



Country Living

Provided to you by the
OSU Extension Service Columbia County
505 N. Columbia River Hwy, St. Helens OR 97051
Phone: 503.397.3462 ▪ Fax: 503.397-3467
Email: chip.bubl@oregonstate.edu
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/>

May 2015

Programs for you . . .

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

- May 5 Scappoose Bay Watershed Council. 7 p.m., Scappoose Bay Watershed Council's office, Warren
- May 7 Demonstration Garden and other MG Extension Projects Planning Meeting. 10 a.m., OSU Extension Classroom, St. Helens
- May 7 Master Gardener™ Board Meeting. 10:30 a.m., OSU Extension Classroom, St. Helens
- May 9 2015 Vernonia Garden Fair & Plant Sale. 9 am-3 pm, Vernonia Schools Commons area. See back page.
- May 12..... Lower Columbia Watershed Council. 7 p.m., SWCD office-35285 Millard Rd., St. Helens
- May 20..... Soil & Water Conservation District. 7:30 p.m., SWCD office-35285 Millard Rd., St. Helens
- May 25..... Memorial Day. OSU Extension Service closed
- May 28..... Master Gardener™ Chapter Meeting. 6:30 p.m. Speaker will be Tim Lanfri, "Year Round Vegetable Gardening," OSU Extension Classroom, St. Helens. **The public is invited. Free.**
- May 28..... Upper Nehalem Watershed Council. 7 p.m., Vernonia Grange, <http://nehalem.org/> 503-429-0869

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 **May** seminars (which begin at 1:00 pm and are free unless otherwise indicated) are as follows: **May 3** - Let Nature Work for You - with Glen Andresen; **May 10** - Hardy Fuchsia - Will Gibbs; **May 17** - Portable Table Gardens - Richie Steffen; **May 24** - Attracting Songbirds into the Garden - Nadine Black; **May 31** - Back It Up !! - Using Perennials with Bodacious Impact - Bruce Hegna.



Chip Bubl

Chip Bubl, OSU Extension Faculty, Agriculture

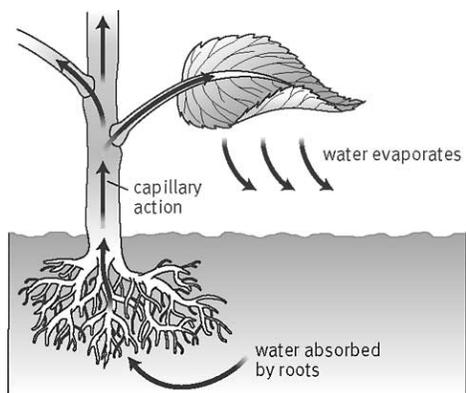


Agricultural Sciences & Natural Resources, Family and Community Health, 4-H Youth, Forestry & Natural Resources, and Extension Sea Grant programs. Oregon State University, United States Department of Agriculture, and Columbia County cooperating. The Extension Service offers its programs and materials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

In the garden

Water, water

Drying winds, warm temperatures and water removal by plants requires that we irrigate vegetables and lawns at 1 to 2 inches of water per week during the summer. 1 inch of water applied over a 30 by 30 square foot garden or about 1000 square feet = about 630



gallons. Done 4 times a month = about 2500 gallons/month! Irrigate at 1.5-2 inches as the weather gets hotter and the volume delivered climbs higher. Zoning your irrigation by drip or soaker systems, using mulches, and learning how to assess your soil moisture status can cut your water needs dramatically. So can planting a drought resistant landscape in the place of lawns. But the point is that a vegetable garden (or lawn) can use a lot of water.

California is coming to grips with the fact there is no more water left to steal (if we guard the Columbia). That very productive state is in trouble. All their water is over committed. Households are being rationed and most farmers have received less than their ration for several years. This year, many will receive less than 30% of their normal allocation.

Permanent crops like nut trees and vineyards may have to struggle on the roughly nine inches of rain that the central Valley receives normally. With choices to make, some plantings won't make it. I had heard that an almond requires a gallon of water to

produce. At first I didn't believe it but I did the calculation based on average yield (2200 pounds per acre and 500 almonds in a pound) and the amount of water applied (3.5 acre feet per acre = 43,560 square feet in an acre x 3.5 acre feet = 152,460 cubic feet and multiply that by 7.5 (the number of gallons in a cubic foot) and you get about 1.15 million gallons per acre used to produce about 1.1 million almonds on that acre.

Do you know how much irrigation it takes to produce a hazelnut (or a million hazelnuts)? None, once the trees have grown for one year. That is the virtue of Oregon with our 35-45 inches of rain a year in the Willamette valley. Enough moisture is stored in the soil to grow the tree during the spring, summer, and fall. But we can't grow almonds – too cold, for now.

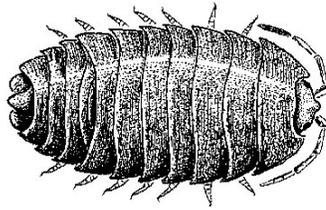
How much spray should I mix up?

In the course of teaching a number of Master Gardener classes, I have found that most gardeners are pretty good at mixing pesticides (organic or conventional) accurately. What they have trouble judging is how much they need to mix up. Often pesticide labels don't give information as to how many square feet a gallon of mix (for example) will cover. When I recently checked Thuricide labels on line (one name for the bacterial insecticide Btk) some listed the square feet a gallon of mix covered, others did not.

Here is how you figure out how much to make up if there is no information. Put a quart of water in the sprayer (with no pesticide) and spray it over the area you intend to cover. Then measure what is left over and you will know how much to mix up. If the square feet a quart of mix is supposed to cover is listed on the label, the test will tell you whether you are spraying too much in a given area (you would need to speed up) or too little (you would need to slow down).

Sowbugs

Sowbugs and pillbugs are crustaceans that live on land, not in water. They are not insects. They have an armored exoskeleton with seven pairs of single legs and paired antennae. Some species can roll up when



enough to be considered "sowbugs" by most biologists.

disturbed, hence the name "roly poly". True sowbugs cannot curl up in a ball and have two small projections at their hind ends. Both are similar

Females reproduce sexually and asexually. Eggs are kept in a pouch until they hatch. At that time, the young emerge. The young look like mini-adults. They shed their exoskeletons as they grow, just like crayfish and lobsters. They prefer moist habitats.

Sowbugs and pillbugs usually eat decaying plant material. They help in decomposing organic matter in the garden and compost pile and are generally considered beneficial.

Sowbugs get blamed for more damage to garden plants than they actually do. They are deemed guilty by association, as they are often found feeding in decaying or damaged garden produce. Actually, diseases, slugs and other pests often inflict the initial damage. Sowbugs enter later to take advantage of the feast. They are great opportunists.

Sowbugs can cause trouble in home gardens when they feed on tender seedlings, young roots, flowers and soft fruits and vegetables laying directly on damp soil. Most active at night, sowbugs hide in dark, moist protected areas during the day, such as under flower pots, decaying leaves, boards, mulches and ground cover. They thrive under sprinkler

irrigation. They do no structural damage to homes and will not harm humans or pets.

Here are some strategies to reduce sowbug populations in the yard and garden:

Limit moist, dark hiding places. Clean up organic debris, boards, boxes and piles of leaves around the yard and garden.

Water early in the day so plants and the soil surface dries out by the evening when sow or pillbugs are active. Mulch beds with coarse materials, so water passes quickly to the soil.

Seal cracks around the house and eliminate the dark, damp hiding places next to your foundation if sowbugs are entering your basement.

Use larger transplants and try to keep the soil around the stems dry during the night.

Slug and snail baits containing spinosad among the active ingredients will also help control sowbugs. A less toxic method for sowbug control is to place a rolled up newspaper tube on the soil surface. Leave it overnight. In the morning, shake out the tubes into a pail of soapy water. This technique also works with earwigs.

Sowbugs are eaten by spiders, ground beetles, centipedes, small mammals, and probably a few birds. One report notes that sow bugs are eaten (dead, perhaps) to control



stomach upsets. It might work since their shells have a lot of calcium carbonate. But another report says they taste like strong urine. Apparently, they can make good pets.



That's the Way it Grows

Gardening Season Opens!

The weather has been back and forth lately, with soaking wet days I can only describe as gross, beautiful sunny days with a warm breeze, chilly nights that leave frost on the ground, dense fog in the mornings, and unseasonably warm nights. It's been really weird.

But this last weekend was amazing. I trimmed, planted, weeded, edged, harvested asparagus, and found baby pears, peaches and cherries on my trees. My little Mason Bees have been busy!

Of course, when the weather turns nice, like any self-respecting gardener, I'm outside weeding. I'm also out buying plants—too many plants. In my rush to get the nicest fuchsia starts and annuals, I forgot the potting soil, though.

I am dying to uncover the vegetable garden. Last fall, I covered it with thick black plastic. Now, there are no weeds under there, the soil is not compacted or crusted over from winter rains, and I can work the soil without fear of harming the soil structure, since it's not waterlogged.

I usually try to jump the gun putting in the vegetable garden every year, but I promised myself I'd wait until May. Putting tomatoes in cold soil will not make them happy. But I could plant some seeds that don't mind a little cooler weather yet to come. Maybe I won't wait until May after all.

I can always start with the flower beds. After ridding them of any winter weeds, my perennials are looking pretty good. They are loving the sunshine. Some of my tall bearded irises are going to bloom earlier than normal. But, the beds are looking a bit sparse and I'm ready for some change. In researching landscaping, I found some interesting information on using color in the garden.

Color in the Garden

Colors give us a feeling or perception of either warmth or coolness. Cool colors are shades

of blue, violet and green. Warm colors are shades of red, yellow and orange. In the garden, warm colors are perceived as advancing while the cool colors seem to recede. Cool colored flowers will recede even more if they are placed in the shade.

When planted at a distance, warm colored flowers will appear closer, while cool colored flowers will appear farther away. A planting of cool colored flowers at the rear of the yard will make the yard seem larger. Warm colored flowers planted in the rear of the yard will make the yard seem smaller.

Plant cool colored flowers up front, since cool colors are best viewed close up. Cool colored flowers are very effective near a patio or next to a sidewalk. Warm colored flowers are effective in bringing a distant part of the yard into focus. Warm colors will create a dramatic display in any yard or garden and will draw attention in the landscape.

Variations in color can draw your eye, such as different shades of violet. Putting the lighter colors in the back of the bed will accentuate the darker shades in the front.

Mixing cool and warm colors works if you use the same value of each shade. A soft peach will go well with lavender, and blues mixed with ivory or soft yellow will be stunning.

While I am planting all my new lovelies, I set aside the plastic pots to reuse. I'm sure most gardeners have tons of them stored away. I do like to sanitize them before reusing them, as they can harbor viruses, bacterial wilt and fungal spores. I just spray them out with a hose and soak them in a bucket of lightly bleached water for a minute or two, then air dry. This will give seedlings and starts the best chance of staying healthy.

Remember to treat yourself to a new pair of gloves, and clean, oil & sharpen your tools. They will make your job much easier.

—Lisa M. Long

Columbia County Master Gardener™

Free gardening ebooks at:

Smashwords.com/profile/view/LisaMarieLong

MAY

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

- Use a soil thermometer to help you know when to plant vegetables. Wait until the soil is consistently above 70°F to plant tomatoes, squash, melons, peppers and eggplant.
- Place pheromone traps in apple trees to detect presence of codling moth. Plan a control program of sprays, baits, or predators when moths are found.

Maintenance and Clean Up

- If needed, fertilize rhododendrons and azaleas with acid-type fertilizer. If established and healthy, their nutrient needs should be minimal. Remove spent blossoms.
- When selecting new roses, choose plants labeled for resistance to diseases. Fertilize roses and control rose diseases such as mildew with a registered fungicide.

Planting/Propagation

- Plant dahlias, gladioli, and tuberous begonias in mid-May.
- Plant chrysanthemums for fall color.
- Plant these vegetables (dates vary locally; check with local gardeners):
 - Mid-May, transplant tomato and pepper seedlings.
 - Snap and lima beans, Brussels sprouts, cantaloupes, slicing and pickling cucumbers, dill, eggplant, kale, peppers, pumpkins, summer and winter squash, onions, potatoes, tomatoes, watermelon.



Pest Monitoring and Management

- Monitor blueberry, raspberry, strawberry and other plants that produce soft fruits and berries for Spotted Wing Drosophila (SWD). To learn how to monitor for SWD flies and larval infestations in fruit, visit <http://swd.hort.oregonstate.edu/gardeners>.
- If an unknown plant problem occurs, contact your local Master Gardener or plant clinic for identification and future management options.
- Manage weeds while they are small and actively growing with light cultivation or herbicides. Once the weed has gone to bud, herbicides are less effective.
- Trap moles and gophers as new mounds appear.
- Leaf-rolling worms may affect apples and blueberries. Prune off and destroy affected leaves.
- Monitor aphids on strawberries and ornamentals. If present, control options include washing off with water, hand removal, or using registered insecticides labeled for the problem plant. Read and follow all label directions prior to or using insecticides. Promoting natural enemies (predators and parasitoids that eat or kill insects) is a longer-term solution for insect control in gardens.
- Spittle bugs may appear on ornamental plants as foam on stems. In most cases, they don't require management. If desired, wash off with water or use insecticidal soap as a contact spray. Read and follow label directions when using insecticides, including insecticidal soap.
- Control cabbage worms in cabbage and cauliflower, 12-spotted cucumber beetle in beans and lettuce, maggot in radishes. Control can involve hand removal, placing barrier screen over newly planted rows, or spraying or dusting with registered pesticides, labeled for use on the problem plant. Read and follow label directions when using insecticides.
- Tiny holes in foliage and shiny, black beetles on tomato, beets, radishes, and potato indicate flea beetle attack. Treat with Neem, *Bt-s*, or use nematodes for larvae. Read and follow label directions when using insecticides.
- Prevent root maggots when planting cabbage family, onions, and carrots, by covering with row covers or screens, or by applying appropriate insecticides.
- Monitor rhododendrons, azaleas, primroses and other broadleaf ornamentals for adult root weevils. Look for fresh evidence of feeding (notching at leaf edges). Try sticky trap products on plant trunks to trap adult weevils. Protect against damaging the bark by applying the sticky material on a 4-inch wide band of poly sheeting or burlap wrapped around the trunk. Mark plants now and manage with beneficial nematodes when soil temperatures are 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.)
- Control slugs with bait or traps and by removing or mowing vegetation near garden plots.



The Grapevine
 News for Columbia County Master Gardeners™
www.columbiacountymastergardeners.org
May 2015



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

Congratulations to our member and past President Leroy Schmidt on being selected as Scappoose's RSVP volunteer of the month. Thanks Leroy for all you do for seniors and the food bank.

I am sure many folks are well into their gardening and have things growing that we normally would not see till May. We have a few of the hardier things growing too but are cautious about tender things, we are still waiting for the weather to drop the other ugly shoe! One task I have been wanting done for a while was bird cages for our blue berries. Zig recently made those for us so maybe we can expect to harvest most of the berries that develop this year.

--Wes Bevans

**Vernonia Garden Fair & Plant Sale
 MG Volunteers Needed**

The Vernonia Community Garden Fair & Plant Sale is coming up on May 9th. It runs from 9am-3pm. If anyone is looking to for payback hours, this is a great opportunity. We need people on May 8th for setup from 3-6, and then again on Saturday. If you could contact Bill at this email, bill@rangelights.com or you can call his cell at 971-998-3705.

Job lists include: 1) Staff the MG booth, answering questions; 2) Assist customers with tomato plant selections; 3) Help independent vendors if they are dying for a coffee/lunch/bathroom break and don't have help; 4) Cashiering (We have a lead cashier). Thank you so much,

--Bill Langmaid

Dues – Due!

I'm still accepting 2015 dues. You can turn them into me at the monthly meeting, mail them to me or turn them into the Extension Office. My address is 34571 Millard Rd. Warren, Ore. 97053.

--Peggy Crisp, Treasurer

Calendar: At-A-Glance

May 7.. Demonstration Garden and other MG Extension Projects Planning meeting, 10 a.m., Extension office

May 7.. Board Meeting, 10:30 a.m. Extension office

May 28. Chapter Meeting, 6:30 p.m., Speaker: Tim Lanfri, OSU Extension Classroom, St. Helens

**Demo garden work days each
 Monday from 10 a.m. to Noon.**

Thank you!

Every year I am totally amazed at how wonderfully smooth the Spring Garden Fair runs. It's not due to anything I have done, but the efforts of my committee chairs and all the volunteers! Once again you have gone above and beyond your duties and have done a wonderful job – Thank you!

--Katherine Johnson, Spring Fair Coordinator



Master Gardeners Contacts Officers for 2015	
<u>Title</u>	<u>Name</u>
President.....	Wes Bevans
Vice President	Joe Crisp
Past President.....	Dennis Snyder
Secretary	Susan Snyder
Treasurer	Peg Crisp
Historian.....	Lavina Patterson
OMGA Rep.....	Chuck Petersen
OMGA Alt. Rep.	Deb Broberg
Demo Garden.....	Linda Bainbridge
.....	Mary Newell-Dickenson
Spring Fair	Kathy Johnson
CCMG website: www.columbiacountymastergardeners.org	
Webmaster	Larry Byrum
OSU Extension Service:	
Extension Faculty.....	Chip Bubl
Secretary	Vicki Krenz
Guide to Plant Disease Control:	
OSU	http://plant-disease.ippc.orst.edu

Coyotes

European settlement of North America changed the coyote's life for the better. Pre-settlement, coyotes were mainly grassland species concentrated in the Great Plains region from our northern border with Canada down into Mexico. Wolves dominated more forested areas. European



aversion to large carnivores led to the near extinction of wolves throughout most of what became the United States. But as wolves declined, coyotes expanded into the Northeastern states, the Southeast, and increased in all areas of the West. They breed quickly and are basically omnivores, capable of subsisting on insects (especially grasshoppers), fruit, small rodents, amphibians, as well as deer and other meat that they find available. Those were admirable traits for surviving in unfamiliar landscapes.

Northeastern coyotes are exceptionally large, weighing ~40+ pounds versus the 20 pounds of the Great Plains populations. Recent DNA work has confirmed that coyote/wolf interbreeding in that region. As wolf numbers declined, male wolves would breed coyote females. Similar populations exist in other parts of our northern border regions.

Coyotes are found throughout Columbia County. They are more common in the forested areas where they feed on deer, brush rabbits, and voles (field mice) as well as seasonally available berries and grasshoppers when they can get them. Grasshoppers, birds, and voles are species on which the young pups hone their hunting skills. They love the logging roads and the mix of vegetation types (clearcut, reprod, and mature forest) found in the Coast range.

As they move into more settled areas, all the skills that make them good hunters (exceptional eyesight, hearing, and smell)

bring them in conflict with farmers and homeowners. Sheep, goat, and poultry producers devote a lot of time to protecting their animals from coyotes (and roaming domestic dogs). Farmers do shoot and sometimes trap coyotes. Without that lethal deterrent, it would be impossible to raise sheep or goats here. Coyotes do learn and remember, at least for a while. Non-lethal management techniques include the use of guard animals (certain dog breeds, llamas, and mules) and predator deterrent electric fences. All these techniques (lethal and non-lethal) are not consistently successful and all are fairly expensive and time-consuming to use. Coyotes (and stray dogs) are very smart and adaptable.

Coyotes are in all our towns and suburbs. For the most part, they eat squirrels, mice and rats. But if they find lots of cats, small dogs, or poultry available when they are out hunting, they have no qualms about catching them. As you might expect, it is almost impossible to control coyotes within city limits. They can't be trapped or shot. Coyote populations are cyclic and eventually drop due to diseases (distemper and others) and a decline in readily available food. But after a period of time, they may recover as well. My best advice to city and rural homeowners alike is to keep your animals inside, especially during the night and early morning hours when coyote foraging activity peaks.

Coyotes have an impact on deer populations but that has been accelerated by a complex of diseases and parasites that have weakened the black tail deer herds. Cougar are also increasing in Columbia County and that will change coyote behavior patterns and food base. And wolves will probably be back in Columbia County within ten to fifteen years.

Photo: Wikipedia via Rebecca Richardson

Farm and livestock notes

Grass tetany and lush pastures

This has been a very good pasture year in Columbia County. But with all the high quality feed comes the risk for a serious metabolic disease of cattle and sheep (and sometimes goats) called grass tetany. The following article and links should help you sort out your options. As always, visit with your veterinarian about preventative actions that you can use on your farm:

Grass tetany is a common problem in livestock usually prevalent in the early spring grazing season. Sheep and cattle are more susceptible than goats.

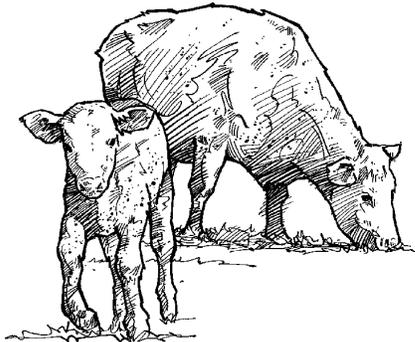
Often, the only sign of grass tetany is a dead animal. Animals with grass tetany exhibit a staggering gait followed by paddling or swimming

convulsions and then death.

Potassium interferes with magnesium absorption in the digestive track of livestock. Rapidly growing grasses, especially small

grain pastures, such as wheat, rye and ryegrass, tend to be high in potassium. Pastures fertilized with potash also have a higher potassium levels in plants. Early lactation and late pregnancy drain magnesium and other minerals, especially in sheep.

To lower your herd's tetany risk, limit the amount of time animals graze fresh pasture. Allow them to eat their fill of hay before turning them out on pasture. Provide special high magnesium mineral blocks or loose mineral. Give livestock magnesium for two weeks before turning them out on fresh pasture so their magnesium levels are adequate at turn out.



Be sure to remove all other salt blocks from the pasture so livestock eat enough of the high magnesium mineral. Livestock don't really like the taste of magnesium mineral salt, so be sure they eat enough of it daily. Mix loose magnesium mineral with molasses or ground corn to aid consumption.

Treat grass tetany with calcium borogluconate with 4 to 5 percent magnesium. This is usually done intravenously, so your veterinarian may have to administer it. A calcium magnesium gel, like CMPK gel or bolus can be given orally if the problem is caught early.

Rolaids antacid tablets contain calcium carbonate and magnesium hydroxide. In a pinch, dissolve about 20 tablets in a quarter of a cup of water as a drench. Be careful to avoid stressing the animal. Excessive stress can cause the animal's heart to stop when it has grass tetany.

From David Fernandez, Cooperative Extension Program livestock specialist at the University of Arkansas at Pine Bluff via Drovers

For more information on grass tetany or other livestock related problems, see

<http://www.ansc.purdue.edu/beef/articles/GrassTetanyBloat.pdf>

<http://forages.oregonstate.edu/fi/topics/pasturesandgrazing/grazingsystemdesign/grasstetany>

How to please the customer

Hog and poultry producers get lots of data on the performance of their animals and birds when they are marketed in terms of pounds of meat per pounds of feed, fat deposition, eating quality, and the like.

That doesn't happen enough with beef and lamb. And when there isn't a good feedback loop, there is a good chance that poor feedlot practices (overfed lambs, for example) or poor carcass qualities will turn some end



consumers away from that product and/or cost the meat processor more money to prep the carcass for ultimate sale.

Both the cattle and sheep industry have

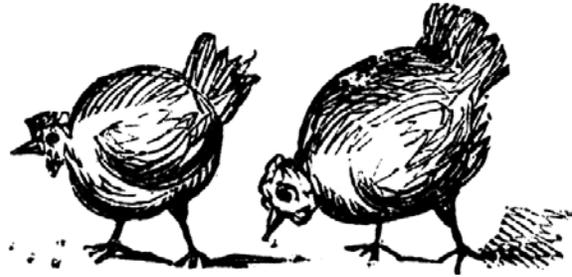
active programs to improve the collection of carcass data. But often, the channels that feeder animals travel through make it more difficult to get the information a producer needs to improve their herd. If you have a regular buyer for your steers or lambs, visit with them about the effort it would take to get end point data about your animals. It would require ear tags or other more sophisticated individual identification.

Currently, there isn't a clear reward for producing the best animals. But as margins get tighter and predictable quality becomes more important, the role the livestock producer plays will be crucial. And to play that role, you will need real time information about your animals.

Signs of bird flu

- Lack of energy or appetite
- Decreased egg production and/or soft shelled or misshapen eggs
- Swelling of the head
- Purple discoloration of the wattles, combs, and legs
- Runny nose, coughing, and sneezing
- Stumbling or falling down
- Diarrhea
- Sudden death without clinical signs

Contact Oregon Department of Agriculture at 1800 347-7028 to report a problem. For



more information go on line to

<http://www.oregon.gov/ODA/programs/AnimalHealthFeedsLivestockID/AnimalDiseases/Pages/AvianInfluenza.aspx>

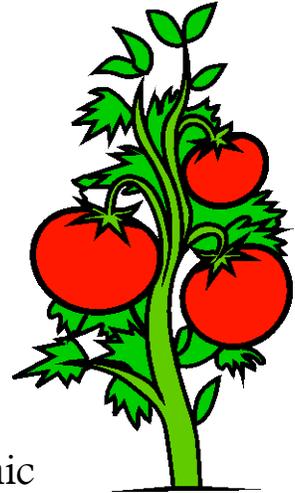
Aminopyralid and clopyralid in manure and compost

Two pasture herbicides, aminopyralid (Milestone and others) and clopyralid (Stinger and others) are useful herbicides for the control of some very difficult weeds including Canada thistle and many other broadleaf weed species. But both products are very stable compounds when sprayed on a pasture that is later grazed and/or cut for hay. The compounds will pass through the animal's digestive system (causing no harm at all to the livestock) and return to the pasture or end up in the manure in the feeding area with their herbicidal properties intact. If someone uses the manure in their garden, they can injure many vegetable (and ornamental) plants including green beans, tomatoes, potatoes, and peppers. Injury symptoms are twisted and distorted growth, usually showing some cupping.

The manufacturer of these compounds, Dow Chemical, recommends that these products be used where harvested forage doesn't leave the farm. If they hay is sold, the farmer should advise the purchaser that the manure from eating the hay not be used on vegetables and ornamental plants.

Vernonia's 2014 Garden Fair and Plant Sale
Saturday, May 9, 2015
9 am - 3 pm

Vernonia High School Commons
1000 Missouri Ave.
Vernonia, Oregon



- Free Parking
 - Vendor Booths
 - 800 Tomato Plants
 - Most Varieties are Certified Organic
 - Many other Plants and Vendor items Available



Presented by the VERNONIA COMMUNITY GARDEN GROUP

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

Presorted Non Profit
Bulk Rate
U.S. Postage
PAID
St. Helens, OR
Permit #002

Oregon State University
Columbia County OSU Extension Service
505 N. Columbia River Highway
St. Helens, OR 97051
Return Service Requested
Page 10