Sustaining the Pacific Northwest

Food, Farm, & Natural Resource Systems

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Organic Grains for Food, Feed and Malt
2010 Tilth Conference

Tilth Producers of Washington announces a campaign to celebrate and promote Washington organics, Washington Organic Week, September 12-19. For more information contact kelsey@tilthproducers.org.

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Farm Finder
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On-Farm Livestock Mortality Composting

Caitlin Price & Lynne Carpenter-Boggs, WSU CSANR

Introduction

Livestock that die on a farm cannot be used in the human food system. There are very few disposal options available to producers, and these options may be limited by season, location, and cost. On-farm composting of livestock mortalities is inexpensive, safe, cost effective, and legal in Washington State.

Washington is home to approximately 335,000 dairy cows and heifers, and 167,000 cattle on feed. Even under the best management, livestock sometimes die on the farm from disease or injury. Nationwide, USDA estimates that 5.7% of all dairy cows and 2.4% of beef cattle die on the farm each year from non-predator causes. At these rates, producers in Washington need to dispose of over 24,000 cattle carcasses annually. Catastrophic losses must also be considered, as in the case of the 2007 Chehalis River flood, in which livestock losses were estimated at 1600 animals.

Mortality Composting in Washington

Disposal methods for livestock mortalities in Washington as authorized by the Washington State Department of Agriculture include burial, natural decomposition on range land, landfill, rendering, digestion, and composting (WAC 16-25-025). As a result of consolidation within the rendering industry and the 1994 mad cow disease (BSE) scare, both the number of rendering facilities and demand for rendering products (proteins, oils, fats, etc.) have declined over the last decade. As a result, more of the cost was transferred to producers and the farm cost for rendering services increased. In many areas, the frequency of pick-up and/or availability of service also decreased significantly, requiring producers to wait several days for carcass removal (if this service is available at all).

On-farm burial and natural decomposition on rangeland are often less costly than rendering but may attract pests or contaminate ground or surface water. These methods may also be practical only during certain times of the year and require sufficient space. Considering the costs and challenges associated with these common disposal options, many producers are seeking alternatives.

With proper management and materials, on-farm composting can be an economically viable and environmentally sound

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Center for Sustaining Agriculture & Natural Resources

WASHINGTON STATE UNIVERSITY EXTENSION

WSU Small Farms Team

Sustaining the Pacific Northwest Food, Farm, & Natural Resource Systems

This quarterly newsletter provides information for people working towards community-based sustainable food, farm, and natural resource systems using interdisciplinary oriented research and practitioner knowledge.

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method of mortality disposal and provides producers with an alternative to conventional disposal methods. While any species of livestock can be composted, the most interest has come from the dairy industry. Despite potential challenges, mortality composting is being used successfully on farms around Washington and other parts of the country. A 2008 USDA-APHIS report showed that dairy cow mortality disposal by burial and rendering decreased nationwide from 85% in 2002 to 77% in 2007, while the number of mortalities disposed of by composting increased during the same time period from 7% to 17%.

Producers in Washington are fortunate that all three regulating agencies agree on the importance of composting as a mortality disposal option and have worked to make it both legal and reasonable to manage (see sidebar). In most cases, mortality composting falls under the same exemptions as other on-farm composting and there are no additional permitting or testing requirements for producers. However, there are additional requirements if compost is distributed off of the farm. It is also important to note that animals that die on the farm of certain reportable diseases cannot be composted for bio-security reasons (WSDOE, 2005).

Mortality Composting Basics

Composting animal mortalities is similar to other types of composting in that materials, moisture, and monitoring are primary components. Materials available on most farms such as used bedding, manure, and wood chips are used to form a composting pile that covers the mortality by at least two feet on all sides (Figure 1). Moisture of the pile should be 50-60% by weight and well-distributed to allow high levels of microbial activity. Monitoring is necessary to ensure that internal pile temperatures meet the legal requirement of 131oF for a minimum of 3 days. More process information is available in WSU Extension Bulletin EB2031E.

Regulatory Changes

SSB 5605, passed in 2005, required WA Dept. of Ecology to develop state guidelines for on-farm composting of routine bovine and equine mortalities at livestock animal feeding operations.

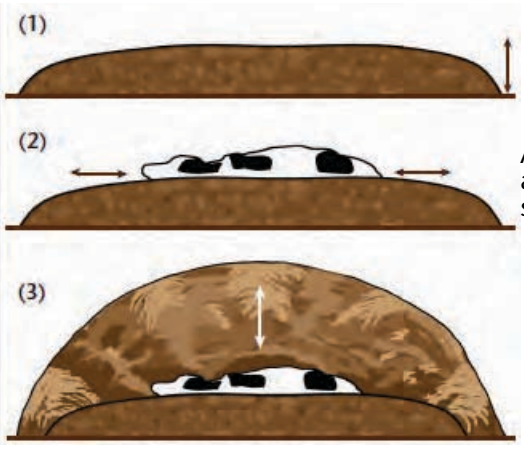
SSB 6307, passed in 2006, required WA Dept. of Agriculture to clarify rules for carcass disposal. The new rules were adopted by WSDA in May 2007.

Washington Department of Health adopted new rules for carcass disposal in July 2007, consistent with the WSDA and WSDOE rules.

WSU On-Farm Mortality Composting Project

The WSU On-Farm Mortality Composting Project was a collaborative effort between the WSU Biologically

Figure 1: Building a Compost Pile for Large Animal Mortalities



Start with a two- to three-foot base of absorbent compost material.

Add carcass in the middle. Place at least two feet of material on all sides of the carcass.

Cover with another two to three feet of compost material. This is very important!

Too little material covering the carcass will slow decomposition and attract pests.

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Intensive and Organic Agriculture (BIOAg) program, the Washington State Department of Ecology, and the Washington State Department of Agriculture. The goal of the project was to research, demonstrate, and promote effective on-farm mortality composting as a legal and effective disposal option for routine bovine and equine mortalities in Washington. The project consisted of three phases: demonstration, education, and evaluation.

During Phase I (demonstration), seven mortality composting sites were established and monitored across Washington in collaboration with producers and state agencies. Demonstration sites included four dairies, a feedlot, a small beef farm, and the WSU Composting Facility in Pullman. Appropriate composting methods were developed based on each site's climate, available composting materials, and estimated mortality numbers. Information gathered in Phase I was used to create outreach and educational materials in Phase II.

Figure 2: Mortality Compost Windrow at field trial in Yakima County. Primary compost materials were feed refusals, straw silage, and dry manure.

During Phase II (education), an informational website was developed as a resource for producers, industry representatives, state regulatory agencies, and educators. A WSU Extension Bulletin and various articles were also published on the topic. Phase II also included two field days at demonstration sites and numerous presentations for classes, livestock groups, and industry events.

Figure 3: Cow hip bone, after 4 months of active composting, showing significant deterioration along bone margins. Bone is soft and easily broken, and will continue to decompose if covered in an active compost pile.

For the final phase (evaluation), 19 Washington dairy producers known to be composting farm mortalities were surveyed by mail to determine their preferred sources of information about mortality composting, primary challenges and motivations for getting started, on-farm impacts, and compost methods. This information was used to evaluate project effectivenes and the potential for future work on this topic (Price et al., 2009).

Conclusion:

In March 2010, a phone and email survey of 68 dairy producers in Washington (15% of all registered dairies) found that all but two were aware that mortality composting is a legal option for carcass disposal. Of the producers surveyed, 32% reported that they were composting mortalities on the farm, although most compost only calves. When asked where they had learned about the practice, most mentioned reading an article somewhere, or talking to other farmers. The next most common source was WSU Extension Bulletin EB2031E. A few also specifically mentioned receiving information from their WSDA Nutrient Management inspector.

WSDA Dairy Nutrient Management inspectors have been very supportive of this project, and continue to promote mortality composting and educate producers. Feedback from inspectors shows a distinct increase in the number of farms openly composting mortalities within the last three years. In Eastern Washington, an estimated 20-30% of producers are now composting mortalities, while in the Puget Sound region the total number of producers composting mortalities has increased by an estimated 10-15%.

Throughout the course of this project, response has been overwhelmingly positive among both producers and regulators The idea of composting dead cows and horses on-farm is gaining momentum. Even though only a minority of producers in Washington are composting their mortalities, the concept no longer appears strange or risky, and most producers know it is both legal and effective. Composting mortalities is just one management option for producers and does not necessarily make sense in every situation. However, it is an important and viable option and one that will continue to increase in use especially if rendering costs increase again, or availability of service decreases.

Resources

Price, C., and Carpenter-Boggs, L. (2008). On-farm Composting of Large Animal Mortalities. Washington State University Extension Bulletin # EB2013E. Available on-line: http://cru.cahe.wsu.edu/CEPublications/eb2031e/eb2031e.pdf.

Price, C., Carpenter-Boggs, L., and Goldberger, J. (2009). On-Farm Mortality Composting in Washington State: Outreach and Producer Survey. Journal of Extension, December 2009. 47-6. Available on-line: http://www.joe.org/joe/2009december/rb8.php.

Washington State Department of Ecology (2005). On-farm Composting of Livestock Mortalities. Publication No. 05-07-034. Available on-line: http://www.ecy.wa.gov/biblio/0507034.html

Spotted Wing Drosophila – Monitoring with Traps

Beverly S. Gerdeman, Research Associate in Entomology, Washington State University Mount Vernon NWREC

Introduction

The spotted wing drosophila, Drosophila suzukii (Matsumura), is a new exotic fly pest in the United States that was found in California in 2008 and in Oregon and Washington in 2009. Spotted wing drosophila (SWD) lays its eggs in ripening fruit crops and have been documented in strawberries, blueberries, raspberries, blackberries, boysenberries, grapes, cherries, persimmon, Asian plums, apple, plumcots, Satsuma plums, Italian prunes, persimmon, elderberry, nectarines, peaches, figs, hardy kiwis, Asian pears and tomato. Eggs hatch in the ripening fruit and develop into larvae that render the fruit unmarketable. To prevent a large loss of marketable fruit, it is necessary to identify SWD infestations as early as possible so the pest can be controlled effectively. This article will discuss how to make a simple SWD trap in order to monitor for possible infestations. For more information about SWD including how to identify the fly, see the new Oregon State University extension publication, A New Pest Attacking Healthy Ripening Fruit in Oregon. Spotted wing Drosophila: Drosophila suzukii (Matsumura).

Monitoring SWD

Traps are used to monitor the presence of SWD, but not used to control them. Traps can also be useful to evaluate control measures. Place traps in border fruit rows when average daily temperature reaches 50° F. Set out one trap per five acres, with a minimum of three traps per farm or home fruit planting.

Materials and tools for SWD traps

Traps can be easily made from a few, simple, readily available materials described below, but you are not limited to listed materials. The only real requirements are that you use apple cider vinegar and keep unwanted insects out of the trap. An effective trap can be as simple as a small jar of apple cider vinegar covered with netting.

Suggested materials include:

16 oz clear plastic beverage cups with lids

Wood-burning tool

Wire, twine, plant Velcro, or a roll of "twist-tie" material (available at nursery or hardware stores) for suspending/attaching the trap

Apple cider vinegar

Unscented dish soap

In a well-ventilated area, use a wood-burning tool to carefully burn a few small holes in the cup, just below the rim (Figure 1). These holes should be small enough to allow the tiny drosophila to enter, but prevent trapping unwanted flies or

Figure 1. Burning holes in a plastic cup.

honeybees. Leave one side of the cup free of holes so the apple cider vinegar can be easily poured out when emptying and refilling the trap. Pour approximately one inch of full strength apple cider vinegar into the cup. Add a couple of drops of unscented dish soap to break the surface tension so the flies sink to the bottom and drown. Securely attach the lid.

Monitoring SWD in the field

Place the trap in the outside rows of your fruit planting. Wire, twist-tie material, or twine can be used to suspend the traps from the trellising or branches of the fruit crop (Figures 2 and 3). For monitoring strawberry, attach the cup using wire or plant Velcro to a short piece of plastic pipe or wooden post (Figures 4 and 5), suspending the trap just above the foliage. Ground traps are not recommended since they could be turned over by animals. Keep the top of the trap straight so that rain does not enter the cup and dilute the vinegar, thus reducing the effectiveness of the trap. Check traps once or twice per

Figure 2. SWD trap suspended from red raspberry trellis.

Figure 3. SWD trap suspended from blueberry branch.

Figure 4. Easily remove trap cups for refilling by wiring a "cupholder" through a hole in a plastic pipe.

Figure 5. SWD trap hanging just above strawberry foliage.

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week for SWD. Add more vinegar as needed to maintain a one inch depth. If the vinegar becomes cloudy or filled with insects, replace with fresh vinegar but do not pour the vinegar on the ground.

Male SWD can be identified by the characteristic dark spots at the tips of their wings, which are visible with the naked eye. Females can be identified by their saw-like ovipositor when viewed with a magnifying lens. For photographs of SWD to aid in their identification, see OSU extension publication EM8991. If you find a SWD in a trap, this indicates an infestation and you will need to consider control options.

Controlling SWD

At this time, there are no conventional or organic pesticides registered for control of SWD. However, research is underway at WSU Mount Vernon NWREC to test currently registered pesticides and new products for efficacy against SWD. For current updates of this work, see our website. As testing is completed, we will be publishing new information on our website and through WSU Extension outlets.

Resources

WSU Mount Vernon NWREC website lists updates on conventional and organic pesticide trials for SWD control.

Spotted Wing Drosophila (Drosophila suzukii Matsumura): A new pest attacking healthy ripening fruit in Oregon. 2009. OSU Extension publication EM8991. http://ir.library.oregonstate.edu/jspui/bitstream/1957/13090/1/em8991.pdf.

Oregon State University SWD website with most current scientific knowledge of SWD biology, management, and effects on Pacific Northwest berry crops.

Organic Vineyard Establishment: Trellis and Planting Stock Considerations

Carol Miles, Jonathan Roozen, Gale Sterrett, and Jacky King, Washington State University Mount Vernon Northwestern Washington Research and Extension Center;

The primary differences between establishing an organic and a conventional vineyard are the requirements for non-treated wood posts for all trellising, including end posts, the need for organic planting stock, and the use of only organic-approved fertilizers and pesticides. This article provides an overview of planting stock considerations and trellis system supplies for establishing an organic vineyard. For questions regarding organic certification and regulations, contact your certifier. For a version of this handout that includes a sample worksheet of establishment costs, see our website.

Planting Stock

In certified organic production, organic perennial planting stock must be used unless it is documented to be commercially unavailable. Planting stock is considered organic when it has been grown for at least one full year under organic management. Grapes usually enter full harvest production in the third year after establishment. For organic growers who are certified by the Washington State Department of Agriculture (WSDA) Organic Food Program, refer to the WSDA Seed, Annual Seedling and Planting Stock Guidelines.

Grafted grape plants are recommended to protect against pests such as phylloxera, and selected rootstocks can provide earlier ripening in western Washington, which can be an advantage in a region where relatively low summer temperatures delay ripening. Grafted grape vines should be ordered two years prior to planting to allow plenty of time for the propagator to graft and establish the plants. Green-grafted plants are generally ordered one year prior to vineyard establishment and are less expensive to purchase, but may exhibit lower graft survival.

Trellis Systems

Most growers find it easier to plant new vines before installing the trellis system. Field work is easier before the wires and posts are in place, and support stakes can be driven closer to vines.

The US National Organic Program (NOP) standards prohibit the use of wood treated with arsenate or other prohibited materials (e.g. creosote) for new installations or replacement purposes. Treated wood in existing trellis systems that are certified to National Organic Standards (N.O.S) is allowed, but replacement wood must not be treated.

End posts. End posts provide the main support for the trellis wire, and are the most costly component of an organic vineyard trellis system due to the strength and size needed to construct a long-lasting trellis system. End posts should be at least six inches in diameter, set three feet deep or more, and be well braced to resist shifting caused by stresses on the trellis system. The bracing methods and the depth to which posts are set will vary somewhat depending on the soil character and land contour. See Constructing a Vineyard Trellis, which contains diagrams of typical systems. In the WSU Mount Vernon NWREC organic grape block, end posts are nine feet long and sunk three feet into the ground at an angle of 30o from vertical. The brace wire is perpendicular to the ground and held by earth anchors 36 inches long with a six inch helix.

End posts can be made from a number of trees that produce durable wood even when untreated. Oregon State University, Corvallis compared the durability of various types of posts in a long-term study comparing untreated posts from a number of tree varieties, including western juniper, black locust, osage orange, redwood, Pacific yew, Oregon white oak, and

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several species of cedar, fir, pine, and hemlock. The results of this study can be seen in Service Life of Treated and Untreated Fence Posts (1999; Morrell, Miller, and Schneider).

We selected juniper for the end posts at the WSU Mount Vernon NWREC organic grape block (Figure 1) because it is available in the PNW area and is highly durable with natural resistance to decay (reported to last 30+ years in tests, longer than any other untreated western species). In addition, it shrinks and swells less than many other PNW species, and has unique bending properties.

Figure 1. Drilling postholes for end posts.

Trellis posts: There are several types of metal posts used in vineyards, and all those described here are allowed in organic vineyards.

Figure 2.

The Mannwerks post (Figure 2) features cold-formed hot rolled steel with minimum tensile strength of 65,000 psi, and a minimum yield point of 50,000 psi. These posts are designed to be gentle on mechanical harvesters, extremely stable in soil, and user friendly.

Figure 3.

Rib back posts (Figure 3) are nine feet long and consist of three pounds of steel per foot. The 3/8 inch diameter holes run the entire rib length of the stake every two inches. Commonly used as an end post option, rib back posts are ideally suited for rocky or hardpan soil conditions.

Figure 4.

Diamond back posts (Figure 4) can be used as end posts since the diamond shape provides the strength needed for end posts, and the rounded edges are easy on mechanical harvesters.

Figure 5.

Fencing T-posts (Figure 5) can be used in vineyards for trellising, but are not as popular as some other types. Although inexpensive and available in various lengths, they require installation of wire clips to support the wires, which is an additional expense and effort.

Figure 6.

Rolled Edge Vertical Line posts (Figure 6) were used as in-row support posts at the WSU Mount Vernon NWREC organic grape block. The standard post is eight feet long, 13 gauge, and self-colored for a natural 'wood' look in the vineyard, and avoids any concern with wood preservatives. Heavier duty 12 gauge posts are available for areas of high wind conditions, or trellis systems that will carry an extra heavy load. Side notches make wire placement easy, and require no clips for installation, reducing expense and labor. These posts are well suited for mechanical harvesters.

Support stakes: Support stakes are needed for each vine during the establishment years, and are placed in the vineyard when vines are planted. Bamboo stakes are often used for the first two years or until vines reach the fruiting wire, after which they can be removed. Steel support stakes are long-lasting and have attachment points for easy wire installation.

Earth Anchors

Anchors used to brace the end posts should be of high quality steel with a center or offset eye and helix plate. Angle and depth of setting depends on the method of bracing and on soil type. Install anchors in line with the wire, so the offset eye is just above the ground. Install anchors by hand using a rod, crow bar, or length of pipe. If the ground is very hard, dig a hole to a depth about half the length of the anchor, then turn the rest of the way by hand. Earth anchor adaptors can be used on post hole augers for mechanical installation (Figures 7 and 8).

Figure 7. Setting post anchors.

Figure 8. Drilling in post anchors.

Wire

For trellis construction, use 9 – 12 gauge, tempered, high-tensile wire adapted to vineyard uses; it resists rust and stretching better than galvanized wire. Standard vineyard trellis systems include one low irrigation wire (about 15 inches above ground level), one fruiting wire (28 inches above ground level), and two to three pairs of catch wires (each spaced from one to two feet apart).

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Fasteners: Two commonly used types of wire fasteners are the crimping sleeve and the gripple. Inexpensive crimping sleeves are effective for splicing wires, requiring only a crimping tool, and in-row spool type wire tighteners to adjust wire tension. A gripple splices smooth wire up to six times faster than traditional methods for joining smooth wire. Inside the gripple, each wire moves in only one direction, passing over high precision gear-tooth rollers. The moment any load is applied in the opposite direction, the rollers bite, locking the wire. Recommended for in-line splices, loop anchoring and repairs on trellis lines up to 500 ft. long, this system requires a gripple tensioning tool to pull the wire effectively through the fastener to the required tension.

Figure 9. Organic wine grape vineyard at WSU Mount Vernon NWREC, August 2009.

Resources

Constructing a Vineyard Trellis. Presentation, Iowa Grape Growers Conference, January 26, 2002.

WSDA Organic Food Program, 360-902-1805.

WSU Vineweb: Organic Viticulture Resources

WSU Mount Vernon NWREC Organic Grape Vineyard Trial

Male flower formation is critical for fruit set in summer squash

Mathieu Ngouajio, Horticulture, Michigan State University

Reprinted with permission from the Michigan State University Extension newsletter, Crop Advisory Team Alert, May 26, 2010 -- Vol. 25, No. 5.

During the 2009 growing season there were multiple reports of low male flower formation in summer squash and other cucurbits. This resulted in significant losses in production due to poor fruit set. Most of the reports of low male flower formation were during the coolest part of the season and the situation generally returned to normal as more seasonal temperatures were observed. The 2009 season was extremely cool in Michigan, especially for warm season crops like cucurbits. Optimum temperature for summer squash growth is between 65 and 75°F. However, in 2009 average temperature at Hart (one of the major summer squash production regions in Michigan) remained below 65°F for 17 days in June during crop growth. In July, the first two weeks that coincided with flower formation stage in most fields registered only three days with average temperature above 65°F. The long term National Weather Service (NWS) station at Mears is calling for below normal temperatures for June through August for 2010 (Norm Myers code-a-phone as of May 24). This is still too early; however, it is critical to begin developing strategies to mitigate potential effect of cool weather on your summer squash.

Summer squash is a monoecious plant, meaning that it forms separate male and female flowers on the same plant. Both mean temperature and night temperature are known to affect sex expression in cucurbits. Cool conditions, especially cool nights, are detrimental to male flower formation and favor female flowers. In general, female flowers tend to form first under cool conditions. In the absence of adequate male flowers, there is poor pollination and low fruit set.

Growers who planted multiple cultivars of summer squash in 2009 noticed that under cool conditions certain cultivars tended to sustain a higher number of male flower formation. It is known that under cool weather, female flowers will form first. For the above reason, it might be helpful in the future to mix the seed of the main cultivar with about 5 percent seed of another cultivar known to be an early cultivar (produce male flowers sooner) or to produce adequate male flowers during cool weather. This strategy is similar to that used for cucumber production with all female cultivars and can help ensure that adequate male flowers are available during pollination and fruit set.

A full version of this article will be published in the May or June issue of the Vegetable Growers News.

Summer squash with male and female flowers

The Experiences and Perspectives of Idaho's Certified Organic Producers: Results from a Statewide Survey

Jessica R. Goldberger, Washington State University Department of Crop and Soil Sciences, Shelly Connor and Jennifer Miller, Northwest Coalition for Alternatives to Pesticides

Organic farming is one of the fastest growing segments of U.S. agriculture. Among U.S. states, Idaho ranks ninth in organic acreage with 148,425 organic acres (USDA-NASS, 2010). In 2008, 219 certified organic and 35 exempt organic farms in Idaho sold over $71 million in organically produced commodities (USDA-NASS, 2010). It is important to understand the characteristics, marketing strategies, information sources, challenges, and opinions of the state's organic producers. Therefore, representatives from Washington State University and the Northwest Coalition for Alternatives to Pesticides (NCAP) recently conducted a survey of all certified organic producers in Idaho. The survey results will help NCAP, the University of Idaho, the Idaho State Department of Agriculture, the Idaho Natural Resources Conservation Service, and other service providers better meet the needs of the state's certified organic producers.

Survey Methods

With funding from a 2009 Extension Risk Management Education Grant from the Western Center for Risk Management Education, a survey of all certified organic producers in Idaho was conducted from October through December 2009. Survey participants included producers certified by the Idaho State Department of Agriculture (ISDA), Oregon Tilth, CCOF, OCIA, and QAI. The survey was implemented with the assistance of Washington State University's Social and Economic Sciences Research Center (SESRC).

The project's sampling population included 221 certified organic producers (208 certified by ISDA, 10 by Oregon Tilth, one by CCOF, one by OCIA, and one by QAI). Eleven (11) individuals were excluded from the sample because of ineligibility (e.g., producers in transition to organic but not yet certified) and bad addresses. Individuals were contacted three times by mail: an initial mailing with questionnaire, a reminder postcard, and one follow-up mailing with questionnaire. A link to an online version of the survey was provided in each mailing. One hundred fourteen (114) individuals completed the survey for a response rate of 54 percent.

Who are Idaho's Certified Organic Producers?

Approximately 85% of the survey respondents were male, while 15% were female. Most respondents (97%) were Caucasian. Over 93% lived with a spouse or domestic partner. Slightly over half (53%) described their role on the farm as "the primary decision-maker," while 43% shared decision making with a spouse, relative, or non-family business partner.

Respondents ranged in age from 27 to 85 with a mean age of 55 years. Respondents had spent 20 years, on average, as a farm owner, manager, or primary decision-maker and over two thirds (69%) had parents who farmed. Almost half (48%) had a four-year college degree and 13% had a graduate degree. Almost half (47%) worked at a regular off-farm job and 51% had a spouse or domestic partner with an off-farm job. Children under the age of 18 years lived with almost 39% of respondents.

Survey respondents belonged to many different types of agriculture-related organizations. Over one third (37%) claimed membership in the Farm Bureau. Approximately one-fifth belonged to organic-specific growers' associations, farmers' market associations, and marketing cooperatives. Ten percent of respondents held leadership positions in organic or sustainable agriculture organizations.

Table 1: Mean Acreage of Respondents

Region	Respondents	Certified Organic Acres	Transitional Acres	Non-Organic Acres
North	13	71	0	0
East	22	391	22	537
Southwest	22	397	48	114
South-Central	46	1,861	58	644
All Regions	103	999	40	423

Characteristics of Idaho's Certified Organic Farms

Two-thirds of respondents (65%) transitioned from conventional (non-organic) farming methods to organic methods, while 26% indicated they had always farmed organically. On average, respondents had been farming organically for nine years and respondents' farms had been certified organic for six years. Most respondents (90%) planned to maintain their organic certification for the next five years despite the fact that approximately two-thirds of respondents reported lower market demand and prices in 2009 compared to the previous three years.

Respondents operated, on average, 291 certified organic cropland acres, 708 certified organic pastureland or rangeland acres, 28 transitional cropland acres, 12 transitional pastureland or rangeland acres, 370 non-organic cropland acres, and 53 non-organic pastureland or

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rangeland acres. Average certified organic acreage varied substantially by region: 71 acres (North), 391 acres (East), 397 acres (Southwest), and 1,861 acres (South-central). One quarter (27%) of respondents had some of their certified organic acres (322 acres on average) covered under a crop insurance policy in 2009.

Respondents produced an impressive diversity of organically certified products during 2009. The most common products included: forage (60% of farms); grains and oilseeds (47%); vegetables and melons (26%); potatoes (20%); small berries and grapes (18%); herbs (18%); nursery, greenhouse, and floriculture (14%); dry beans and dry peas (13%); tree fruit (13%); cattle and calves (12%); and milk and other dairy products from cows (11%). When asked which product contributed most to their 2009 gross organic farm income, 31% of respondents selected forage, 16% selected vegetables and melons, 14% selected grains and oilseeds, and 11% selected milk and other dairy products from cows.

These aggregate results, however, mask regional differences in organic crop production. The most common products in the northern region were vegetables (71% of farms), potatoes (64%), and small berries and grapes (64%). South-central respondents produced primarily forage (78% of farms) and grains and oilseeds (59%). Eastern growers produced forage (58% of farms), grains and oilseeds (58%), and milk or other dairy products from cows (25%). The primary crops in the southwestern region were forage (50% of farms), vegetables (46%), potatoes (33%), and herbs (33%).

Reasons for Farming Organically

Table 2 presents respondents' top ten reasons (out of 21 possible reasons listed in the questionnaire) for farming organically. Organic price premiums and environmental and economic sustainability ranked highest. Produce quality, consumer health, consumer demand, and community values also ranked highly. Respondents in the northern region, however, were motivated more by environmental and social factors and less by economic factors compared to respondents in the other three regions.

Less highly ranked reasons for farming organically (with mean scores less than 3.0) included customer or buyer required organic certification, opportunities to network with other farmers, social justice concerns, and overseas marketing opportunities.

Marketing Practices

Over two-thirds (68%) of respondents used direct-to-consumer marketing channels for their certified organic products in 2009, while 42% used direct-to-retail and 76% used wholesale marketing channels.

Table 2: Reasons Idaho Certified Organic Producers Farm Organically

Rank	Reason	Mean Score*
1	Price premiums for certified organic products	4.2
2	Land stewardship / environmental sustainability	4.1
3	Economic sustainability of farm	4.1
4	Quality of organically grown produce	3.9
5	Health of consumers	3.8
6	Consumer demand for organic products	3.7
7	Community values / quality of life	3.6
8	Reduced dependency on large corporations	3.6
9	Personal, family, or farm worker health	3.6
10	Local marketing opportunities for certified organic products	3.5

*1 (Not Important) to 5 (Very Important)

When asked about the use of specific types of marketing channels, respondents relied most on other farmers (43%); natural food stores and food cooperatives (34%); independent brokers (29%); farmers' markets (28%); distributors and handlers (27%); websites and catalogs (26%); restaurants and caterers (26%); and processors, millers, and packers (26%) (Table 3).

Table 3: Marketing Channels for Idaho Certified Organic Producers in 2009

Rank	Marketing Channel	%*
1	Other farmers	43
2	Natural food stores and food cooperatives	34
3	Independent brokers	29
4	Farmers' markets	28
5	Distributors and handlers	27
6	Websites and catalogs	26
7	Restaurants and caterers	26
8	Processors, millers, and packers	26
9	Private grain elevators	19
10	CSA and other subscription services	15

* % of respondents who used marketing channel.

One-fifth (21%) of respondents made value-added products (e.g., jam, salad mix, dried herbs, bread, packaged meat, and livestock feed) from their certified organic products. The average percentage of gross farm sales from these value-added products was 26%. Value-added production was much more common in the northern region (57% of respondents) compared to the other three regions (17% of respondents).

Nearly half (49%) of respondents' certified organic products were marketed locally (within 100 miles). Over one fifth (22%) of products were marketed regionally (between 101 and 499 miles) and 17% were marketed nationally (500 miles or more).

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The remaining certified organic products were handled by intermediaries (11%) or sold internationally (1%).

Over one quarter (27%) of survey respondents sold all their certified organic products at an organic price premium in 2009. An additional 38% sold at least half of their certified organic products at a price premium. Nearly two-fifths (38%) of respondents derived all of their 2009 total farm sales from the sale of certified organic products (including value-added products made from their certified organic products). One-fourth (28%) of respondents derived at least half of their farm sales from certified organic products.

In 2009, 17% of respondents had a written marketing plan for their certified organic products. Approximately one third (32%) produced certified organic products under marketing/production contract arrangements. The extent of contract arrangements differed by region: none of the northern respondents and 37% of the remaining respondents had marketing/production contracts.

Sources of Organic Farming Information

The most important sources of information about organic production practices, farm management, and marketing strategies were farmers' own experimentation, other farmers, newsletters and magazines, conferences and workshops, Internet-based resources, and the Idaho State Department of Agriculture (ISDA).

Most respondents (88%) believed that the ISDA has been "somewhat" or "very" successful in serving the needs of Idaho's organic producers. Percentages were slightly lower for the University of Idaho (72%) and the Natural Resources Conservation Service (52%).

A majority of respondents (59%) were familiar with the USDA Natural Resources Conservation Services' (NCRS') Environmental Quality Incentives Program (EQIP) Organic Initiation. A smaller percentage (43%) knew about the NCRS' Conservation Stewardship Program (CSP).

Organic Farming Challenges

When asked to indicate the degree to which 39 factors hindered overall organic farming success, respondents listed the limited demand for organic products as their biggest challenge. Other major challenges included the high cost of organic inputs, weather-related production losses, difficulty in obtaining organic price premiums, limited distribution opportunities, unstable organic prices, high labor costs, and flooded organic markets (Table 4).

The top challenges varied by region: high cost of organic inputs and weather-related production losses (North), obtaining organic price premiums and limited distribution opportunities (Southwest), unstable organic prices and limited demand for organic products (South-central), and limited demand for organic products, limited distribution opportunities, and flooded organic markets (East).

Sustainability of Organic Farming

Table 4: Challenges Faced by Idaho Certified Organic Producers

Rank	Challenge	%*
1	Limited demand for organic products	65
2	High cost of organic inputs	64
3	Weather-related production problems	60
4	Obtaining organic price premiums	59
5	Limited distribution opportunities	58
6	Unstable organic prices	56
7	High labor costs	53
8	Existing organic markets flooded	53
9	Weed-related production losses	51
10	Customer volume requirement limits sales in certain markets	51

* % of respondents who indicated factor was a "moderate" or "considerable" problem.

Nearly 72% of survey respondents agreed organic farming is more environmentally sustainable than conventional farming, 57% agreed organic farming is more socially sustainable, and 49% agreed organic farming is more economically sustainable.

To measure the sustainability of Idaho's certified organic farms, survey respondents were presented with a list of 22 potential goals for sustainable agriculture and asked the degree to which their farms contributed to each goal. Table 5 lists the sustainable agriculture goals with the highest contributions. The surveyed farms contributed most to environmental sustainability (e.g., promoting soil conservation, reducing toxins released

Table 5: Idaho Certified Organic Farmers Contribution to Sustainable Agriculture Goals

Rank	Sustainable Agriculture Goal	Mean Score*
1	Promote soil conservation	4.1
2	Protect human health	4
3	Reduce toxins released into environment	3.9
4	Increase the sustainability of agriculture	3.8
5	Establish relationships of trust with consumers	3.8
6	Provide wildlife habitat	3.8
7	Protect water resources	3.8
8	Protect biodiversity	3.7
9	Make efficient use of nonrenewable resources	3.7
10	Reduce dependence on large corporations	3.7

* Mean score on scale from 1 (No Contribution) to 5 (Significant Contribution).

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into the environment, providing wildlife habitat, and protecting water resources and biodiversity) and social sustainability (e.g., protecting human health, establishing relationships of trust, and reducing dependence on large corporations). Idaho's certified organic farms made smaller contributions to economic sustainability (e.g., providing adequate farm income, supporting local businesses, enhancing rural economic development, and providing living wages to farm workers).

Conclusion

The survey results reported above provide invaluable information about the characteristics, marketing strategies, information sources, challenges, and opinions of Idaho's certified organic producers. A key finding shows that while certified organic producers farm primarily for economic reasons (e.g., organic price premiums and economic sustainability), only one-half believe organic farming is more economically sustainable than conventional farming. Moreover, Idaho's certified organic farms contribute more to environmental and social sustainability goals than economic sustainability goals. Certified organic producers see limited demand for organic products and high input costs as their biggest challenges to achieving organic farming success. These findings are similar to survey results from Washington State (Goldberger, 2008).

Results also demonstrate that Idaho's certified organic producers rely on many different marketing channels as well as value-added production. Strengthening these marketing channels is essential for future growth of certified organic agriculture in the state. Most survey respondents believe the Idaho State Department of Agriculture (the state's primary organic certifier) and the University of Idaho have been successful in serving the needs of organic producers. However, nearly half of respondents do not believe the USDA Natural Resources Conservation Service has been a successful resource for organic producers. This finding might be related to the fact that many respondents are not familiar with NRCS's EQIP Organic Initiative and Conservation Stewardship Program.

Aggregate survey results mask quite striking regional differences in the characteristics, marketing strategies, information sources, challenges, and opinions of Idaho's certified organic producers. Northern producers, for example, are more likely than producers in other regions to have always farmed organically (primarily for environmental and social reasons), operate fewer certified organic acres, produce vegetables, rely on value-added production, and participate in direct marketing to local consumers. Further analysis is needed to fully understand the implications of these geographic differences among Idaho's certified organic producers. Nonetheless, preliminary results suggest the need for regionally-specific research and outreach strategies.

References

Goldberger, Jessica. 2008. *The Experiences and Perspectives of Washington's Certified Organic Producers: Results from a Statewide Survey.* Sustaining the Pacific Northwest. 6(3): 5-8.

U.S. Department of Agriculture - National Agricultural Statistics Service (USDA-NASS). 2010. *Organic Production Survey – 2008.* Washington, DC.

Announcements

Organic Grains for Food, Feed and Malt- 2010 Tilth Conference

WSU will be holding an all-day symposium on *Organic Grains for Food, Feed and Malt* at the Washington Tilth Conference in Port Townsend, WA on Friday, November 12, 2010. Presentations will include integrating grains with vegetable crops for improved soil health, meeting livestock feed needs, and finding new markets for bread flours and for other baked goods. Learn about production practices, suitable varieties, equipment needs and new market opportunities from organic growers, millers, bakers, and university scientists. To register and for more information, go to the Tilth Producers of Washington Conference web page.

Tidbits

Honey Bee Pest and Disease Survey Underway

USDA. The U.S. Department of Agriculture today announced the beginning of a 13-state survey of honey bee pests and diseases conducted cooperatively by USDA's Animal and Plant Health Inspection Service (APHIS), USDA's Agricultural Research Service (ARS) and Pennsylvania State University (PSU). The survey will help USDA scientists to determine the prevalence of parasites and disease-causing microorganisms that may be contributing to the decline of honey bee colonies nationwide.

USDA Announces Availability of Compliance Guide for Mobile Slaughter Units

eXtension. As part of the U.S. Department of Agriculture's (USDA) 'Know Your Farmer, Know Your Food' initiative, USDA's Food Safety and Inspection Service (FSIS) today announced the availability of the compliance guide for mobile slaughter units. This document presents recommendations and is not a regulatory requirement. "USDA is excited to offer this help to small producers and encourages establishments who own or manage mobile slaughter units to use this guidance document to help meet

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food safety regulatory requirements," said Deputy Under Secretary for Food Safety Jerold R. Mande. "Food must be safe, regardless of where it is produced, and FSIS has worked with mobile unit operators to develop inspection procedures tailored to their needs."

USDA Evaluating Small Meat and Poultry Processing Needs

ATTRA. The U.S. Department of Agriculture released a preliminary study revealing existing gaps in the regional food systems regarding the availability of slaughter facilities to small meat and poultry producers. The study by USDA's Food Safety and Inspection Service (FSIS) is a first attempt to identify areas in the U.S. where small livestock and poultry producers are concentrated but may not have access to a nearby slaughter facility. The data creates a county-by-county view of the continental United States, indicating the concentration of small farms raising cattle, hogs and pigs, and chicken, and also noting the location of nearby state slaughter facilities and small and very small federal slaughter establishments. See the presentation Slaughter Availability to Small Livestock and Poultry Producers – Maps.

USDA Releases Local Food Systems Report

ATTRA. USDA Economic Research Service (ERR) has just released a new report entitled: Local Food Systems: Concepts, Impacts and Issue (PDF/1.5MB). This comprehensive overview of local food systems explores alternative definitions of local food, estimates market size and reach, describes the characteristics of local consumers and producers, and examines early indications of the economic and health impacts of local food systems.

Resources

Season Extension Variety Trial Report Now Available from Organic Seed Alliance

The Pacific Northwest has an ideal climate for producing cool weather vegetables that can be grown throughout the fall and well into the winter. In 2009 Organic Seed Alliance, in partnership with the Food Coop of Port Townsend and WSU Jefferson County Extension, conducted cold hardy variety trials for 9 different vegetable crops, with over 120 varieties. Varieties were evaluated for their quality and marketability under the adverse weather conditions of fall and winter. While many growers in the PNW are increasingly depending on the use of plastic culture to protect crops from cold damage this set of trials were conducted without the use of any plastic or reemay covering of the crops.

Trial results (20 Mb) are available for local growers to consider in planning their 2010 production seasons. See the full report of the trial methods, results, recommendations, and data.

Organic Seed Alliance releases Organic Seed Production Guides for Carrot, Beets, and Lettuce

Organic seed production is an expanding market opportunity for organic growers, but requires specialized skills and technical information. Organic Seed Alliance (OSA) has released three new guides that provide the practical, step-by-step information growers need to successfully produce lettuce, carrot, and beet seed. Principles and Practices of Organic Lettuce, Beet, and Carrot Seed Production may be downloaded for free. The development and publication of these guides was made possible with support from Organic Farming Research Foundation (OFRF).

Local Harvest: A Multifarm CSA Handbook

Written by former CSA growers and members Scott Franzblau and Jill Perry, Local Harvest: A Multifarm CSA Handbook offers clear and straightforward guidance on an innovative practice that is helping CSAs stay strong and viable over the long term: cooperative marketing.

The 126-page book details how farmers can use CSA cooperatives to best market their produce, including advice on staffing, volunteer boards, distribution, legal topics and other practical information.

Managing Alternative Pollinators Now Available from SARE

SARE – During the past 50 years, America has witnessed an almost 50 percent decline in the number of managed honey bee colonies. With two-thirds of the world's crops requiring pollination—beekeepers and growers are seeking pollination alternatives and ways to bring honey bees back from the brink. Managing Alternative Pollinators: A Handbook for Beekeepers, Growers and Conservationists (5Mb) is a first of-its-kind, step-by-step, full-color guide for rearing and managing bumble bees, mason bees, leafcutter bees and other bee species that provide pollination alternatives to the rapidly declining honey bee.

NMPAN Mobile Slaughter Unit Manual.

eXtension. Written by the Niche Meat Processor Assistance Network, the MSU Manual offers comprehensive guidance for anyone interested in building and/or operating an inspected mobile slaughter unit (MSU) based upon on the experiences and expertise of several USDA-inspected MSUs in operation.

Chapters include:

MSU Model HACCP plan, SSOPs, and SOPs

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State and local government regulations that may apply to an MSU

Food Safety Assessments: what they are & how to prepare

Humane Handling and MSUs

Food Defense Plans for an MSU

Model MSU Design

Product Labeling

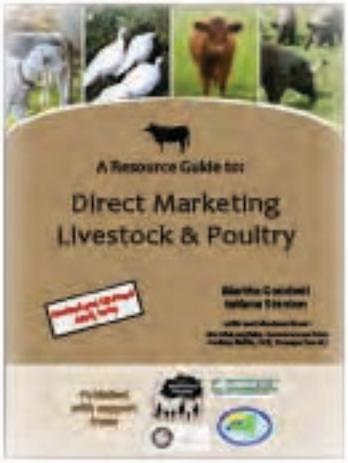
Updated Small Dairy Resource Book Now Available

SARE Outreach announces the release of its newly updated Small Dairy Resource Book, a thorough collection of resources for farm families interested in capitalizing on value-added dairy products. The Small Dairy Resource Book is available online only. Download it for free.

Vicki H. Dunaway, of the Hometown Creamery Revival, evaluates the pros and cons of more than 150 resources, from the most current information in print and online to obscure, out-of-print publications that are useful for their timeless knowledge. Resources formats include books, periodicals, videos, Web sites and others on a wide range of topics related to farmstead dairy processing. Extension agents and other agricultural educators also will find this cohesive guide a valuable source of information.

Direct Marketing Livestock and Poultry

The Cornell Small Farms Livestock Program is pleased to announce the publication of an invaluable and timely resource for small farmers in the Northeast: Direct Marketing Livestock and Poultry: A Resource Guide (5.36 Mb) or the on-line version.



Unlike their counterparts in fruit and vegetable production, many livestock and poultry farmers are hesitant to branch out into direct marketing despite its higher returns. Lack of confidence in their own interpretations of the legal regulations for meat production is a major contributor to this hesitation. Some farmers resort to contract growing and are at the mercy of large corporate packers. Others limit the sale of their livestock to local auctions and dealers with little recourse to competitive pricing. Some farmers proceed with direct sales but are not in compliance with the rules.

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