



# Oregon Small Farm News

Oregon State University Small Farms Program

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### Cover Photo:

Rain Drop Farm sunflower. Philomath, OR.

Credit: Garry Stephenson, OSU Small Farms Program

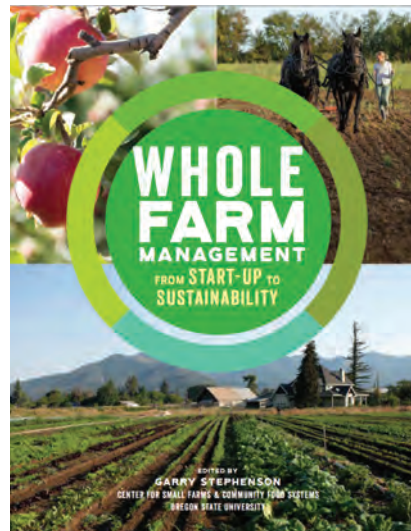
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# New Book from OSU Small Farms Program - *Whole Farm Management: From Start Up to Sustainability*

Operating a farm business requires managing dreams, crops, people, markets, money, and reality. *Whole Farm Management: From Start Up to Sustainability* provides guidance for starting, nurturing, and maintaining a farm business.

Drawing on the experience and insights of 12 contributing authors and 16 farmers from across North America, the book offers a holistic approach to farm management for small and medium size farms that use sustainable and organic methods, and sell their products through local and regional markets.




Conceptually, whole farm management helps farmers identify the many connections and interactions within the farm and develop an integrated approach to decision-making that considers all the components of the farm business—environmental, economic, and social.

The chapters lead beginning and experienced farmers through the interconnecting parts of a whole farm with the goal of making good decisions based on knowledge of the effects each part of the farm has on all parts of the farm:

- **Dream It:** Plan and manage goals for an ideal farm
- **Do It:** Develop a strategy for farm operations and resources
- **Sell It:** Create marketing plans for selling crops
- **Manage It:** Implement successful business accounting practices
- **Grow It:** Work with the natural cycles of the farm ecosystem to support long-term farm sustainability
- **Keep It:** Maintain success with practical farm family business strategies

The 16 farmers featured as case studies in the book represent 9 farms from across the United States, producing a variety of crops and livestock. Their experience covers a wide range of production systems, business models, and environments, and includes new start-up farms as well as multigeneration farms. Each has a unique story in terms of how he or she has developed the farm business. Featured farms include:

- Blue Fox Farm, Applegate, Oregon
- Goodfoot Farm, Kings Valley, Oregon
- Good Work Farm, Lehigh Valley, Pennsylvania
- Kiyokawa Family Orchards, Hood River Valley, Oregon
- Rainshadow Organics, Terrebonne, Oregon
- Slow Hand Farm, Portland, Oregon
- Sweet Home Farms, Sweet Home, Oregon
- Urban Buds: City Grown Flowers, St. Louis, Missouri
- Vanguard Ranch, Gordonsville, Virginia

The 12 contributing authors work in educational capacities in farm production, food system development, family and farm business management, and as farmers. They are associated with the Center for Small Farms & Community Food Systems, and Austin Family Business Program at Oregon State University, Oregon Tilth, Inc., and small organic farms. 

“This book empowers anyone to start planting seeds for a future farm business.”

— Lisa Kivirist, author of *Soil Sisters and Homemade for Sale*

“Whole Farm Management is an indispensable resource. It has just as much value for the beginning farmer learning how to produce a crop at profit as it does for the journey person who is already in business, looking to avoid burnout.”

— Andrew Mefferd, farmer, author, and editor of *Growing for Market*



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— Andrew Mefferd, farmer, author, and editor of *Growing for Market*

## BUILD A COMPLETE PLAN FOR YOUR SMALL FARM

Based on the acclaimed curriculum from the Center for Small Farms & Community Food Systems, this guidebook provides a complete program for starting, growing, and maintaining a farm business. Drawing on the experience and insights of 12 contributing authors and 16 farmers from across North America, it offers a holistic approach to farm management, addressing the interconnected elements of the farm system and emphasizing sustainable, organic methods.

Rural and urban enterprisers alike will learn about:

- Strategic Planning
- Farm Infrastructure, Labor, and Energy
- Markets and Marketing
- Business Management for the Farm
- Managing the Whole Farm Ecosystem
- Entrepreneurship and Family Business Dynamics

**“This book empowers anyone to start planting seeds for a future farm business.”**  
— Lisa Kivirist, author of *Soil Sisters and Homemade for Sale*

THE CENTER FOR SMALL FARMS & COMMUNITY FOOD SYSTEMS is an alternative agriculture program at Oregon State University that focuses on small-scale organic and sustainable agriculture through its Extension Small Farms Program.

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<https://www.indiebound.org/book/9781635860740>

**Barnes & Noble**

[https://www.barnesandnoble.com/w/whole-farm-management-garry-stephenson/1130405412;jsessionid=6EDF62EFD43E7A5019CA06A99219B9D0.prodny\\_store01-atgap11?ean=9781635860740#/](https://www.barnesandnoble.com/w/whole-farm-management-garry-stephenson/1130405412;jsessionid=6EDF62EFD43E7A5019CA06A99219B9D0.prodny_store01-atgap11?ean=9781635860740#/)

**Amazon**

[https://www.amazon.com/Whole-Farm-Management-Start-Up-Sustainability/dp/1635860741/ref=tmm\\_pap\\_swatch\\_0?\\_encoding=UTF8&qid=&sr=](https://www.amazon.com/Whole-Farm-Management-Start-Up-Sustainability/dp/1635860741/ref=tmm_pap_swatch_0?_encoding=UTF8&qid=&sr=)

# Save the Date! 2020 OSU Small Farms Conference is Saturday, February 22nd

Another great Oregon State University Small Farms Conference is on the horizon.

Save Saturday February 22nd 2020

## Featured Speaker:

Andrew Mefferd editor of *Growing for Market* magazine, and author of *The Greenhouse* and *Hoophouse Grower's Handbook* and *The Organic No-Till Farming Revolution*.

Andrew spent seven years in the research department at Johnny's Selected Seeds, traveling internationally consulting with researchers and farmers on the best practices in greenhouse growing. He puts what he learned to use on his own farm in Maine. Previously he worked on farms in Pennsylvania, California, Washington State, Virginia, New York State and Maine before starting his own farm. For more about the magazine, please visit [www.growingformarket.com](http://www.growingformarket.com). To contact Andrew, see [www.andrewmefferd.com](http://www.andrewmefferd.com).

Stay tuned for more speakers.



Andrew Mefferd. Photo provided by Andrew Mefferd

As always, the OSU Small Farms Conference will feature:

- Educational sessions on farming and the food system
- Exhibits by over 50 organizations
- The best locally sourced lunch you can get in February
- Networking and local beer and wine tasting during Think with a Drink

Registration will open in late December at

<http://blogs.oregonstate.edu/smallfarmsconference> 

## New Publication from OSU! Basics of Fall Cover Cropping for Hemp in Oregon

Hemp may only be grown in compliance with applicable state and federal law, including the 2014 and 2018 farm bills and anticipated U.S. Department of Agriculture regulations. The following information is for educational purposes only to inform licensed growers operating in compliance with applicable state and federal laws. Consult your local authorities, Department of Agriculture representatives, or personal attorney for questions regarding the legality of growing hemp in your jurisdiction.

Written by: Gordon Jones, Valtcho D. Jeliazkov, Richard J. Roseberg, Sam D. Angima

Available online at <https://catalog.extension.oregonstate.edu/em9255/html>



# OSU's 2019 Mechanical Cultivation Workshop

By: Clare Sullivan & Heidi Noordijk, Oregon State University Small Farms Program

On August 29th, 2019 the second OSU Mechanical Cultivation Field Day was held at the North Willamette Research and Extension Center in Aurora. The day-long event was attended by over 100 people, many of the participants were farmers. The goal of the event was to increase the holistic weed management knowledge base of vegetable farmers, and provide a platform for farmer and equipment supplier exchange of ideas and opportunities. Valuable feedback gained from 2018 field day evaluations added new elements to the 2019 field day, including a focus on walk-behind cultivation equipment, non-mechanical methods of weed control, and an experienced farmer discussion panel.



All photos provided by Clare Sullivan and Heidi Noordijk

event. Equipment included electric hoes from Carts & Tools (Oregon), various non-powered hand tools from Johnny's Selected Seed (Maine), the Ox a walk-behind cultivating tractor from Tilmor (Ohio), and the walk-behind tractor for bed shaping from BCS (Oregon).

## Walk-Behind Cultivation Tools

The morning demonstrations showcased walk-behind equipment in radish, cabbage, and radicchio plots. Equipment dealers traveled from near and far for the

## Tractor Mounted Cultivation Tools

The afternoon demonstrated tractor-mounted cultivation tools, and equipment dealers traveled from





Ohio (Tilmor), Pennsylvania (KULT-Kress) and California (Sutton Ag) to demonstrate tools in radish, radicchio, and cabbage crops. The cultivation equipment included finger weeders, knives and sweeps; toolbars were setup on both belly-mounted and rear-mounted tractors. Participants were able to try the new Tilmor cultivating tractor, and test out hand-steering rear-mounted toolbar setups.

### Farmer Panel

The farmer panel held right after lunch was a highlight for many field day attendees, and offered the chance to hear from three experienced vegetable growers of different production scales. Josh Volk (Slow Hand Farm, < 1 acre), Frank Battilega (Big B Farm, ~50 acres), and Joe Siri (Siri and Son Farms, > 500 acres) spoke of their weed management successes and lessons learned, and answered questions from the audience.

Overwhelmingly, participants had a very positive

experience: 88% said the demonstrations were very useful or extremely useful; 96% said they gained new information to improve weed management in their crops; and 80% said they planned to use new cultivation equipment on their farm. Comments included, “Tractor tool demos were very useful for me. Talking to the company reps was a quick way to get questions answered”, and “What was most useful was seeing the tools demonstrated, and having an opportunity to operate them.”

In 2018 faculty within the Small Farms Program organized the first OSU Mechanical Cultivation Field Day, which was a huge success and attracted farmers from Oregon and Washington. In 2019 the OSU team organized a second field day, and this year were able to collaborate with Washington State University (WSU) to host two field days in the PNW on the same week. This winter we will be launching a website with some videos of cultivation tools in use, and other

mechanical cultivation websites. The field days were made possible through a two-year mini-grant from the USDA Western Sustainable Agriculture Research and Education program (WSARE) to conduct educational outreach on mechanical cultivation.

The Small Farms team is interested in continuing workshops and field days on weed management. Please help us plan future workshops by filling out a short survey to let us know topics and equipment you'd like to see at future field days. At <https://forms.gle/KJndcyDjaTFN6VJB9> 



## Soil Testing for Productive Gardens, Pastures, & Farm Fields

**Location:** Josephine County OSU Extension auditorium 215 Ringuette St., Grants Pass

**Date:** Thursday, Oct. 24th , 2019

**Time:** 5:30 – 7:30 pm

**Instructors:** Gordon Jones, Assistant Professor (of Practice) General Agriculture, Jackson and Josephine County Extension & Sara Runkel, Assistant Professor ( of Practice) Horticulture, Josephine County Extension

**Cost:** \$15

Register online here: <http://bit.ly/jocosmallfarms> or contact: OSU Extension Josephine County 541-476-6613

**Description:** In this class, we will learn about the methods for collecting a soil sample, where to send soil for analysis, and most importantly, how to interpret the results and correct problems. We will use examples from both organic and conventional production systems. Before the class, follow the instructions in this guide (<https://catalog.extension.oregonstate.edu/ec628>) for collecting a soil sample and have it analyzed by one of the labs listed in this guide (<https://catalog.extension.oregonstate.edu/em8677>). Bring in the soil test report from your garden, pasture, or field to review during class.

## Exploring the Small Farm Dream

**Location:** Josephine County Extension Service 215 Ringuette St. Grants Pass, OR 97527

**Date:** Mon., Nov. 4, 11 and 18

**Time:** 6:00 – 8:30 pm

**Instructors:** Sara Runkel and Maud Powell, OSU Extension Faculty

Southern Oregon abounds with enthusiastic farmers involved in pursuing the commercial small farm dream. The aim of this three-session course is to assist those considering a small-scale commercial farming operation learn what it will take to start and manage a farm business and decide whether that is something they really want to pursue. . It will provide an excellent framework for new farmers to assess their skills and interests, learn the realities of farm business ownership, and become connected to local resources. The OSU Extension Small Farms Department teaches, guides, and connects farmers to each other. In addition, we help find answers to all those questions that crop up along the way.

**Register:** online here: <http://bit.ly/jocosmallfarms> or contact 541-476-6613

# Sexing Chicks

By: Dr. Toshihiko Nishio

Translated and edited by: Shinji Kawai and Alice Formiga, Department of Horticulture, Oregon State University

Improvements in agricultural technology and breeding helped struggling Japanese farming communities in the early 20th century. Since the 1990s, Dr. Toshihiko Nishio, a Japanese rice farming system researcher, published over 150 stories about these innovations. By showing how these discoveries derived from careful observation, patience, and in some cases, serendipity, we hope that farmers will realize how ordinary people can contribute to the advancement of their local agricultural communities and beyond.



Chicks

Illustration by Eiko Goto.

In the mid 1920s, a poultry farmer and his daughter visited the National Husbandry Experiment Station in the Chiba Prefecture of Japan. His name was Manabu Kojima, and he had come to learn a new chick sexing technique. He introduced himself to the staff, and told them that he had brought his daughter along because his hands were too stiff to pick up chicks.

It was in the middle of a depression in the farming community, and the government was promoting increased egg production as a means to save farms. Artificial incubation had recently been developed, and the number of chicks raised had increased dramatically. Farmers needed a method that would allow them to determine the sex of their chicks as early as possible, because they could not afford to feed male chicks that could not be used for egg production. Until that time, chick sexing was done by examining the coxcombs, or assessing feather development. It took a month before the sex could be identified.

The new chick sexing technique, called vent sexing, was developed by three researchers at the Chiba experiment station in 1924: Kiyoshi Masui, Shigeo Hashimoto and Isamu Ono. They found that male chicks have a slight bump on their “vent”, i.e. the opening below the tail, that does not appear on female chicks.

After completing the training, Kojima tried it on his chicks. In practice, it was not so easy to detect the bumps, because here were many questionable bumps on the females. After examining 20,000 chicks, Kojima developed a guide that described the different forms and colors of the bumps. His efforts inspired researchers like Masui to further refine the technique. The result was a standard that helped improve the accuracy rate.


In 1929, the first association for chick sexing was started in the Aichi Prefecture. This led to the development of the National Association of Chick



Sexing, which still exists today. They improved the technique by hosting chick sexer competitions and nurturing highly qualified chick sexers.

Early competition records show that it took 13 minutes to examine 100 chicks, and the results were not always perfect. Today, it can take a professional chick sexer just over three minutes, with 100% accuracy. In 1933, Hikosaburo Yogi was sent to the U.S. to demonstrate the vent sexing technique at experiment stations and universities. His accuracy rate was 100%, and his impressive results helped to establish the technique in America.

For many years, skilled Japanese chick sexers were sent around the world to assist and train chick farmers. The vent sexing technique is now widespread, and numerous countries have adopted it. Although many countries now educate their own examiners, about a hundred Japanese examiners are still sent overseas every year.

Recently, there have been attempts to mechanize chick sexing, to develop different color eggs using biotechnology to differentiate chick sexes, and to find ways to examine eggs before they hatch. So while vent sexing may eventually become obsolete, it will likely still be used where these new techniques are unavailable or unaffordable. The invention of vent sexing teaches us that participation by people in the field is key to developing and refining new technology, more so than merely introducing expensive equipment. 

**Living on the Land** is a workshop series tailored for small acreage landowners. There are 5 classes in the series.

6:00 – 8:30 P.M.

Polk County OSU Extension Office is located at 289 E Ellendale Ave Suite 301, Dallas, OR 97338.

Series Cost: \$30/Person or \$45/2 from same farm  
*Includes learning materials and refreshments.*

Classes will be held on Tuesdays: November 5th, 12th, 19th, 26th and December 3rd

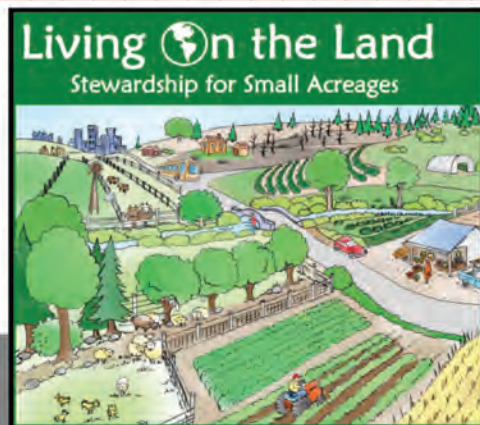
**11/5 - Land Stewardship Planning** - Learn the basics of planning for natural resource management

**11/12 - Water Rights, Well Water, and Septic Systems** - Learn about water rights. Bring well water for nitrate screening.

**11/19 - Pasture and Manure Management** - Make the most of your pasture by learning how grass plants grow, rotational grazing, nutrient and manure management.

**11/26 - Woodlands and Riparian Area Management** - Learn options to enhance and manage for healthy trees and waterway habitat.

**12/3 - Soils and Weeds** - Learn the basics of soil composition and health, and management strategies for common weeds on your land.



REGISTER On-Line at:

<https://extension.oregonstate.edu/program/all/smallfarms/events>

Questions?? Chrissy at 541-713-5009



Oregon State University  
Extension Service

# Dry Farming Project Update: Field days, flavor, and grower success create buzz in the media

By: Amy Garrett, Lucas Nebert, and Teagan Moran, Oregon State University Small Farms Program

This year marked the 5th annual series of dry farming field days. Four field days were held this year in the mid to southern Willamette Valley, each featuring multiple research projects engaging the Dry Farming Collaborative (DFC). The DFC initiated in 2016, now has more than 740 members in the FaceBook Group, 250 people connected via an email list who are interested in hosting trials, and 45 sites in the maritime Pacific Northwest that have hosted trials since 2016. More than 150 participants attended Dry Farming Field Days this year including: farmers, gardeners, researchers, journalists, and others interested in learning about strategies for growing food with little to no irrigation in the Willamette Valley. Field Days included blind tastings of dry farmed vs. irrigated tomatoes and melons.

Some of the research projects with the DFC featured at the field days this year included:

- Variety Trials: 10 sites hosted potato, tomato, melon, and/or dry bean trials to assess how varieties perform dry farmed in our bioregion (led by A. Garrett, L. Nebert, and C. Homanics).
- Site Suitability Study: 20 sites participated in the 2nd year of this study assessing what site characteristics are suitable for dry farming vegetable crops with support from Western SARE (led by A. Stone, A. Gallagher, and M. Davis).
- Fungal Inoculant Study: 13 sites participated in the 2nd year of this study assessing the efficacy of fungal inoculants in enhancing drought tolerance of corn, beans, and squash with support from the USDA Agriculture and Food Research Initiative (led by L. Nebert).
- Plant Breeding and Selection Projects: Multiple members of the DFC are saving seed from varieties that perform well dry farmed on their sites, and are sharing that seed back with the group to make their own selections, such as



Tasting table at the Vegetable Farm Field Day.  
Photo by Amy Garrett

Beefy Resilient Grex dry bean from Fertile Valley Seeds, stewarded by A. Garrett, and Champagne Bubbles tomato from Anne Berblinger. Also, Lucas Nebert (Post Doctoral Fellow) and Jennifer Kling (OSU Plant Breeder) are making dry farmed selections and crosses with a generally diverse dent corn variety called Open Oak Party Mix (Adaptive Seeds). Lucas is also working with Jim Meyers (OSU Vegetable Breeder) to include some of his dry bean breeding lines in our variety trials.

- Exploratory trials are also ongoing and being hosted on many DFC sites assessing different planting densities, mulching, grafted vs. ungrafted tomatoes, and range of other techniques and crop varieties. Results from these trials are often shared at the DFC winter meeting and FaceBook group and inform what approaches

are trialed next growing season as well as the focus of collaborative grant proposals.

More produce is showing up at the farmers market and grocery stores labeled 'dry farmed' since 2016, and excitement is building in the marketplace around the enhanced flavor of dry farmed produce. Also, farmer success stories have been featured in local newspapers and picked up by multiple media sources including the Daily Astorian, the Albany Democrat Herald, the Eugene Register Guard, the Tribune News, the Capital Press and OPB is airing a story on dry farming in October of 2019. The DFC continues to grow and will be having their 4th annual winter meeting in January 2020 to share and discuss the results of this year trials and plan for 2020 trials. Join the Dry Farming Collaborative Facebook group, or for more information on the dry farming visit: <https://agsci.oregonstate.edu/smallfarms/dry-farming>. 

Open Oak Corn. Photo by Lucas Nebert



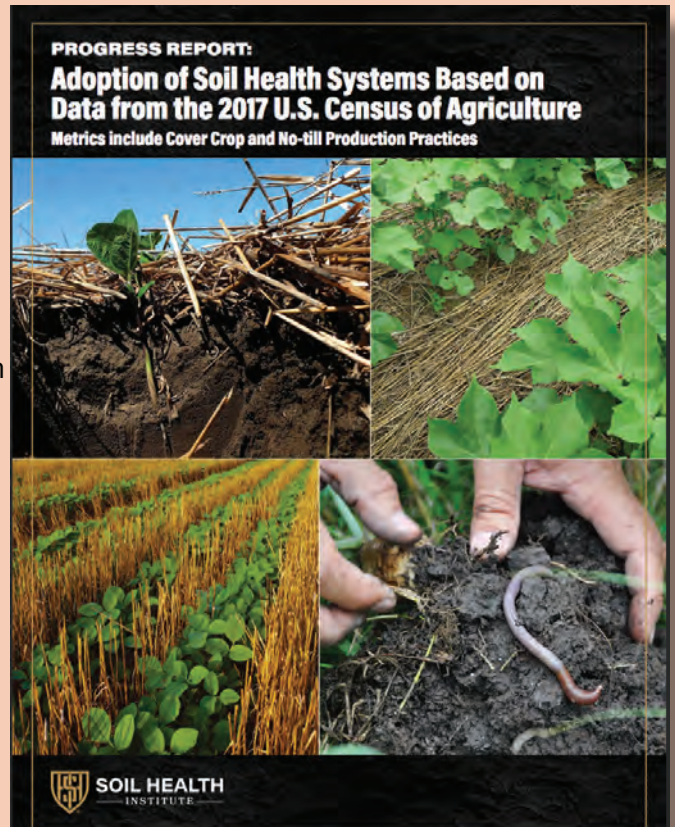
## Report on Adoption of Soil Health Systems Available

The Soil Health Institute has released Progress Report: Adoption of Soil Health Systems, based on data from the 2017 U.S. Census of Agriculture. The analysis includes a state-by-state breakdown of changes in adoption from 2012 to 2017 for cover crops and no-till production.

### Some Highlights:

- Cover crop acres increased from 10.3 million acres in 2012 to 15.4 million acres in 2017, a 50% increase
- The number of farm operations with cover crops increased by 15.2% from 2012 to 2017, to a total of 153,40
- 37% of all reported tillage practice acres were no-till (include both continuous no-till and rotational no-till).
- The total no-till acres reported for 2017 was 104 million acres, an increase of about 8 million acres over what was reported in the 2012 Census.

For the full report, go to: <https://soilhealthinstitute.org/wp-content/uploads/2019/07/Soil-Health-Census-Report.pdf>



# On-Farm Compost – Will It Work On My Farm?

By: Teagan Moran, Small Farms Program, Oregon State University

Composting and agriculture are a long standing and complimentary pairing. The ancient Akkadian Empire in the Mesopotamian Valley referred to the use of manure in agriculture on clay tablets dating back 2000+ years (Smith, Friend 2019). Many agricultural operations, just by the nature of what they do, have what it takes to practice composting: surplus plant materials and/or animal waste, access to the land and the space necessary to compost, equipment already on site, and crops and soils that can benefit from compost amendment.



Photo by Nick Andrews

## Why compost and why would you want to make your own?

Farmers use compost for a variety of reasons, to name a few; it helps to improve soil structure, increases microbial activity, enhances plant disease suppression, increases soil fertility, and improves the water and nutrient holding capacity of most soils. These effects can improve the function of fine textured clay and silt soils, as well as coarse textured sandy soils. Many farmers purchase compost for use on their farm, but on-farm composting can make sense for a variety of reasons. If you have a lot of on-farm waste that would make good feedstock (feedstocks are the organic ingredients of composting processes, such as yard debris, animal manures and food scraps), but are difficult or problematic to apply to the land raw, composting can convert them into a valuable soil amendment. Examples may include manure, livestock mortalities, spoiled hay or straw, green-chop from cover crops, mint slugs, packing shed waste, etc. If you have access to organic waste nearby, you might be able to charge a “tipping fee” to accept those materials for composting. Composting can reduce the volume of organic waste (i.e. manure)

stored on your farm and reduce environmental risk. On-farm composting gives you control over the feedstock and composting process, and more control over compost quality and price. For ethical reasons you might want to make best use of on-farm and local organic materials and nutrients to move towards a closed loop system on your farm. Some farmers use all their own compost on site, while others sell some as an additional farm enterprise.

Decomposition of raw materials happens on its own without human intervention – it is a biological process driven by micro-organisms (bacteria, fungi, and actinomycetes) and macro-organisms (mites, slugs, spiders, earthworms, etc.) converting organic materials into that dark, earthy smelling, decomposed organic matter we call compost. When we refer to composting we are talking about how humans intervene to manage the conditions and materials so that decomposition happens faster and in optimal conditions and where we want it to happen. Composting systems enable us to easily collect and apply the final compost product, thus turning organic matter into a form we can then add back into the soil.

The main differences between home composting and on-farm compost systems are; scale, intended use, and often, the integration and management of animal manure. Not all animal manure needs to be composted to be used. Compost releases nutrients slowly. In many ways this is a benefit, but sometimes crops want the quick release that fresh manure can offer. Knowing when to use composted or fresh manure is an important decision for farmers (Marriott, Zaborski 2015). In addition some farms compost animal mortalities, offal, and byproducts on farm.

Like any other operation, composting requires equipment, labor, and management. ***So what are the main questions a farmer needs to answer before starting on-farm compost? See below for questions and associated details.***

#### **Do I have an appropriate site on farm?**

The beauty of composting is that it can be scaled to fit the landscape and farming operation. Placement of your compost site can be influenced by aesthetic as well as functional needs. That being said, there are several key factors to consider when selecting your site:

#### ***Do you have an easily accessible and dry area with good air circulation to site the composting system?***

You want to be aware of runoff and avoid any site where it could go straight into a waterway, well, or across your property boundary. Leachate is any water that has come into contact with compost. Leachate can easily contaminate surface or groundwater and can pose risks to health and environment (Brewer, et al. 2013) Good drainage is essential to avoid water pooling, mud, and saturated composting materials. You can find detailed information about water quality in the *Agricultural Composting and Water Quality* publication linked at the end of this article. There may be zoning requirements for large compost systems. To determine if there are any minimum setbacks, contact your local county planning department. There are also specialists with the Oregon DEQ who can assist in site selection on your property.

***Can the composting site remain there for 6-8 months?*** It can take 6 to 8 months to produce cured compost from raw waste. Will the compost system operate seasonally or all year-round? Most raw manure requires covered storage or a site for year round composting.

***How will you access the composting site?*** You will need space to turn the materials (mixing the compost pile is important to get good quality compost) either manually or with a tractor, and to add water if necessary.

#### ***Is the ground firm enough to support heavy equipment if that is to be used? Will that ground be too wet to access at certain times?***

The amount of space you will need depends on how much material you plan to compost and the compost method you choose. A compost pile must be the proper height and width to insulate itself enough to get hot. A pile should be at least 4 feet high and 4 feet wide, and however long you want (Sideman. 2006). Piles less than about one cubic yard don't have enough mass to heat up and create a thermophilic compost pile. Some people use open piles or windrows in a field, others use bays or bins to contain the compost.

For area requirements and a worksheet to identify the area you need for your compost see the ***On-Farm Composting Handbook*** found in References and Resources at end of this article.

#### ***Do I have time?***

Good composting requires proper management. Composting is a balancing act and you're the approach you choose will be informed by your farm's individual needs and goals. For example, slow composting does not produce enough heat to kill many weed seeds, rhizomes, or pathogens. Making hot compost takes significantly more effort, but it can produce a high-quality product within just a few months. You can customize the composting process to fit your time availability and specific combination of raw materials, there are different approaches to choose from. Making compost is actually quite



Photo by Nick Andrews

easy, but to produce quality compost requires an understanding about the science behind the process, how to measure materials, good timing, and going through some trial and error. For a quick reference and comparison of composting methods check out pg. 13 of *Agricultural Composting and Water Quality* found in References and Resources below.

During the composting process farmers need to regularly check on the pile and respond accordingly (this takes time). If a pile gets too wet or too dry the decomposition process can slow right down, this can manifest with strong undesirable odors. A well-managed compost system will not cause excessive odors. To learn more about the science behind composting check out the recommended reading list below and keep a look out for local OSU Extension sponsored compost workshops.

#### ***Do I have the right equipment?***

You have the option to use existing on-farm equipment to manage the compost pile or to invest in specialized compost production equipment. That decision would be influenced by your scale and intended use, you can customize your composting

based on your available resources and needs. The *On-Farm Composting Handbook* found in References and Resources below can help guide those decisions. On-farm compost can be done manually if at a manageable size for the labor available. For larger compost systems farmers most often use a tractor with a front loader for building and turning the piles, some farmers invest in windrow turners to efficiently turn piles. Manure spreaders can be used for application. A temperature probe will be needed to gauge timing for turns.

#### ***What should I compost?***

The materials you put into your compost pile have a major impact on how well the composting process works and the quality of the final compost. The key to good composting is to have a variety of materials, a balanced carbon to nitrogen ratio, and good moisture content. That being said, the list of materials appropriate for composting is a long one. A comprehensive list on what to compost and the ratios can be found in *The On-Farm Composting Handbook* in resources list below. WSU's Compost Mix Calculator is free online spreadsheet that can help you estimate the C:N ratio and moisture content of your new compost pile (<https://puyallup.wsu.edu/soils/compost-mix-calculator/>).

#### ***Do I need a permit or license?***

Due to the scale of most small farm compost systems, small farms tend to be exempt from Oregon Department of Environmental Control's (DEQ) permits. Exempt facilities still need to maintain compliance with environmental performance standards. DEQ's composting rules are structured such that the type of permit issued is based on the level of risk posed by a composting facility

and anaerobic digesters to public health or the environment. The type and amount of feedstock composted is used to establish criteria for determining when a composting facility permit is required and when a facility is exempt from permitting requirements. The feedstock types include:

**Type 1:** Source-separated yard and garden wastes, wood wastes, agricultural crop residues, wax-coated cardboard, vegetative food wastes including department approved industrially produced vegetative food waste

**Type 2:** Manure and bedding

**Type 3:** Dead animals. Meat and source-separated mixed food waste. Industrially produced non-vegetative food waste

According to Oregon Administrative Rules (OAR) 340-096-0060, Oregon allows the following conditional exemptions of facilities from obtaining a permit:

- Composting less than 100 tons of Type 1, or Type 2, or both types of these feedstocks during a calendar year
- Composting less than 20 tons of Type 3 feedstock during a calendar year
- Composting less than 40 tons of Type 3 feedstock with in-vessel container system (which are designed to prevent vectors and nuisances)
- Composting operations that produce silage on a farm for animal feed
- Home composting operations
- Farms that possess a Confined Animal Feeding Operation water quality permit (CAFO) issued by the Oregon Dept. of Agriculture, when the composting facility is incorporated into the operating plans required by the CAFO permit.

More information can be found at: <https://www.oregon.gov/deq/mm/swpermits/Pages/Composting-Regulations.aspx>


Each farmer should look closely at his or her own farm and financial resources to determine whether or

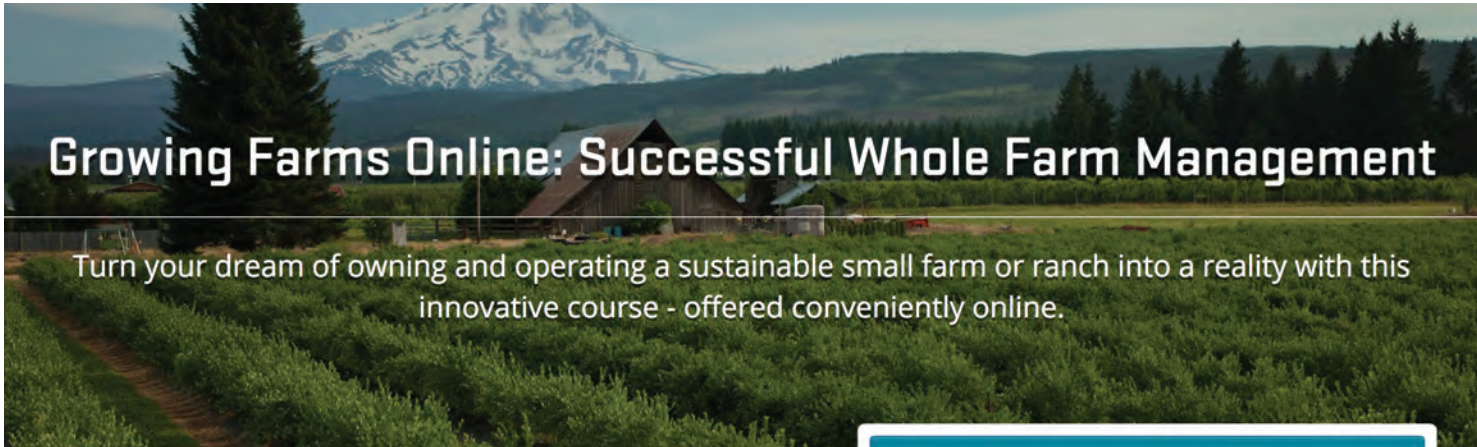
not it would be advantageous to adapt and dedicate the space, labor/time, and equipment to composting (Runk, 2019). If you think on-farm composting may be a good fit for you, then these resources will help you dive deeper and get your composting operation started:

#### **Recommended Resources:**

- On-Farm Composting Handbook, Northeast Regional Agricultural Engineering Service and Cooperative Extension, 1992 <https://campus.extension.org/pluginfile.php/48384/course/section/7167/NRAES%20FarmCompost%20manual%201992.pdf>
- Agricultural Composting and Water Quality, Oregon State Extension 2013 <https://catalog.extension.oregonstate.edu/em9053>
- Extension Backyard Composting, Washington State Extension, 2017 <https://s3.wp.wsu.edu/uploads/sites/2056/2019/04/eb1784e-Backyard-Composting.pdf>
- Soil Fertility in Organic Systems: A Guide for Gardeners and Small Acreage Farmers. Washington State University Extension Publication PNW646, 2013 <http://cru.cahe.wsu.edu/CEPublications/PNW646/PNW646.pdf>
- No Turn Cold Composting, Oregon State University Extension <https://extension.oregonstate.edu/gardening/techniques/no-turn-cold-composting>
- WSU Compost Mix Calculator <https://puyallup.wsu.edu/soils/compost-mix-calculator/>

#### **References:**

- Marriott and Zaborski. 2015. Making and Using Compost for Organic Farming.
- Rynk. 1992. On-Farm Composting Handbook
- Sideman. 2006. Composting in the Back Yard or on a Small Farm
- Smith. 2019. Composting in the Home Garden, University of Illinois Extension
- Smith and Friend. 2019. Composting for the Homeowner, University of Illinois Extension 



# Growing Farms Online: Successful Whole Farm Management

Turn your dream of owning and operating a sustainable small farm or ranch into a reality with this innovative course - offered conveniently online.



Introduction



Featured Farmers



Creative Team



FAQ Items

Register Now

## Offered Fully Online

### Growing Farms Online: Successful Whole Farm Management

Growing Farms: Successful Whole Farm Management provides farmers with the tools and knowledge needed to develop and manage a successful farm business. This course is intended for people who are considering starting a farm business, those within their first five years of farming and others who may be considering major changes to farm business.

The core Growing Farms course is a series of six online modules that lead you through the basics of managing a successful farm business: Dream It, Do It, Grow It, Sell It, Manage It, and Keep It.

Modules include more than four hours of video developed specifically for the Growing Farms course. These videos feature six farmers, representing a diversity of environments and production systems in Oregon, who share their experiences and insights about starting and managing a small farm business.

In the online Growing Farms course, you work through the six online modules at your own pace, on your own schedule. There is no “instructor”, but you may contact the course coordinator if you have questions. You will have access to the modules for a five-month period from the date you register. The cost for fall 2019 is \$150.

***For more information, to view videos, or to register, go here:***

<https://pace.oregonstate.edu/catalog/growing-farms-online-successful-whole-farm-management>



# A New Tool Makes it Easy for Organic Farmers to Follow the NOP Guidance on Natural Resources and Biodiversity Conservation

By: Jessica Shade, Director of Science Programs, The Organic Center

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The concept of healthy farms brings to mind fertile soils, clean water, and abundant wildlife. These amenities or ecosystem services were at one time taken for granted, but are now increasingly in the news and scientific literature, as we recognize that many are being degraded.

Organic farmers rely on biologically diverse agricultural ecosystems to maintain resilient farms in the absence of synthetic chemicals. Services provided by healthy agricultural systems include the production of food, fiber, and fuel, biological control, pollination, biodiversity conservation, aesthetic landscapes, carbon sequestration, climate control, purification of air and water, production of high quality soil, flood control, and breakdown of waste into nutrients.

Though ecosystem services are provided free of charge, their estimated global value exceeds \$33 trillion dollars per year. Beneficial species such as insects and birds, for example, provide an estimated \$4.5 billion in biological pest control and \$3.1 billion in pollination services annually. These ecosystem services also reduce the need for external inputs and increase yields — improving profits and sustainability. Furthermore, such practices aid local conservation efforts.

In 2016 the National Organic Program (NOP) published its Guidance on Natural Resources and Biodiversity Conservation, a direct response to the need for supporting on-farm ecosystem services through organic agriculture. Unfortunately, the guidances provided are vague, placing the burden of designing and implementing technical plans on the farmer. This task is complicated by the fact that variation in farm size, type, and geographic location all influence the feasibility and effectiveness of

biodiversity-friendly farming techniques making a “one-size fits all” conservation recommendation impossible.

Research continues to identify techniques and specific on-farm best practices that will result in a biodiversity increase on farm systems, but translation of this information for farmers remains limited, as does on-farm implementation. These shortcomings continue despite the benefits that can be gained by organic farmers.

To address this, The Organic Center and Dr. John Quinn of Furman University have collaborated to develop a NOP Natural Resources and Biodiversity Conservation Guidance Compliance Tool, which provides a farmer-friendly means of examining biodiversity with an interactive front-end interface that includes the mandates released by the National Organic Program in order to aid farmers in technical decisions to increase on-farm biodiversity and comply with the new guidance.

The tool can be accessed [here](#), and details ways that farmers can find and measure biodiversity on their fields. For example, diversity can be measured as the number of livestock breeds on a farm, the number of crop species planted in a field, the presence of unique wildlife in a pasture, or habitat patches across the farm. As a complete biodiversity inventory is not practical for a farm, suitable indicators are needed. The tool suggests indicators for general, crop, and livestock Organic System Plans for each of the following four management goals: 1) planning, 2) management, 3) restoration, and 4) preservation. In addition, to guide standardized reporting as part of annual USDA NOP certification, the tool can be used to generate a formal report.

Lastly, the tool is designed to encourage farmers to set annual biodiversity conservation targets and follow a more formal land use planning process. Thus for each category, farmers are asked to choose the best indicator for their farm, the current values that they observe on the farm, and where they would like to see their farm change to address each biodiversity indicator in the next 2-3 years

Recognizing the importance of ecosystem services to human well-being is an essential first step to

sustaining healthy ecosystems now and for the future, and it is essential to ensure that the broad array of services is part of the decision-making process. The NOP Natural Resources and Biodiversity Conservation Guidance Compliance Tool seeks to improve how decisions are made by providing a cohesive way for farmers and certifiers to track on-farm biodiversity in a way that makes it easy to follow the Guidance on Natural Resources and Biodiversity Conservation.

## Celebrating Winter Vegetables and Developing Oregon's Winter Vegetable Market

The recently-funded Developing Oregon's Winter Vegetable Market project is led by the Oregon State University Vegetable Cropping Systems Program, the Oregon State University Small Farms Program and the Culinary Breeding Network. The project is funded through the Oregon Department of Agriculture Specialty Crop Block Grant Program.

Oregon's mild winter climate is well suited to storage crops and over-wintered field vegetables for local and regional markets. However, there are currently few locally-grown winter vegetables in produce markets from January through April. Many European and Asian countries with similar climates have more robust local and regional winter produce markets that demonstrate the potential to increase this market in Oregon. Growers, chefs, wholesale buyers, seed suppliers, and consumers are interested in developing robust winter vegetable production and marketing systems in Oregon and the Pacific Northwest. The Developing Oregon's Winter Vegetable Market project aims to address this need.

The overarching goal of this project is to increase the production and consumption of locally-grown winter vegetables in Oregon, including eight crops: winter squash, celeriac, garlic, Brussels sprout, cabbage, cauliflower, purple sprouting broccoli and radicchio. The project focuses on varieties that have been shown to be high performing (yield/quality/winter hardiness/ storability) and have good market potential in past vegetable variety trial research projects

There will be several engaging and educational outreach events during the two years of this project that will connect farmers, seed growers, chefs, produce buyers and consumers including annual winter field days, Sagra and Variety Showcase, more information on each below.

Visit the new project website for information and recipes on Oregon's winter vegetables. There will be more to come as the project progresses. Contact Heidi Noordijk ([heidi.noordijk@oregonstate.edu](mailto:heidi.noordijk@oregonstate.edu)) if you want to be involved in this project.

Project Website [www.eatwintervegetable.com](http://www.eatwintervegetable.com).

Event registration information will be posted on the project website.



**Emerald Dairy Goat Association and OSU Extension Services presents**

# Goat Discovery Day 2019

**Strengthen your goat confidence and know-how. If you are an experienced "goat person" or you hope to be, this event is for you!**



Live Goat Demos

Pack Goats

Goat Health

Common Diseases

Nutrition

Milk Testing

Goat Genomics

Goat Conformation

Marketing

Milking and more!



**Saturday November 2nd  
9:00am - 4:00pm**

Pleasant Hill High School,  
Pleasant Hill, OR

\$20 Early Bird Registration (until Oct. 12)

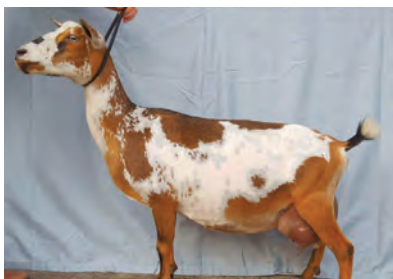
\$30 Registration

Optional Catered lunch \$11

Advanced registration required:

[extension.oregonstate.edu/smallfarms/  
events/goat-discovery-day-2019](http://extension.oregonstate.edu/smallfarms/events/goat-discovery-day-2019)

Questions? Contact Teagan 541-713-5011



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**A**re you a rancher, farmer, or fisherman keen to grow your business, while maintaining your commitment to community, regional markets, sustainable harvesting, and restorative production practices?

Ecotrust's Agriculture of the Middle Accelerator, a business development program, is designed to help cultivate a thriving cohort of mid-sized, independent farms, ranches, and fishing operations in the region that spans northern California, Oregon, Washington, and Alaska. Through this program, participants will receive customized business support from an array of service providers who understand the unique needs of producers and harvesters who want to grow with integrity.

**Apply by October 7th, 2019 for Accelerator Starting on November 14th, 2019**

***Apply now here and learn more at <https://ecotrust.org/project/ag-of-the-middle-accelerator/>***

**Program Overview:**

The core structure is a two-year, hands-on capacity-building and business development program, with year one focused on training and year two focused one-on-one technical assistance and goal setting. A set of trainings on topics including business structure, accounting, credit/finance, market development, and more will be delivered via virtual webinars and in-person convenings starting in November 2019. Curriculum for this program is being developed in partnership with Poppy Davis of C2C Consulting and other highly skilled trainers. There will be a break during the busy summer season to let participants focus on their businesses while putting newfound knowledge, tools, and network connections into practice. Webinars will be supplemented with virtual one-on-one technical assistance and connections to service providers experienced in supporting producers and harvesters.

**What to expect:**

Producers accepted into the program will convene for an in-person kick-off in Portland, Oregon from November 13-15th, where participants will have the

opportunity to start initial training courses, connect with peers, and interact with institutional buyers at Local Link, a local food show.

For the first year of the program, producers are expected to participate in approximately two virtual webinars a month throughout the winter. The program will culminate in late February 2020 with a second in-person gathering (location, TBD). See below for a rough calendar of activities for the 2019-2020 season. Producers must be able to attend the majority of these training sessions, and be willing to complete necessary "homework" between trainings.

**Who Should Apply?**

Ecotrust is seeking 15 businesses for this year's cohort. Successful applicants will be for-profit businesses that:

- Have been in business for a minimum of 2 years.
- Have gross sales of ideally \$100,000 annually or more, or on the path to scaling up.
- Have an interest or experience selling into restaurants, retail, and institutional markets
- Have an owner/founder/manager(s) who will actively participate in the accelerator program including attending webinars, in-person convenings, responding to program-related

# All The Farms: Old Issue, New Tool

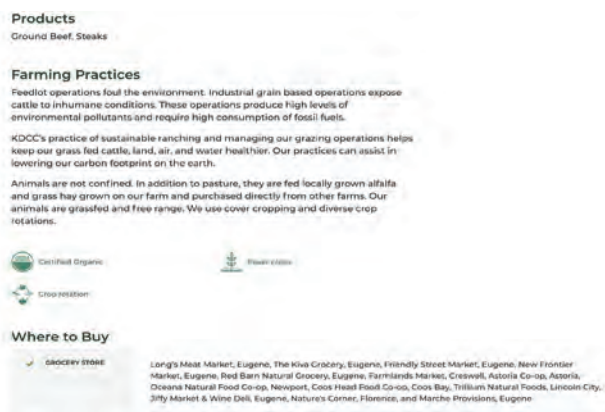
By: Jim Cupples, All The Farms Platform Manager

In spring of 2019 my colleagues and I went through the Oregon State University Advantage Accelerator with a very challenging yet simple concept - We wanted to create a way to help people understand who their local farms were and what type of products they created. Our solution is the All the Farms platform discussed below.

Of course, we're not the first ones to ask this question and there are dozens (if not hundreds) of sites around the country that specialize in finding farms and ranches for a particular area. Instead of reinventing the wheel, we saw our role as mainly consisting of three things 1) Collecting and standardizing information, 2) Making the information address-searchable, and 3) Being as inclusive as possible, so to be true to our name All The Farms.

By doing background work and connecting with our local food producers, we also saw that farms and ranches might receive marketing benefits from a consolidated site, especially one like ours that prompted people to enter their address. We feel that there is a market for people that want to eat local, but the first step is to inform our communities on what is available. It is only when a shopper understands the local options for food producers that the shopper can meet the restaurant or grocery store on an equal level and ask for a farm specifically to be carried.


As we continued to work on All The Farms, we found ourselves fortunate to recruit people to the project that were either currently farming or ranching, or came from a farm/ranch household. Having this type of insight prompted more opportunities to offer value to our local food chain through some fairly routine legwork. For instance, we can share with farms and ranches on our site information like: what



the five most searched for products are in a given area; whether people are looking for U-picks or Farmstands; and, how many unique site visitors their farm or ranch has received during the preceding month. These small pieces of data may allow farms to adjust the products they advertise (featuring the more desired

ones), or simply knowing how far away the people visiting their webpages are.

All The Farms has an initial Oregon focus, but we hope to continue our growth regionally and eventually nationwide. The inevitable question asked is, "Great. How are you going to make money?" and that is valid. The mere aggregating and standardizing of this local farms data has an interest from a variety of companies looking to source more from local farms. Consumers want to eat local and we are going through a sea change in logistics that will allow distribution to a much wider audience. We also feel that there may be academic value to university agriculture schools that creates room for state by state partnerships.

Lastly, our product is a work in progress. We are not a huge company, and we own 99% of our company (with only OSU holding the other 1%). What we would most appreciate is feedback so that we can improve our product. We will have computer science, agbusiness, and other OSU students employed throughout the year and working on All The Farms, so let's make sure they have plenty to do! Please follow this link to our site, and there is a brief questionnaire that we ask farmers, ranchers, and food producers to complete. If you do not see your farm or ranch, simply follow the link to add your business (and let us know how it went.) We can be reached at [info@allthefarms.com](mailto:info@allthefarms.com) or you can reach me directly at [jim@allthefarms.com](mailto:jim@allthefarms.com) - Thank you 

# Oregon State University

## Center for Small Farms & Community Food Systems

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*For more information contact:  
[smallfarmsprogram@oregonstate.edu](mailto:smallfarmsprogram@oregonstate.edu)*



**Oregon State**  
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<http://centerforsmallfarms.oregonstate.edu>

PHOTOGRAPHY

# COSTS OF PRODUCTION

## FOR DIVERSIFIED VEGETABLE FARMS



How do you know what it costs you to produce a particular crop?

Tanya Murray from Oregon Tilth will cover the basics of how to account for crop specific costs of production and how cost information can be used for decision-making.

In this practical workshop, we'll look at how making changes to price, yield and production methods can change the amount that a crop contributes to profit.

**Register online:**  
[smallfarms.oregonstate.edu](http://smallfarms.oregonstate.edu)

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