

# Oregon Small Farm News

Oregon State University Small Farms Program

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### Cover Photo:

U.S. Representative Earl  
Blumenauer discusses farm  
and food issues with local  
small farmers and food  
advocates at Afton Field  
Farm, May 2013.

Photo by Garry Stephenson

Oregon Small Farm News Layout by:  
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# U.S. Representative Earl Blumenauer Visits Corvallis Area Farmers and Food Advocates

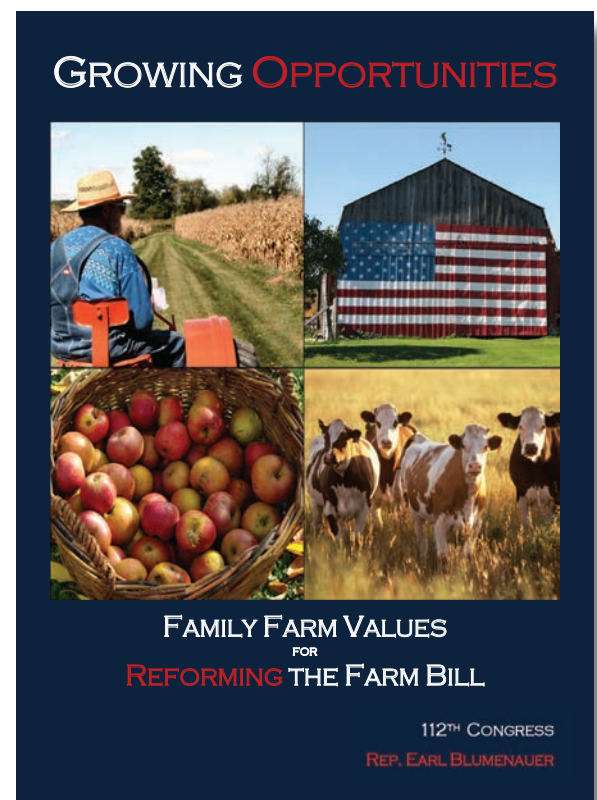
By: Garry Stephenson, Small Farms Program, Oregon State  
University

On a recent visit to the Corvallis area, U.S. Representative Earl Blumenauer spent part of the morning at Afton Field Farm listening and discussing issues with a small group of local small farmers and food advocates. Topics ranged from challenges with farm credit and affordable farmland to the Farm Bill currently moving through the House and Senate. Participating in the discussion were John Eveland, Gathering Together Farm; Tom Denison, Denison Farms; Tyler Jones, Afton Field Farm; Frank Morton, Wild Garden Seed. Food advocates included Sharon Thornberry, Oregon Food Bank; Rebecca Landis, Albany and Corvallis Farmers' Markets; and Ivan Maluski and Leah Rodgers of Friends of Family Farmers.

Earl Blumenauer has a special interest in the food and farming. His district has over one million mouths to feed and he sees a connection between a healthy environment, healthy people, healthy rural economies and the Farm Bill. He has published his approach to reforming the Farm Bill as *Growing Opportunities, Family Farm Values for Reforming the Farm Bill*. He advocates reforming commodity programs to eliminate and limit direct payments, enhancing conservation programs, increasing research and development, retaining beginning farmer and rancher support, and linking nutrition programs and local farm economies.

*Growing Opportunities, Family  
Farm Values for Reforming the  
Farm Bill.*

[http://blumenauer.house.  
gov/images/stories/2011/  
documents/growing%20  
opportunities%20farm%20  
report.pdf](http://blumenauer.house.gov/images/stories/2011/documents/growing%20opportunities%20farm%20report.pdf) 



# First in Time, First in Right

By: Melissa Fery, Small Farms Program, Oregon State University

Stream flow and snow pack levels have some farmers concerned as to what this might mean to their irrigated crops and access to water later this summer. As we are well into the irrigation season, it is a good time to review how Oregon water law works.

Oregon water laws dates back to 1909 when state control over the right to use water began. In Oregon, all water is considered publicly owned and with only a few exceptions, water users must obtain a permit or water right to use water from any source, whether underground, or from streams and rivers. Prior to 1909, water users had to personally defend their rights to water or turn to local courts.

Quotes referring to the conflicts over water in the Western region of the United States can be found throughout history. From a somewhat famous quote rumored to be from Mark Twain, “Whiskey is for drinking; water is for fighting over” to citing former Arizona senator, Barry Goldwater, “A man from the west will fight over three things: water, women and gold, and usually in that order.”

To establish order in Oregon, here are the four basic provisions of water code:

- **Beneficial use without waste.** There are many demands on the Oregon’s water resources including a wide array of beneficial uses. Irrigation for crops is just one. Water

is needed for domestic use for people and animals, city drinking water, industrial uses like manufacturing, and some water must also remain available in-stream for fish and other aquatic life.

- **Appurtenancy.** A water right is attached to the land described on the water right certificate and final proof map, as long as the water is used. If the land is sold, the water right goes with the land to the new owner.
- **Must be used.** A water right needs to be used as provided in the right at least once every five years. After five consecutive years of non-use, the right is subject to cancellation.
- **Priority.** The water right priority date determines who gets water in a time of shortage.


This concept of priority or prior appropriation is referred to as “first in time, first in right”. Water code is enforced during times of low streamflow based on the date the right was established. This means that the first person that obtained a water right on a stream (date of application for the permit) or the senior user, is the last to have water cut off when there is not enough water to go around. The person with the senior right has legal access to the water specified in their water right regardless of the needs of junior users, even if they are located upstream. If there is enough water to meet the needs of the senior right holder, the person



with the next oldest water right has priority and so on. This process has been developed to protect individual's rights and water resources.

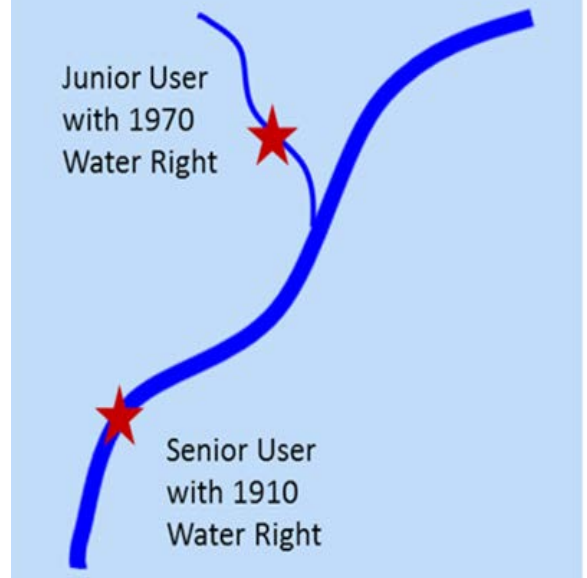
The Oregon Water Resources Department (OWRD) regulates water law, including water rights. On an average year, Watermasters in Western Oregon may begin placing restrictions on junior right holders in late August and September if water flow does not meet demand. Michael Mattick, Watermaster, District 2 which includes Lane and Linn Counties says that in his area "it is too early to tell if flows will drop off or not. A little periodic rain this summer could mean no regulation is necessary."

The reference for this article is the publication Water Rights in Oregon, An Introduction to Oregon's Water Laws, which is available online at <http://www.oregon.gov/owrd/pages/pubs/aquabook.aspx>

For more information about Oregon water law and code or to contact your local watermaster go to the Oregon Water Resources Department website. <http://www.oregon.gov/owrd/> 

## Example of Prior Appropriation

"First in time, first in right"



If a downstream landowner has the earlier priority date (they initiated their water right in 1910) the upstream landowner (with a 1970 water right) may have to let the water pass unused to meet the needs of the senior, downstream water right holder in times of water shortage. *Provided by Melissa Fery*

## SOME RESOURCES FOR A DRY SUMMER

It has been several years since Oregon has encountered dry conditions across most of the state. According to the U.S. Drought Monitor (see below), as of June, the southwest and southeastern portions of Oregon, are rated as moderate and severe drought. Much of western, north central and eastern Oregon is considered abnormally dry. The northwest portion of the state is not experiencing drought conditions although precipitation is below normal. Below are some resources for monitoring conditions and some tips for managing dry conditions.

### Oregon Water Resources Department—Drought Watch Page

This page presents data and other information concerning the availability of water in Oregon for 2013. There is information from watermasters concerning their specific districts. "Near real time" links provide water levels and flow data for particular streams and rivers. <http://www.oregon.gov/owrd/pages/wr/drought.aspx>

### U.S. Drought Monitor

The Drought Monitor, is produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. It is a synthesis of multiple indices and impacts, that represents a consensus of federal and academic scientists. [http://droughtmonitor.unl.edu/DM\\_state.htm?OR,W](http://droughtmonitor.unl.edu/DM_state.htm?OR,W)

### Strategies for Efficient Irrigation Water Use

Guidance to improve irrigation efficiency through irrigation scheduling, deficit irrigation, conservation tillage and installing more efficient irrigation systems.

<http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/37465/em8783.pdf>

### Livestock Water Management During a Drought

Management of wells, stock ponds, vegetation and stock water hauling.

<http://extension.oregonstate.edu/catalog/pdf/em/em8588-e.pdf>



# Dry farming vegetables: *One farmer's approach to building soil, conserving water and producing great tasting tomatoes*

By: Amy Garrett, Small Farms Program, Oregon State University

**J**eannie Berg, with Your Hometown Harvests, grows heirloom fruits and vegetables in Monmouth, Oregon. She markets her produce through a 25-member CSA and several farmers' markets including the Independence Riverview Market and the Portland South waterfront market. The land she is farming has class 1 soil and a few acres of water rights, but not enough water to expand irrigated crop production, so Jeannie has been experimenting with dry farming vegetables over the past few years.



Stupice' tomato planted at Your Hometown Harvests on June 5, 2013.  
Photo by Amy Garrett

## What is dry farming?

Dry farming refers to crop production during a dry season, like our summers here in the Willamette Valley, and utilizing the residual moisture in the soil from the rainy season instead of depending on irrigation. Dry farming strategies work to conserve soil moisture during these long dry periods through a combination

of management strategies including drought-resistant varieties, timing of planting, tillage, surface protection, and keyline design. Regional rainfall, type of crop, planting depth and spacing, and soil type are important considerations. For example soil quality and water-holding capacity is especially important for dry farming systems and wouldn't be feasible for most crops on a really well drained sandy soil with little to no organic matter. For each 1% increase in soil organic matter, soil water storage can increase by 16,000 gallons per acre-foot of applied water (Sullivan, 2002)! Many people think of grains and beans when dry farming is mentioned, however farmers in the western region of the U.S. have dry farmed many other crops including: grapes, garlic, tomatoes, pumpkins, watermelons, cantaloupes, winter squash, potatoes, hay, olives, and orchard crops (<http://agwaterstewards.org>).

The strategy for managing soil moisture at Your Hometown Harvests, involves deep straw mulch, low/no irrigation, and low/no tillage. After two years of trialing this system and great success with tomatoes and winter squash she has decided to expand dry farming onto two more acres.



Jeannie Berg in her new field of tomatoes planted with deep straw mulch.  
Photo by Amy Garrett

## Mulch Day at Your Hometown Harvests

In preparation for this expansion, Jeannie organized a farm mulch day on April 27<sup>th</sup> this spring, inviting people out to tour the farm, help spread 450 bales of straw, and learn how to reduce weeds and conserve water on their own land with this technique. Twenty people attended and were able to mulch over a half-acre that was then planted mostly in tomatoes, as well as some squash and local heirloom 'Pike' melons. She also put a few of each variety she planted in a "control plot" up near her house that will get irrigated for comparing yield, taste, and vigor.



Mulch Day at Your Hometown Harvests'  
Photo by Jeannie Berg

## Why dry farm?

When asked what her primary motivating factors for dry farming are Jeannie replied, "to build soil, conserve water, and hopefully get consistently more flavorful and nutritionally dense tomatoes." She attended the annual North Willamette Horticulture Society meeting held each January (<http://nwhortsoc.com/>) and saw a presentation on 'Genetic and Environmental Factors Influencing Vegetable Flavor and Human Health

Potential', by Ted Radovich with the University of Hawaii. The presentation affirmed her hope that more flavorful and potentially more nutritionally dense tomatoes can result from some water stress.

Jeannie said, "In four years of farming without chemicals, we've become convinced that organics is only a part of the picture and that we have to address the extent that we use water and damage soil structure with tilling." Reasons for dry farming may range from necessity in the case of no water rights or a drought to interest in soil conservation or better tasting tomatoes. If you are interested in exploring dry farming further see the resources below. *✍*

## Resources

California Agricultural Water Stewardship Initiative:

<http://agwaterstewards.org/>

Ecofarm Water Stewardship Project:

<http://agwater.wordpress.com/>

Sullivan, P. 2002. Drought Resistant Soil. ATTRA Agronomy Technical Note. p. 1-7.

## Composting Workshop

*Join Amy Garrett, OSU Extension Small Farms*

*Instructor for this hands-on workshop on composting!*

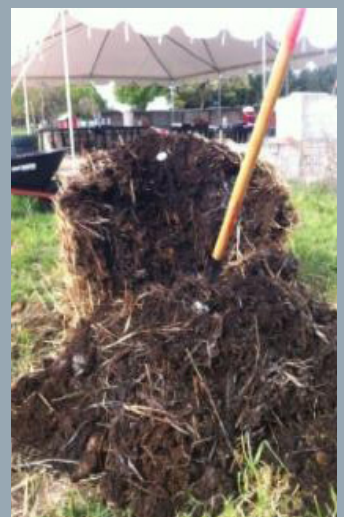
*Learn the basics of how to make quality compost and get an intro to worm composting.*

*What lived once, can live again!*

Sunday July 21, 2013 From 4pm - 6pm

Chatoe Rogue, 3590 Wigrich Rd Independence, OR 97351

To register call Natascha Cronin at Chatoe Rogue: 503-838-9813





# Composting at Winter Green Farm Improves Soil Health and Protects Water Quality

By: Nick Andrews, Small Farms Program, Oregon State University

In 1980 Jack Gray and Mary Jo Wade started Winter Green Farm just 20 miles west of Eugene, five years later Wali and Jabrila Via joined them and in 2009 long-time employees Chris Overbaugh and Shannon Shipp-Overbaugh also took joint ownership of the farm. The farm is certified organic and Salmon Safe by Oregon Tilth and also uses biodynamic methods. They strive to create a productive farm in harmony with the earth, and view the farm as a living organism and ecosystem.

They integrate beef with a wide array of vegetables, herbs, and fruit. They sell their farm products through a thriving Community Supported Agriculture (CSA) business, at seven Portland and Eugene area farmer's markets and through wholesale channels. Their own line of pesto and pesto base are also popular products. They include cover crops in their rotation and raise beef cows to maintain soil quality and supply nutrients for their crops while minimizing external inputs. They maintain about 145 acres in pasture and hay (some in permanent pastures and some as part of their rotation) and 25 acres of intensive crops. By combining crop and animal husbandry they manage a profitable whole farm system that closes nutrient loops as much as possible.

Compost is the link between their livestock and crops, Wali Via manages their composting activities and is highly regarded in the sustainable agriculture community for his composting expertise. "Composting is the backbone of our overall fertility program", their other primary fertility inputs are agricultural limestone and dolomite. In recent years they have been experimenting with nutrient balancing and have brought in other mineral nutrients on certain fields.

They use a five year rotation. The first two years they grow vegetables followed by a fall seeded cover crop. In year three they grow vegetables then seed a pasture in the fall. The pasture is maintained during years four and five before returning to vegetables. The years the rotational fields are in vegetables the fields get



Wali Via uses a manure spreader to thoroughly mix feedstock, build piles and turn piles. Photo by Nick Andrews

about 10 cubic yards of compost per year. During the years in pasture intensively grazed cattle contribute their manure. As of 2013 they have shifted to a six year rotation adding an additional year in pasture. Permanent pasture fields receive approximately 5 cubic yards of compost every five years.

In a usual year they make between 400 and 600 cubic yards of finished compost. Wali makes compost mainly from materials from their farm: beef manure bedding and hay, grass and clover greenchop, finished compost or soil, and any accumulated old hay or balage. They also use some horse manure with wood chip bedding from a neighbor's stable. Sometimes they use greenchop from on farm annual cover crops and occasionally import separated dairy solids or broiler litter from off-farm.





Their PTO-driven windrow turner helps them turn their windrows frequently as required by the National Organic Standards. Photo by Nick Andrews

Their standard mix is about 40% beef manure bedding, 55% greenchop and 5% old compost. Additionally, they produce compost made from vegetable trimmings, soil from root washers, and greenchop, which is applied to their permanent pastures and hay fields. Their piles are managed in long windrows. For a long time Wali loaded the compost feedstock into their rear discharge manure spreader which mixed the feedstock and built the windrows as the tractor crept forward.

About 5 years ago they bought a compost windrow turner which helps them keep up with National Organic Program standards to turn the pile frequently during the hot thermophylic phase. Wali noted that the windrow turner doesn't blend wet and dry feedstock together as well as the manure spreader, and now finds it a bit more challenging to maintain consistent moisture throughout the pile during summer composting.

At Winter Green Farm they are very committed to protecting wetlands, riparian areas and water quality on and near their farm. They compost during the dry summer months which allows them to manage moisture content in the piles, and prevent leaching. They maintain wide grass filter strips between their windrows. If any leachate is generated these strips protect water quality by preventing runoff and improving water and nutrient infiltration and uptake. During the winter they cover their windrows with

OSU Extension has developed a new Agricultural Composting and Water Quality website and Extension Publication that provides information about practical methods you can use to protect water quality at your composting site. The 29-page Extension Publication includes six chapters:

- On-farm Composting: What You Need to Know
- Site Selection
- Compost Site Layout and Design
- Choose the Composting Method That's Right for You
- The Composting Process and its Impact on Water Quality
- Manage Runoff and Leachate

The website, Extension publication and a survey of agricultural composters in Oregon was funded by a grant from USDA Western Sustainable Agriculture Research and Education








Grass filter strips protect a nearby wetland and river from any leachate generated by the compost windrows. Windrows are covered during wet months to prevent leachate from forming. Photo by Nick Andrews

plastic to prevent storm water from creating large volumes of leachate that could overwhelm their filter strips. Their composting site is in a level field of Nehalem silt loam soil. The site is about 200-300 yards north of the Long Tom River and 300-400 yards south of a wetland. Wells in the area are 70-350' deep. They maintain thick permanent grass around the composting site.

Because they compost more than 100 tons of feedstock each year they were required to apply for a compost registration permit with the Oregon Department of Environmental Quality (DEQ). No concerns were raised during the risk screening and inspection process. But they had to apply for a Land-Use Compatibility Statement and go through the application and inspection process. During their visit the DEQ inspector thought Winter Green Farm was doing a great job protecting water quality. 

## Natural Resources Enterprises Workshop

The two day workshop focusing on starting outdoor recreational enterprises and business planning.

**Dates:** September 17th & 18th; the enterprises workshop is on Tuesday and the business planning workshop is on Wednesday.

**Location:** Fort Vannoy Farm; Grants Pass, OR

*Sponsored by Oregon Farm Bureau in partnership with Mississippi State University*

## PNW 646, Soil Fertility in Organic Systems: A Guide for Gardeners and Small Acreage Farmers Available Now!

Plant growth is affected by numerous factors, including climate, pest pressure, and nutrient availability. As plants grow, they rely on their roots to provide structural support, water, and nutrients. The right nutrients are essential for growing healthy, productive plants. Well-managed, fertile soils can supply plants with all the nutrients they need. Managing soil fertility requires attention to the source, timing, rate, and placement of nutrient applications. Certified organic growers use only nutrients that are derived naturally because the use of most synthetic fertilizers is not allowed.

Many types of fertilizers and soil amendments are available for organic plant production. This publication discusses fertilizer formulations, nutrients and nutrient availability, and application practices for common organic products. While the primary focus of this publication is on building and maintaining fertile soil, protecting soil and water resources will also be discussed.

Available online at:  
<http://cru.cahe.wsu.edu/CEPublications/PNW646/PNW646>

### Soil Fertility in Organic Systems: A Guide for Gardeners and Small Acreage Farmers

A PACIFIC NORTHWEST EXTENSION PUBLICATION • PNW646



Washington State University • Oregon State University • University of Idaho



# What's Holding Back Local Meat?

As interest in local meat and poultry grows, farmers and others point to processing as a key bottleneck, calling strongly for new plants to be built. Yet building more meat processing plants won't yield more local meat unless farmers and processors change how they do business with each other, according to a new report. "Farmers and ranchers say, 'There aren't enough processors.' But how can processors stay open, let alone grow, without enough steady, consistent business to pay their bills?" said lead author Lauren Gwin, a researcher with the OSU Small Farms Program. "I'll call you when I need you" is convenient in the short term but doesn't give either side any long-term stability or growth."

The report, "Local Meat and Poultry Processing: The Importance of Business Commitments for Long-Term Viability," analyzed challenges and innovations in local processing, focusing on seven successful processors around the U.S. Gwin and co-author Arion Thiboumery, an Extension associate at Iowa State University, found that long-term business commitments between processors and farmers were essential to success.

"If farmers, on their own or in coordinated groups or brands, commit to bringing a steady supply of livestock, processors could then commit to providing consistent, high-quality services," Gwin said. "When processors have committed business, they know they can cover their costs, which allows them to maintain and – we hope – expand what they can do."


Gwin and Thiboumery found different examples of commitment in practice. For Lorentz Meats and TFC Poultry, two Midwest processors, a few anchor customers provide most of their revenue. This allows them to process for small farms that bring far fewer animals each year, and only seasonally.

Island Grown Farmers Cooperative is known for running the first USDA-inspected mobile slaughter unit. Yet perhaps more critical to its success and staying-power is that all members commit to slaughter dates a year in advance, even for livestock not yet born. Smucker's Meats has an active scheduling system with a waiting list, to make sure the inevitable cancellations are immediately filled.

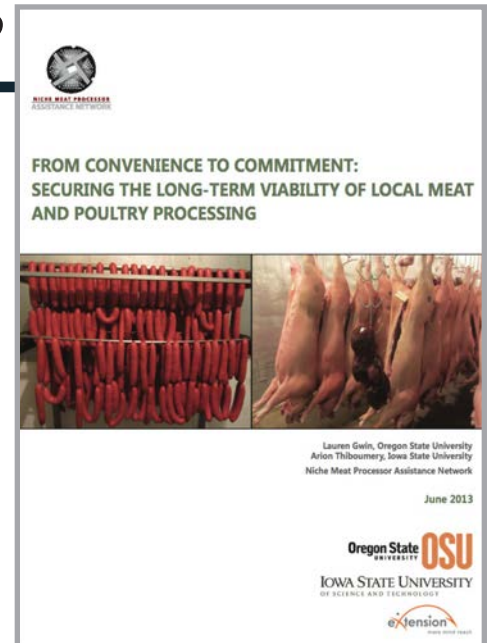
Commitment goes both ways: for example, Smucker's Meats and Heritage Meats help their farmer customers with marketing and distribution. More business for farmers can become more business for processors.

"Without local processors, you simply have no local meat," Thiboumery said. "We even saw examples of farmers investing financially in their processors – helping them add needed equipment or improve services."

Gwin and Thiboumery also examined efforts around the country where nonprofits, universities, and state and local agencies are working together to provide technical assistance to local processors and their farmer-customers. Casey McKissick, Director of NC Choices in North Carolina, explained his group's approach: "we get all these calls about business plans for new processing plants. But what about the plants that are already in business? What can we do to support them?"

The USDA's Economic Research Service published the findings this week at <http://1.usa.gov/17nmjGl> under a cooperative agreement with Gwin and OSU. The Niche Meat Processor Assistance Network, led by Gwin and Thiboumery, published a version of the report with policy recommendations, including technical assistance for processors and farmers, clarification of specific regulations, and targeted public investment. NMPAN is a national eXtension network, based at OSU, which includes university extension faculty, federal, state, and local regulators, nonprofits, farmers and ranchers, and processors. NMPAN provides technical assistance and information about meat processing for local and regional markets. 

*Funding for the report was provided by the U.S. Department of Agriculture.*





# Ag Water, Soil Amendments, Exemption Conditions Top List of FSMA Concerns

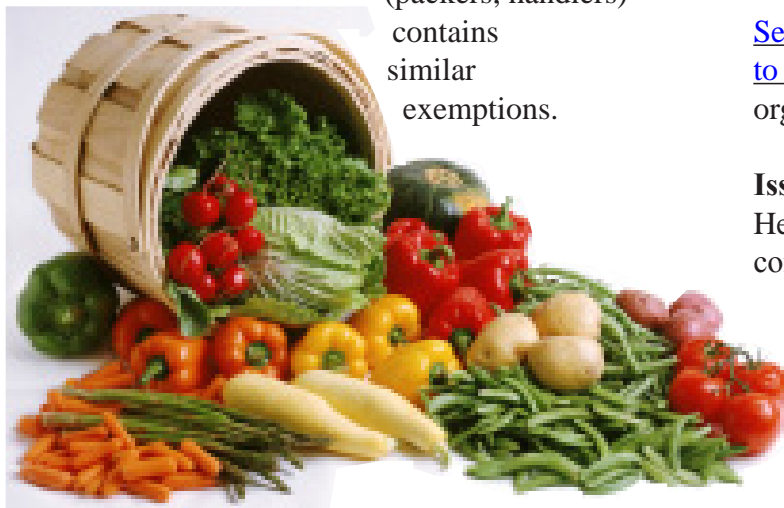
By: Lauren Gwin & Nick Andrews, Small Farms Program, Oregon State University

New federal regulations will likely bring big changes in how food is grown, harvested, packed, and processed in the U.S.; small farms and local and regional food systems will feel it too. The Food Safety Modernization Act, passed in 2011, is currently in the “rulemaking” stage: the U.S. Food and Drug Administration, as the responsible agency, drafts rules and offers them for public comment, before rewriting the rules to address those comments.

The OSU Small Farms Program will submit comments on two draft FSMA rules that matter most to Oregon’s small-scale, sustainable farmers and vibrant local food systems: [the produce rule](#) and [the preventive controls rule](#). Comments on both are due September 16.

We strongly encourage all farmers – even if you think you are not covered by the rule or qualify for an exemption – to do the same. Keep in mind that these are still proposed rules, and different sectors of the food system disagree about the exemptions. Farms selling less than \$25,000 of food per year are not covered by the produce rule. Farms selling more than that but less than \$500,000 per year, with 51% directly to consumer or retail food establishments in the same state or within a 275 mile radius, may be partially exempt but must meet certain conditions and requirements. The rule governing food facilities

(packers, handlers)  
contains  
similar  
exemptions.



As discussed, much remains unclear about the exemptions: how you qualify for them, how you can lose them, and how you might regain them.

## FSMA Rule Summaries

The produce rule contains standards for growing, harvesting, packing, and holding produce for human consumption. It focuses on microbial contamination and creates standards for personnel qualifications and training; health and hygiene; agricultural water; biological soil amendments; domesticated and wild animals; growing, harvesting, packing, and holding; equipment, tools, buildings, and sanitation; sprouts; and traceability requirements.

The preventive controls rule applies to facilities that manufacture and process food for human consumption. The two major requirements are a hazard analysis and risk-based preventive controls and updated good manufacturing practices. In the draft rule, FDA lists a number of activities and facilities not covered by the rule, including specific low-risk activities by small and very small businesses; farm activities (as defined by FDA); and certain facilities that only store packaged foods or raw agricultural commodities for processing. Both proposed rules contain exemptions for small-scale farms and businesses that sell primarily into local and regional markets.

[See our website for more detail on the rules and links to fact sheets and useful resources](#) from FDA and other organizations.

## Issues to Watch

Here are some of the issues on which we plan to comment and/or ask for clarification:

### Effects on Small Farms and Local Food Systems

The “Tester/Hagen” amendments to FSMA were written to assure that the Act is implemented in a risk-appropriate way. While all farms and food businesses, no matter the size or farming system,



are responsible for food safety, “one size fits all” solutions are very likely to unfairly burden small, local farms without improving the safety of our food. FSMA – the legislation itself – therefore directs FDA to do the following:

- Create scale- and risk- appropriate regulations for small farms serving local and regional markets;
- Allow on-farm conservation and beneficial wildlife practices;
- Complement, not contradict, organic standards;
- Minimize extra regulations for low-risk, value-added processing.

However, analysis of the draft rules raises real concerns that these provisions for sustainable agriculture and local/regional food systems will not be honored.

First, farms and facilities that meet the conditions for “qualified exemptions” must still have traceability systems in place and meet other requirements. That is entirely reasonable and smart: all are responsible to assure food safety. Yet the exemptions are somewhat differently defined in each rule, and farmers that believe they are exempt from one may end up covered by the other – or different parts of their farms may be subject to one or the other rule, or even both.

Second, as the rules are written, the exemptions may be very easy to lose. Both rules contain an open-ended “material conditions” clause that gives FDA full powers to withdraw an exemption if “conduct or conditions associated with a farm that are material to the safety of the food that would otherwise be covered (non-exempt) produce grown, harvested, packed and held at such farm.” But what counts as a “material condition” remains very unclear.

As Steve Gilman, of the Northeast Organic Farming Association, wrote recently, “there are no mandated protocols, compliance timeframes or evidence requirements, while the burden of proof is placed completely on the accused farmer.”

Farmers who lose exemptions may have little recourse. As Gilman explains, a farmer may appeal to FDA,

## From the Draft Produce Rule

### **§ 112.43 What treatment of agricultural water is required, and what requirements apply to treating agricultural water?**

(a) You must treat any agricultural water that you use (such as with an EPA-registered antimicrobial pesticide product) if you know or have reason to believe that the water is not safe and of adequate sanitary quality for its intended use.

(b) Any method you use to treat agricultural water to satisfy the requirement in paragraph (a) of this section must be effective to make the water safe and of adequate sanitary quality for its intended use.

(c)(1) You must deliver any treatment of agricultural water required by paragraph (a) of this section in a manner to ensure that the treated water is consistently safe and of adequate sanitary quality for its intended use.

(c)(2) You must monitor any treatment of agricultural water at a frequency adequate to ensure that the treated water is consistently safe and of adequate sanitary quality for its intended use.

but the rules include “no depiction of what records can stand in as acceptable evidence when the farm was exempt from record-keeping to begin with.” Furthermore, the rules do not address how a farmer can regain an exemption, once the problem is solved – or FDA cannot show a problem. Finally, the rules appear to give FDA the power to withdraw exemptions for a large number of farms in an entire category of produce or production the agency believes might be risky.

### **Agricultural Water**

The produce rule requires all agricultural water to meet [EPA’s recreational water quality standards](#). Farmers must test their water to assure this. The proposed rule requires testing each water source as often as weekly during the growing season, depending on the source (see Table 1). Farmers and even state regulators are concerned about many aspects of the current agricultural water provisions.

First, the standard itself may not be achievable for many Oregon farmers. In public meetings with FDA about FSMA, farmers across Oregon were very concerned that their irrigation districts could not meet the water quality standard. Second, the required testing frequency will be a significant cost to farmers, yet current science is unclear about whether the pathogens farmers must test for are effective indicators for pathogens that cause food-borne illness.

As Jack Gray, of Wintergreen Farms in Noti, told FDA, “it’s clearly a little hard to stomach that we’ll now have to pay over \$30,000 a year for the privilege of solving a problem that we don’t seem to have while also subtly chipping away at the foundation of the biological farming system that we have built.”

Third, the rule requires farmers to treat the source of their water to assure it meets the standard. Yet many farmers have little to no control over the source of their water, e.g., in irrigation districts. FSMA gives FDA no jurisdiction over irrigation districts.

Finally, if on-site treatment is a farmer’s only option to achieve the standard, many farmers may end up relying heavily on chlorine and other anti-microbial pesticides. Yet what effect will this have on soils, surface water and farm profitability, especially for ecologically integrated farming systems? The Environmental Protection Agency reports that “sodium and calcium hypochlorite are low in toxicity to avian wildlife, but they are highly toxic to freshwater fish and invertebrates.” This warning is included on Material

Safety Data Sheets. It is unclear what concentration of chlorine materials would be required and whether they are consistent with current NOP limits (4ppm chlorine or 800ppb chlorine dioxide).

### Other Issues

- **Soil amendments:** The produce rule requires that crops cannot be harvested until 9 months after application of raw manure. This conflicts with the National Organic Program pre-harvest interval of 3-4 months depending on crop risk.
- **Worker training:** farms must train their workers in sanitation and hygiene. That makes good sense, but the draft rule provides few specifics about what will satisfy the regulation.
- **Science for alternatives:** for some aspects of the rule (for example, treatment options to meet the agricultural water standard), farmers will be allowed to propose their own alternatives, as long as they can provide scientific back-up for the alternative practice. Yet many farming practices, long proven in the field, may never have been “proven” by peer-reviewed science. What will FDA accept as scientific back-up?

FDA has been hearing from farmers, food businesses, trade associations, consumer safety groups, and just about everyone else on all sides of the issue. Food safety does matter to everyone: how can we achieve it without sacrificing small, sustainable farms and local and regional food systems?

If the untreated water is...	You must test the untreated water...
From any source where a significant quantity of runoff is likely to drain into the source (for example, a river or natural lake).	At least every 7 days during the growing season.
From any source where underground aquifer water is transferred to a surface water containment constructed and maintained in a manner that minimizes runoff drainage into the containment (for example, an on-farm man-made water reservoir).	At least once each month during the growing season.
Water pumped directly from underground aquifers.	At the beginning of each growing season, and every three months thereafter during the growing season.

Table 1. Proposed water testing frequency for different water sources (adapted from Draft Produce Rule §112.44 and §112.45).



# How to Comment to FDA

Comments on both the produce rule and the preventive controls rule are due to FDA by September 16. Thousands of comments have already been submitted: to submit yours and view other comments at [www.regulations.gov](http://www.regulations.gov).

## To comment on the produce rule (growers):


<http://www.regulations.gov/#!documentDetail;D=FDA-2011-N-0921-0001>

## To comment on the preventive controls rule (handlers, packers, processors):

<http://www.regulations.gov/#!documentDetail;D=FDA-2011-N-0920-0017>

Farmers and local food businesses would be well advised to take the opportunity to weigh in on these rules that will affect them. Tell FDA what you think.

### ODA Also Wants to Hear From You

As the agency that will ultimately implement FSMA in Oregon, the Oregon Department of Agriculture is crafting its own comments for FDA and wants to hear from Oregon farmers. This is a good opportunity to let ODA know about small farm issues and concerns around FSMA. You can email ODA about FSMA at: [oda-fsma@oda.state.or.us](mailto:oda-fsma@oda.state.or.us). 

### For More Information:

- National Sustainable Agriculture Coalition page: <http://sustainableagriculture.net/fsma/>
- Small Farm program Webpage, including comments from small farms and local food system stakeholders
- Steve Gilman, Impact of FDA's Food Safety Regs on Farmers – and the Food Movement, Northeast Organic Farming Association

## EM 9057, Applying Lime to Raise Soil pH for Crop Production (Western Oregon) is now ONLINE!

This 21 page publication describes how to estimate lime application rate and lists criteria for choosing liming materials (source), lime application method (placement), and how often to apply lime (frequency).

Available online at: <http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/38531/em9057.pdf>

This publication is the first in a three-part series. We recommend you use them in combination.

Soil Acidity in Oregon, EM 9061 (in press)

- Discusses why soil pH management is critical to long-term soil productivity.
- Explains the mechanisms whereby acidity injures crops.
- Gives historical perspective of what is known about soil acidity problems in Oregon soils and crops.
- Explains how to use soil and plant tissue testing to diagnose soil acidity problems.

Eastern Oregon Liming Guide, EM 9060

- Provides recommendations for lime application for dryland and irrigated cropping systems in eastern Oregon.

## Applying Lime to Raise Soil pH for Crop Production (Western Oregon)

EM 9057 / May 2013

N.P. Anderson, J.M. Hart, D.M. Sullivan, N.W. Christensen, D.A. Horneck, and G.J. Pothol

Soil acidification, or a decrease in soil pH, is a natural process that is accelerated by crop production practices, primarily the use of nitrogen (N) fertilizers such as urea, ammonium sulfate, or other fertilizers containing ammonium N.

As soil acidification occurs, soil chemical and biological properties change. One chemical change is increased solubility of aluminum (Al) and manganese (Mn), both of which can be toxic to plants. Plants vary in their tolerance of Al and Mn, creating crop-specific soil pH requirements. Adding lime (Figure 1) increases soil pH (reduces acidity), adds calcium (Ca) and/or magnesium (Mg), and reduces the solubility of Al and Mn in the soil.

### Soil pH management

The first step is to determine the soil pH required for your crop. The pH at which yield is diminished varies among crops. Table 1 provides minimum soil pH recommendations for western Oregon crops. Crop-specific guidance is provided in Oregon State University (OSU) and Pacific Northwest (PNW) Extension nutrient management guides. Other publications in this series (Soil Acidity in Oregon and

Table 1. Minimum soil pH values recommended for crops grown in western Oregon<sup>a</sup>

Crop	Minimum pH
Alfalfa	6.5
Beans and cowpeas	5.8
Blueberries, rhododendrons, and azaleas	4.5
Cereals or small grains <sup>b</sup>	5.5-5.8
Christmas trees	5.0
Corn	
Grain or silage	5.5
Sweet corn	5.8
Forage and seedlegumes	
Crimson/redroot anem clovers, vetch <sup>c</sup>	5.5-6.0
Red clover for forage or seed	6.0
White clover for forage or seed	5.8
Garlic	6.5
Hops	5.7
Peas, vetch, and hard grain <sup>d</sup>	5.5-5.8
Peppermint	5.6-6.0
Shade, ornamental fruit, and nut trees <sup>e,f</sup>	5.5-5.8
Vegetables, brassica (broccoli, etc.)	6.3
Vegetables, asparagus for small acreage	6.5 <sup>g</sup>

<sup>a</sup>When soil pH is below the minimum value, crop yields may be reduced. Always follow, as specific minimum pH values vary among crop species.

<sup>b</sup>Soil pH for red clover should not exceed 6.0.

<sup>c</sup>The pH value when a seed area with a variety of vegetables is produced, especially when growing garlic, onions, spinach, white beans, and green beans in the same area.

<sup>d</sup>For the value when a seed area with a variety of vegetables is produced, especially when growing garlic, onions, spinach, white beans, and green beans in the same area.

<sup>e</sup>For the value when a seed area with a variety of vegetables is produced, especially when growing garlic, onions, spinach, white beans, and green beans in the same area.

<sup>f</sup>For the value when a seed area with a variety of vegetables is produced, especially when growing garlic, onions, spinach, white beans, and green beans in the same area.

<sup>g</sup>For the value when a seed area with a variety of vegetables is produced, especially when growing garlic, onions, spinach, white beans, and green beans in the same area.



Figure 1. Lime application in Marion County, OR, about 1960.

Oregon State University Extension Service

# Small Farm School



Clackamas Community College, Oregon City

September 7, 2013

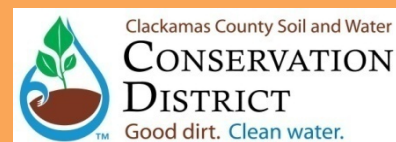
**Are you a beginning farmer?**

**Are you a small acreage rural land owner?**

Join us at Clackamas Community College for a full day  
of field and classroom learning.

Registration and workshop details will be available on-line July 22, 2013.  
Check out <http://smallfarms.oregonstate.edu/small-farm-school> for updates.

For more information contact: [heidi.noordijk@oregonstate.edu](mailto:heidi.noordijk@oregonstate.edu) 503-678-1264 ext.141





# Calendar

## July

### 10 - Caneberry Open House

A focus on the breeding program & research on conventional and organic production systems for commercial growers. North Willamette Research and Extension Center (NWREC), OSU, 15210 NE Miley Rd, Aurora, OR. 1:00 PM - 5:00 PM. For more information contact 503-678-1264 x 110. **\$5 to \$10 donation requested**

### 17 - Blueberry Field Day

A focus on research for commercial growers, and a focus on the breeding program & research on conventional and organic production systems for commercial growers. North Willamette Research and Extension Center (NWREC), OSU, 15210 NE Miley Rd, Aurora, OR. 1:00 PM - 5:00 PM. For more information contact 503-678-1264 x 110. **\$10 donation requested**

### 21 - Composting Workshop

Hands-on workshop on composting! Learn the basics of how to make quality compost and get an intro to worm composting. What lived once, can live again! Chatoe Rogue, 3590 Wigrich Rd Independence, OR. 4:00 PM - 6:00 PM. To register call Natascha Cronin at Chatoe Rogue: 503-838-9813

## August

### 1 - Blueberry and Pear Open House

Open house for blueberry and pear collections. Lewis Brown Farm, 33447 Peoria Road, Corvallis, OR. 1:00 PM - 5:00 PM. For more information contact Kim Hummer or Joseph Postman at 541-738-4200. **FREE**

## September

### 7 - Small Farm School

See the advertisement on page 14. Registration begins July 22nd. Clackamas Community College. For more information contact Heidi Noordijk at 503-678-1264 ext 141 or heidi.noordijk@oregonstate.edu

<http://smallfarms.oregonstate.edu>  
*for more upcoming events!*

Want to add your event to our calendar then please submit your information at <http://calendar.oregonstate.edu/advanced/list/extension-smallfarms/> "Click the Submit an event button." Events have to be approved and will not immediately post. If you have questions please contact Chrissy Lucas at Chrissy.Lucas@oregonstate.edu or 541-766-3556