

### Columbia County Fair is a huge success

All of the hard work at the Demonstration Garden paid off handsomely during this year's Columbia County Fair. The garden was beautiful, educational, innovative and even whimsical in spots. We hope you all had the opportunity to wander through and enjoy it.

Congratulations to Robert Hammond who won the Worker's Choice Award for the best display. His *Fantasy Garden for Children of all Ages*



delighted youngsters and oldsters alike by using nursery

rhyme themed plantings. This raises the bar for all of us next year.

A huge "Thank You!" goes to all of the Master Gardeners who worked on making the garden ready for the public's discerning eye. We received rave reviews from guests, many of whom had visited the garden for years and were very excited to see what was new. Thanks to Al Petersen for the new garden map, Chip Gardes for the wheelchair

accessible raised bed, and Lavina Patterson for the insect hotel. Some of the raised beds displayed Italian delicacies, gourmet greens, rainbow colors, and how to use a cloche. Beds of beautiful flowers made for a colorful entrance to the garden, and while several of the beds are still a “work in progress”, Linda Bainbridge and her gang did a wonderful job of pulling it all together for the Fair.

And, it couldn't have been as successful were it not for the crew of volunteers who manned the garden during the long hours of the Fair. Accolades go to all of the “Bug” ladies and gents for their exciting and expanded insect display area. There were coloring books for the kids, amazing charts for the questioning, and lots of bugs for the curious. Deb Brimacombe and her group did a masterful job!

Ten hours a day is a lot of time to fill with knowledgeable Master Gardeners to greet the public and be on hand to answer their questions or just help them enjoy their time in the garden. An enormous “Thank You” goes to every one of the 23 Master Gardeners who volunteered to make it such a huge success. We tallied 825 visitors this year!

And finally, we couldn't have done it at all without the support and encouragement of the board of the Columbia County Master Gardeners, and of course, Chip Bubl and his staff at the OSU Extension office. Vicki, your help is enormously appreciated.

If you are reading this and looking for a way to get more involved with your local Master Gardeners, please consider wandering by the Demonstration Garden on Monday mornings from 10 – noon. We would love to see you.

-- Kit Gardes, Co-Demonstration Garden Coordinator

## Volunteer Payback

LOG YOUR HOURS, and turn them into Extension office. Hours worked by veteran as well as new Master Gardeners™ accumulate to justify continuance of our program through OSU.

To get a form off the web:

<http://extension.oregonstate.edu/columbia/master-gardener-volunteer-program> choose Master Gardener™ Volunteer Log Sheet – word document or PDF.

## CCMG Annual Picnic-August 24<sup>th</sup>

The Annual Picnic for Columbia County Master Gardeners and immediate

family is August 24<sup>th</sup> 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 22<sup>nd</sup>. Parking fee of \$1 at Marina

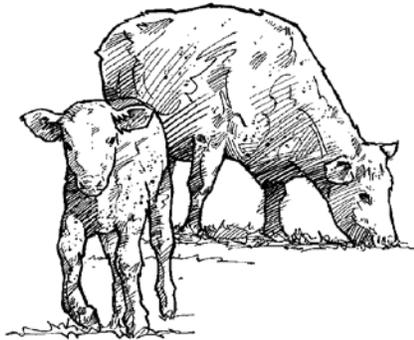
### Master Gardeners Contacts Officers for 2014

Title	Name
President .....	Dennis Snyder
Vice President.....	Wes Bevans
Past President .....	LeRoy Schmidt
Secretary.....	Susan Snyder
Treasurer.....	Gail Martyn
Historian .....	Kit Gardes
OMGA Rep .....	Kathy Johnson
OMGA Alt. Rep. ....	Larry Byrum
Demo Garden .....	Linda Bainbridge
.....	Kit & Chip Gardes
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.ippc.orst.edu">http://plant-disease.ippc.orst.edu</a>

## Farm and livestock notes

### Using lower quality pastures (or hay)

As the day length shortens, plants become more mature and lower in protein content. However, the protein requirements for growth, milk production, and body weight maintenance of beef cattle do not decrease as



the “dog days of summer” arrive.

The micro-organisms in the rumen of beef cows and

replacement heifers require readily available protein to multiply and exist in large enough quantities to digest the cellulose in low quality roughages. Protein supplementation of low-quality, low protein forages results in a “positive associative effect”. This “positive associative effect” occurs as supplemental protein available to the “bugs” in the rumen allows them to grow, multiply, and digest the forage more completely and more rapidly. Therefore the cow gets more out of the hay she consumes, she digests it more quickly and is ready to eat more hay in a shorter period of time. Data from Oklahoma State University illustrates this. The prairie hay used in the study was less than 5% crude protein. When the ration was supplemented with 1.75 lbs. of cottonseed meal, retention time of the forage was reduced 32% which resulted in an increase in feed intake of 27%. Because hay intake was increased, the animal has a better chance of meeting both the protein and energy requirement without supplementing other feeds. Because retention time was decreased, protein supplementation in this situation also increased digestibility of the hay.

As producers prepare their late summer, fall, and winter feed strategies, they can see the importance of providing enough protein in the

diet of the cows to feed the “bugs” in the rumen. If the forage is low in protein (less than 8 % crude protein), a small amount of supplemental protein such as cottonseed meal, soybean meal, or one of the higher protein by-product feeds, could increase the amount and digestibility of the forage being fed. *This strategy requires that ample forage is available to take advantage of the “positive associative effect”.*

Properly supplemented cows or replacement heifers will voluntarily consume about 27% more forage if they were provided adequate protein. As long as enough forage is available, this is a positive effect of a small amount of protein supplement. *Slightly edited from the Oklahoma State Cow/Calf Corner*

### Balage and botulism

There has been quite an increase in round bale silage (balage). For grass or grass legume stands that are not over-mature, it can be an excellent way to make high-quality winter feed. Basically, the stand is handled as hay except that the forage is round-baled at about 40-60% moisture (hay is normally baled at 12-15% moisture) and then tightly covered with a heavy-gauge plastic bag to reduce the oxygen in the balage as much as possible.

But if the forage is over mature and coarse, there won't be enough soluble sugars to support fermentation. Additionally, that type of forage won't pack well in the bale, leading to air pockets that can cause problems. If the forage is baled too wet, fermentation that has to take place to preserve it is also disrupted. These factors, especially in combination, can lead to spoiled balage and also increase the risk for botulism. Botulism thrives when fermentation is incomplete and the level of acidity you want in silage or balage isn't reached. Botulism is caused by bacteria that are ubiquitous in soils. Given the right environment of mid to high pH and no oxygen, it thrives and produces a deadly

toxin. The toxin initially causes paralytic symptoms and often leads to livestock death.

At the Extension office, we have a forage probe that we lend out. It attaches to a standard drill and cores plugs in hay or balage. These can then be sent to laboratories for quick analysis. If you are concerned about the quality of your balage or hay, give us a call.

## Parasite resistance growing concern

Livestock producers are grappling with increasingly treatment-resistant internal and external parasites like stomach and

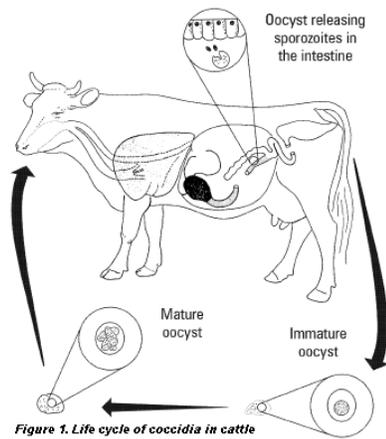


Figure 1. Life cycle of coccidia in cattle

lungworms, lice, and biting flies. There are several sources of the problem. First, the livestock industry, until very recent times, has been

marginally profitable. That has led the pharmaceutical and agrichemical industry to slow investment in exploring new treatment options. Second, low profitability has led producers to pick the cheapest treatment options and use them over and over, increasing the pace of resistance development. Finally, producers may not have maintained proactive veterinary relationships or created a plan for long-term parasite management. So the tools that are available are used to put out fires rather than fire prevention.

Given that this is a problem for the whole industry, what should you do? First, renew your veterinary relationship if it has lapsed a bit. Second, manage parasites by locating, through fecal sampling, the most infected animals and treat those animals and not the

others. By not treating the whole herd, it leaves some parasites susceptible to the drug in the population to dilute and thus slow the resistance buildup in the whole herd. Third, keep records on your animals that seem to be parasite magnets and don't save their offspring for replacements. Finally, work with your vet to tie your pasture turnout and rotation cycles with targeted treatments to get the most value with the least resistance increase.

## Some food trends

**Fresh produce is still very hot.** Consumer preference for produce stems from the clear health benefits of fresh and slightly cooked fruits and vegetables. In addition, the new generation of homeowners has a strong DIY mentality so they are learning to cook. They are interested in textures, flavors and aromas of foods. Bland is out. Bold or interesting are in. Vegetables and fruits go a long way to making mealtimes interesting.

**They want to know the farmer.** In urban and some rural communities, farmers markets are thriving. So are roadside stands on the fringes of the



communities.

**Protein.** This is a mixed trend because there has been a growing interest in plant-based proteins (mainly legumes like shell beans, fava beans, etc.) but also a renewed interest in meats of all types.

**Ethnic cuisines:** Many of the new families have traveled, some in school and some on

their own. They seek out authentic ethnic restaurants and learn to prepare some of the dishes that they particularly appreciate.

**Bottom line:** There is lots of room for the entrepreneurial farmer to grow crops and livestock that these consumers are seeking. As always, developing a strong marketing strategy utilizing several consumption channels (direct market, value-added, restaurant sales, CSAs etc.) will help diversify your income streams.

## Climate change and agriculture

We are now confronting the impacts of decisions made (or not made) 20-40 years ago. As both summer and winter temperatures increase, there are several issues that are becoming evident. Water distribution and quantity has been affected. I will touch on that in another newsletter. What is interesting is that the distribution and intensity of agriculturally important weeds, diseases, and insects has been changing as well.

One piece of research found a strong correlation with increased pesticide use (insecticides, fungicides, and herbicides) with warmer minimum winter temperatures. They followed a south to north transect from Louisiana to Minnesota to collect their data points (soy bean yield and pesticide use as a proxy for pest pressure).

They found that while soybean yields did not vary in correlation with warmer winter minimum temperatures, the cost to produce them due to the increased use of crop protection products did.

They concluded that warmer winters in the southern tier of states will require increased fungicide and insecticide use to guarantee crop yields. In the upper Midwest, warmer low temperatures will increase weed pressure and thus herbicide use substantially.

## Pasture protein and climate

It turns out that you can learn a lot from analyzing cow manure. Scientists looked at the protein and a total digestible nutrient (TDN) indicator for cow pie samples from a wide area of the country. The samples were chosen from operations that weren't feeding supplemental protein while the animals were on pasture. They found that protein levels were somewhat limiting in most fields most of the year. Rarely was there enough protein in the forage to make optimal use of all the carbohydrates in the forage.

But it was the pattern that interested them as well. They looked at the peak and average protein concentrations in the Upper Midwest in comparison to warmer areas in the southern tier of states.

They found that, indeed, Wisconsin grass was better than Arkansas grass. Cooler climate



grasslands produced consistently higher average protein concentrations and much higher spikes (16% in the north, 11% in the South). The working conclusion is that grazing similar pastures in both regions at their optimal protein concentrations would produce a 1.5 pound/day greater gain in the north. It is worth noting, however, that the Southern states have a longer grass season than the northern states.

But one of the purposes of the study was to model what might happen when climates start to warm, both in the South and the North. The implications for productivity are not encouraging. As it gets warmer, grass pastures tend to produce less protein.

# 3<sup>rd</sup> Annual Small Farm School

September 6, 2014 from 8am – 4:30pm  
Clackamas Community College in Oregon City



**Registration is open.** The program and complete registration information are available at:  
<http://smallfarms.oregonstate.edu/node/175835> Cost: \$65 (adult); \$40 (youth 13-17 with adult).

Small Farm School is an all-day event for beginning farmers and small acreage landowners. Field and classroom workshops will address small farm topics such as crop and livestock production, direct marketing, small-scale equipment, and soil and water conservation. Experienced farmers, Extension agents, Conservationists, and other agricultural professionals will teach the workshops.

We'd love to see you there, please pass the word along to anyone you think would be interested. 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.*

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