



# Ag Opportunities

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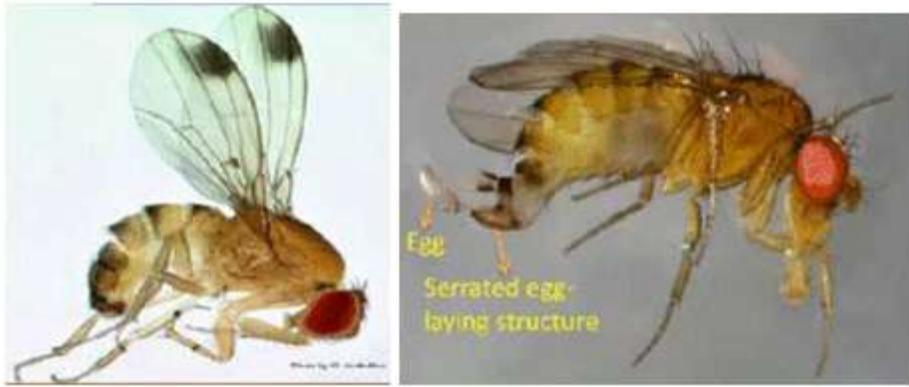


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## ***Monitoring for Spotted Wing Drosophila: An Insect Pest of Berries and Other Fruits in Missouri***

A Spotted Wing Drosophila (SWD) is a small vinegar or "fruit" fly that is about 2-3mm in length. For the past two years, it has been a problem in several areas of the U.S., including the Midwest.

The Spotted Wing Drosophila (SWD) (pronounced Dros-o-fill-ah) has caused economic damage to berries, grapes and soft-fleshed fruits, such as peaches. The SWD is also able to attack some vegetables, including tomatoes and peppers. Unlike most other vinegar flies that lay eggs on damaged or fermenting fruits, SWD females can cut into healthy fruit. They do this by using their serrated (saw-toothed) ovipositor (organ for depositing eggs) to inject eggs under the skin of the fruit. The adult SWD lives for about two weeks; during this time, each female can lay more than 300 eggs. The larvae hatch and feed inside the fruits, causing them to rot. This insect reproduces so quickly that a few adults can become thousands of flies in just a few months.



It is very important that farmers learn how to monitor for this invasive pest. A simple trap can help you determine whether the SWD is present. The most effective and economical trap can be prepared using a clear plastic cup with a fitted lid. Bait this trap with a mixture of water, dry active yeast and sugar, as shown below. Note that there are small holes in the sides of the trap that allow the flies to enter.

A small yellow sticky card can be placed inside the cup. In that way, flies that are attracted by the bait will enter the trap and be retained by the card. This allows for easier fly identification, which is the purpose of this trap. For small acreage (or in a high tunnel), researchers suggest setting one trap for plots up to one acre. However, for larger farms, a minimum of three traps per five acres should be used. These monitoring traps need to be placed inside the vegetation, in the shade.

It is also a good idea to put a trap in adjacent woods, where activity can occur earlier if there are plants bearing wild berries. Set traps just before the fruit starts to ripen. Check traps and replace yeast and sugar bait each week.



If you are interested in monitoring for this pest and need materials at no cost, please contact Dr. Jaime Piñero at [PineroJ@LincolnU.edu](mailto:PineroJ@LincolnU.edu) or (573) 681-5522.

# ***Detecting Larval Infestations and Insecticidal Options for Spotted Wing Drosophila, a Significant Pest of Small Fruit Crops in Missouri***

*By Dr. Jaime C. Pinero  
State Integrated Pest Management Specialist  
Lincoln University*

Use of effective insecticides that are well timed and have good coverage can keep SWD controlled through harvest. However, given the potential for rapid population increase by SWD, especially during fall red raspberry season, means that active management through monitoring of flies and fruit infestation is critical. **Always follow the specific label restrictions for raspberry / blackberry crops. The level of control achieved will depend on the SWD population, timeliness of application, coverage of fruit, and product effectiveness.**

Spotted Wing Drosophila (SWD) is a very serious new invasive pest that attacks small fruit crops, some stone fruits (cherry, nectarine, peach), high tunnel tomatoes, and wild hosts (including pokeweed, autumn olive, crabapple, nightshade, Amur honeysuckle, and wild grape). Raspberries, blackberries, blueberries, and grapes are at the greatest risk. SWD flies look similar to the small vinegar flies that are typically found around or on fermenting fruits and vegetables. However, unlike those native vinegar flies, SWD females have a serrated egg-laying device (called ovipositor) to cut a slit into the skin of intact fruit to lay their eggs. This makes SWD a more significant pest. An identification and monitoring guide has been developed by the Lincoln University (LU) IPM program. It is available at: <http://www.lincolnu.edu/web/programs-and-projects/ipm>.

This article discusses how to detect larval infestations and management of SWD based on key IPM components listed below. A SWD control program starts with monitoring. If SWD is detected, chemical control is necessary to preserve the marketability of fruit. For commercial growers, some chemicals already used in your IPM program for similar pests should give effective control of SWD.

1. Monitor fields with traps and check them regularly.
2. Check trapped flies to determine presence and number of SWD.
3. If SWD are found and fruit are ripening or ripe, apply effective insecticides registered for that crop to protect the fruit until harvest is completed.
4. Continue monitoring to evaluate your management program, this time checking traps twice a week, and respond quickly if needed.
5. Use cultural controls where possible (mainly removing old, infested, or damaged fruit from the field) to reduce SWD food resources.
6. Stay informed. These recommendations are subject to change based upon new information.

## **DETECTING LARVAL INFESTATIONS IN FRUIT**

The following recommendations are largely based on guidelines provided by Michigan State University (MSU) and Oregon State University (OSU). A first sign of SWD infestation in raspberries may be noticed as red patches left on the receptacle when the berries are picked. The fruit of raspberries and blackberries may also begin to collapse in areas where the larvae are feeding inside. Opening the berries may reveal the larvae within the fruit, but it is time consuming to check individual berries. Fruit can be

selected in 2 ways, either by collecting fruit at random, or by collecting only fruit you suspect is infested (i.e., the presence of oviposition scars and/or soft spots on the fruit).

- i. **Sugar-water method:** Place fruit in a plastic "ziplock" bag and crush lightly to break the skin. Then add a sugar-water mixture (4 cups water to every 1/4 cup sugar). SWD larvae will float in the liquid and the fruit will sink. Detection of small larvae may require the use of a hand lens, and this works well with a light behind the bag to create backlighting
- ii. **Salt-water method:** A salt solution will irritate the larvae causing them to wiggle out of holes in the fruit. To prepare a salt-water solution, dissolve 1/4 cup plain salt in 4 cups warm water. Place fruit in a shallow white pan and cover with salt solution. Observe the fruit closely for at least 10-15 minutes to see larvae exiting fruit out of egg-laying holes. Detection of small larvae may require the use of a hand lens and good lighting. Count as quickly as possible while they are still alive and moving.

## INSECTICIDAL CONTROL

Because this pest is so new to Missouri, there has been no research on insecticidal treatments to manage SWD and therefore recommendations are based on findings from other states. Before you spray, confirm that you have SWD in your area by hanging out traps or checking fruit. Sprays must be timed to kill adults before they lay eggs, as sprays will not control larvae already in the fruit. Always read product labels to make sure pesticides are registered for use on the fruit or berry you are treating.

If monitoring indicates a need to spray, the application should be made about 2 to 3 weeks before berry harvest. Depending on the residual effectiveness of the insecticide, a second application may be needed 5 to 10 days later. In the case of indeterminate fruiting berries such as raspberries or strawberries, sprays might need to be repeated to keep populations low during summer and fall. You can use monitoring traps to help you decide if and when additional sprays might be needed. Be sure to wait the interval specified on the pesticide label before harvesting fruit. Thus far an economic threshold for SWD has not been developed. MSU recommends a conservative approach in which fly capture on your farm triggers protection of fields if berries are at a susceptible stage.

**For commercial raspberry and blackberry farmers - conventional.** A number of registered insecticides have been very effective against SWD in laboratory trials, including some recent trials done at MSU. The most effective chemicals are organophosphate, pyrethroid, and spinosyn classes of insecticides. Under field conditions, insecticides with fast knockdown activity have performed well at protecting fruit. Insecticides with fast knockdown activity have performed well at protecting berries from SWD. These include Malathion which is an organophosphate insecticide; the pyrethroids Danitol, Mustang Max, and Brigade; and the spinosyns Delegate (spinetoram) and Entrust (organic). Delegate 25WG has been labeled for control of SWD in various crops in all States. Neonicotinoids such as Provado and Actara are considered weakly active on SWD flies and are not recommended for control (MSU info).

**For commercial raspberry and blackberry farmers - organic.** In bioassays conducted by MSU with Azera and Pyganic these options performed less effectively than Entrust. However, pyrethrum class insecticides can still be a valuable tool for organic growers because the Entrust label requires rotation to another product for resistance management. Pyganic or Azera can very well fit that need. Entrust is the only organic product with residual activity (5-7 days control). While it doesn't appear to provide residual control, Pyganic® applied at 5 day intervals at the high labeled rate has shown to reduce SWD populations in California. Organic growers in the Pacific Northwest have used 2-3 applications of

Entrust (spinosad) effectively to protect fruit in the pre-harvest period alternated with Pyganic (pyrethrum) to extend the period of control and also to reduce the chance of resistance development.

**For home-owners.** The insecticide Spinosad (e.g., Monterey Garden Insect Spray) is effective and has the least negative environmental effects of currently available products. Some spinosad products are sold to be applied with a hose-end sprayer, but a compressed-air sprayer will give more reliable coverage. Fertilome® Borer, Bagworm, Tent caterpillar and Leafminer spray (spinosad 0.5%) and Green Light® (spinosad 0.5%) are also labeled for use in bushberries and caneberries against fruit flies. The organophosphate insecticide malathion is widely available and will also control SWD, but malathion is very toxic to bees and natural enemies of other pests in the garden so care must be taken to keep the application on the target plant and avoid drift and runoff. Improper application also can result in injury to cherry trees. Because of the potential negative impact of malathion in the garden, use it only where you are certain you will have a SWD infestation, either because you had a problem last year or from trapping and positively identifying insects this season as SWD.

**Table 1.** Insecticides for SWD control. Products are not complete listings of all available options. (H) signifies that the product is registered for homeowner use, (O) signifies an organically compatible insecticide. Not all products are labeled on all fruits; read label to ensure that your product matches the site. Alternate the MoA (mode of action) of the product you choose on a yearly basis to minimize resistance build-up.

Product name	Active Ingredient	Class	Mode of Action (MoA)	Pre-Harvest Interval
Azera (O)	Pyrethrins + Azadirachtin		3A (pyrethrins) and unknown (Azadirachtin)	0 days
Danitol 2.4 EC	Fenpropathrin	Pyrethroid	3A	3 days
Delegate <sup>1</sup>	Spinetoram	Spinosyn	5	1 day
Entrust <sup>1</sup> (O); Ferti-Lome <sup>2</sup> Borer, Bagworm, Tent caterpillar and Leafminer spray(H); Green Light <sup>2</sup> (H)	Spinosad	Spinosyn	5	It varies depending on the crop
Malathion 8F (H)	Malathion	Organophosphate	1B	1 day
Mustang MAX <sup>3</sup>	Zeta - Cypermethrin	Pyrethroid	3A	1 day
Pyganic (H), (O)	pyrethrins		3A	0 days
Radiant SC <sup>4</sup>	spinetoram	spinosyn	5	1 day
Sevin (H)	carbaryl	carbamate	1A	7 days

<sup>1</sup>For use against SWD on various crops in all US states

<sup>2</sup>Labeled for use against fruit flies (SWD is a 'vinegar' fruit fly)

<sup>3</sup>For use against SWD in strawberry in 12 US states, MO is not included

<sup>4</sup>For use in all US states except NY

Registrations and recommendations change, so keep informed through SWD websites and your local Extension educator. For all pesticides, consider REIs, PHIs, surface water and buffers, and safety to pollinators and other beneficial arthropods when selecting a product. Remember to rotate classes of insecticides to delay possible development of insecticide resistance. To address pollinator safety, make early morning or late evening applications of all products.

As with all uses of insecticide to control pest insects, the label is the legal document that provides the official guidance on the appropriate use pattern. Refer to the label and any supplemental labels for the full restrictions on use in your crop. A good place to locate all the most up-to-date information is through <http://www.cdms.net/labelsmsds/LMDefault.aspx>. If new supplemental labels are developed allowing expanded uses for SWD control, those will be posted at this site.

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## ***Growing Growers Workshops (Kansas City)***

In the Kansas City area, as in many other cities across the country, there is a growing demand for locally produced farm products. Growing Growers works to help area growers meet that demand.

First, we help existing farms expand their operations to whatever degree makes sense for them. As farmers, we can expand by developing our production skills, by becoming more effective at selling our product, and by "growing" our farms. There is a challenge in this kind of expansion; it takes time, money, and the willingness to learn new skills.

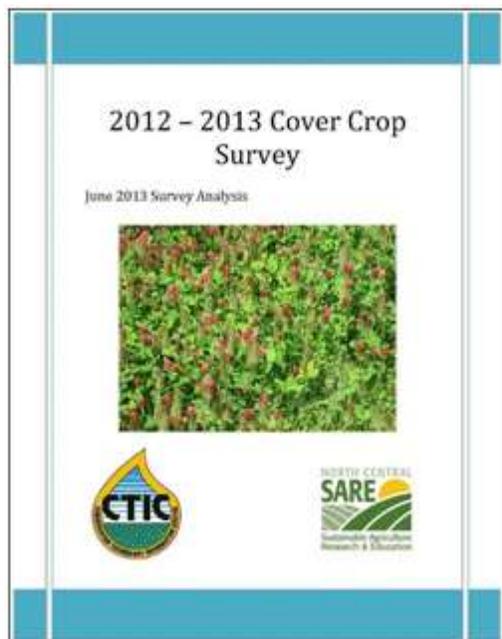
Second, we help new farms get started. As the older generation of farmers retires, we need farmers to replace them, and more. Getting into farming "from scratch" is not an easy thing. It requires a wide range of skills - agricultural, marketing, and business management. It requires land, and it requires financial investment.

Growing Growers was established to address this need for more farmers and for more effective farmers. As collaboration between K-State Research and Extension, University of Missouri Research and Extension, Lincoln University Cooperative Extension, the Kansas City Food Circle (a consumer organization), Cultivate KC and the Kansas Rural Center, we set out the goal of providing educational opportunities to help new growers get started and established ones get better at what they do.

Our workshops are open to the public and are appropriate for anyone interested in growing. We try to offer a range of workshops covering "Market Farming 101" topics, plus a few more advanced topics. We focus on practices and a scale of production suitable for a market farmer. Participants typically include apprentices, new or experienced growers and others who are interested in the particular topic or who are considering trying to farm.

- Monday, Aug. 24 - 4 pm to 7 pm  
***Introduction to Fruit Production*** (Kingsville, MO)  
For more information or to register: [batesma@missouri.edu](mailto:batesma@missouri.edu)
  - Saturday, Sept. 14 - 9 am to 2 pm  
***Farm Business Planning and Management*** (Kansas City, MO) \* *core workshop*  
For more information or to register: [alicia@cultivatekc.org](mailto:alicia@cultivatekc.org)
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## ***New Cover Crop Survey Shows Improved Corn and Soybean Yields Following Cover Crops during the 2012 Drought***



A report has just been released with detailed results from a farmer survey on cover crops. The survey was carried out by the Conservation Technology Information Center (CTIC) with funding from the USDA North Central Region Sustainable Agriculture Research and Education (SARE) program. More than 750 farmers were surveyed during the winter of 2012-13, primarily from the Upper Mississippi River watershed. Questions on cover crop adoption, benefits, challenges, and yield impacts were included in the survey. Key findings included the following:

- During the fall of 2012, corn planted after cover crops had a 9.6% increase in yield compared to side-by-side fields with no cover crops. Likewise, soybean yields were improved 11.6% following cover crops.
- In the hardest hit drought areas of the Corn Belt, yield differences were even larger, with an 11.0% yield increase for corn and a 14.3% increase for soybeans.
- Surveyed farmers are rapidly increasing acreage of cover crops used, with an average of 303 acres of cover crops per farm planted in 2012 and farmers intending to plant an average of 421 acres of cover crops in 2013. Total acreage of cover crops among farmers surveyed increased 350% from 2008 to 2012.
- Farmers identified improved soil health as a key overall benefit from cover crops. Reduction in soil compaction, improved nutrient management, and reduced soil erosion were other key benefits cited for cover crops. As one of the surveyed farmers commented, "Cover crops are just part of a systems approach that builds a healthy soil, higher yields, and cleaner water."
- Farmers are willing to pay an average (median) amount of \$25 per acre for cover crop seed and an additional \$15 per acre for establishment costs (either for their own cost of planting or to hire a contractor to do the seeding of the cover crop).

"It is especially noteworthy how significant the yield benefits for cover crops were in an extremely dry year," Dr. Rob Myers, a University of Missouri agronomist and regional director of extension programs

for North Central Region SARE, stated. "The yield improvements provided from cover crops in 2012 were likely a combination of factors, such as better rooting of the cash crop along with the residue blanket provided by the cover crop reducing soil moisture loss. Also, where cover crops have been used for several years, we know that organic matter typically increases, which improves rainfall infiltration and soil water holding capacity."

Full results of the survey are available online at: <http://www.northcentralsare.org/CoverCropsSurvey>

For additional information on cover crops go to the SARE Cover Crop Topic room at: <http://www.sare.org/covercrops>.

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## ***Rural Development Community Facilities Program***

"Know Your Farmer, Know Your Food" (KYF2) is a USDA-wide effort to create new economic opportunities by better connecting consumers with local producers. It is also the start of a national conversation about the importance of understanding where your food comes from and how it gets to your plate. The "Know Your Farmer, Know Your Food" initiative includes supporting local farmers and community food groups, strengthening rural communities, enhancing direct marketing and farmers' promotion programs, promoting healthy eating, protecting natural resources, and helping schools connect with locally grown foods.

### Consider the USDA Rural Development Community Facilities Program

- Offers direct and guaranteed loans and grants designed to finance the development of over 80 different types of essential community facilities serving rural areas.
- Facilities include, but are not limited to, hospitals, elderly care facilities, child care centers, fire and rescue stations, vocational and medical rehabilitation centers, schools, public transportation infrastructure, and projects that support local and regional food systems.
- Eligible applicants include rural communities and non-profit organizations.
- Loans are made at below-market, fixed interest rates.
- Grants are limited to projects with high financial need that serve low income communities.
- Eligible expenses include land acquisition, construction of facilities, necessary fees, and equipment.
- Community must be under 20,000 in population.
- Grants range from 15%-75% and require matching funds.

### Eligible projects that support local and regional food systems include but are not limited to:

- Food Banks/Shelves - purchase building and equipment, purchase vehicles for food delivery, renovations, and new construction
- School Cafeterias - purchase equipment, renovations, and central processing and distribution centers.
- Farmers Markets - purchase building, renovation, and new construction.
- Community Gardens - purchase real estate and infrastructure to connect to the water sources and/or provide irrigation.
- Community Kitchens - purchase equipment, renovations, or new construction.

Ineligible projects include:

- Purchase of small tools.
- Individual market stalls, tables, or signage for individual farmers.
- Flea markets.

Contact Information:

For your local USDA Rural Development contact click [here](#).

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## ***Monthly Beginning Farmer Webinars - New Topics for This Fall***

The Missouri Beginning Farmers Program's monthly webinars begin again in September with another round of informative and exciting topics for beginning (as well as experienced) farmers. To join the below webinars go to [univmissouri.adobeconnect.com/debikelly](http://univmissouri.adobeconnect.com/debikelly) and sign in under "guest" with your name. All webinars begin at 7 pm and end by 8:30 pm. Each webinar will be recorded and added to the Online Learning Community.

Sept 9 - SARE Farmer/Rancher Grant Writing with Debi Kelly, MO SARE Co-coordinator

Oct 7 - IPM Practices to Do Now for Next Season with Jacob Wilson, Lincoln University

Nov 4 - Irrigation System Planning for Horticulture Crops with Bob Schultheis, MU Extension Regional Ag and Natural Resources Engineer

Dec 2 - On-Farm Vegetable Crop Storage with Scott Sanford, Michigan State University

In the meantime, check out the archived webinars. To view archived webinars, go to the [Online Learning Community \(OLC\)](#) and listen to them:

- June 3 - Sustaining Livestock Health
- May 2013- Ten Simple Steps to Safer Produce
- April 2013 - Cut Flowers
- March 2013 - On-Farm Poultry Processing
- February 2013 - Goats and Sheep
- November 2012 - Starting a CSA
- October 2012 - Grazing Sheep with Cover Crops
- September 2012 - SARE Farmer/Rancher Grant Writing
- May 2012 - Legal Issues in Direct Marketing
- April 2012 - Grazing Goats Folder Grazing Goats
- March 2012 - Financing for Beginning Farmers Folder Finance for Beginning
- February 2012 - GAPs and Food Safety Folder Good Agricultural Practices
- January 2012 - Assessing the Economics of Crop Choices on a Start-up Market
- December 2011 - Introduction to Rotational Grazing Folder Introduction to Rotational
- November 2011 - Value Added Rules and Regulations Folder Rules and Regulations: Compliance for Direct Marketing
- October 2011 - Beginning Beekeeping

- September 2011 - Grant Writing for the SARE Farmer/Rancher
- August 2011 - Direct Marketing Meat Folder Direct Marketing of Meat
- July 2011 - Selling Successfully at Farmers' Markets
- June 2011 - Social Media Marketing (marketing on the web)
- May 2011 - Introduction to Soil Management for Sustainable
- April 2011 - Organic Farming Introduction
- March 2011 - Pastured Poultry for the Beginning Farmer
- February 2011 - Getting Started Folder 10 Things to Think About When You Start Farming

## ***Regional Grazing Schools for 2013***

The Missouri Regional Grazing Schools are educational programs taught by the Natural Resource Conservation Service (NRCS) and University of Missouri Extension (MU). The schools serve three purposes: 1) educate producers and agency personnel in the art and science of grazing management; 2) transfer new technology in grassland management to producers and agency personnel; 3) qualify producers for the state DSP3 cost-share program.

The schools are taught in nine "grazing school regions." These regions do not conform to institutional boundaries of either NRCS or MU. Rather, they define regions according to similar soil, topography, and land use.

All schools must address the following core subject matter in some form or another:

- Introduction to Management-intensive grazing
- Resource evaluation
- Plant growth
- Forage quality
- Livestock nutrition on pasture
- Soil fertility and landscape ecology
- Layout and design
- Fence and water technology
- Economics
- Tying it all together

<b>Town</b>	<b>Date</b>	<b>Contact</b>
<b>Northwest Region</b>		
Chillicothe	September 14-15	Curt Walker (816) 232-6555 Ext. 139 <a href="mailto:curt.walker@mo.usda.gov">curt.walker@mo.usda.gov</a> or Jim Humphrey (816) 324-3147 <a href="mailto:humphreyjr@missouri.edu">humphreyjr@missouri.edu</a>
Weston	September 25-26	Curt Walker (816) 232-6555 Ext. 139 <a href="mailto:curt.walker@mo.usda.gov">curt.walker@mo.usda.gov</a> or Jim Humphrey (816) 324-3147 <a href="mailto:humphreyjr@missouri.edu">humphreyjr@missouri.edu</a>

Northwest Central Region		
Sedalia	September 12-13	Beverly Dillon (660) 826-3339 Ext. 3 <a href="mailto:Beverly.dillon@swcd.mo.gov">Beverly.dillon@swcd.mo.gov</a> or Zach Harding <a href="mailto:zach.harding@swcd.mo.gov">zach.harding@swcd.mo.gov</a> or Adam Gumbel <a href="mailto:adam.gumbel@swcd.mo.gov">adam.gumbel@swcd.mo.gov</a>
Linneus Schools		
Linneus(beginning grazing school)	October 1-3	Joetta Roberts (573) 499-0886 <a href="mailto:mfgc@mchsi.com">mfgc@mchsi.com</a>

## *Grants and Assistance*

### **\$1000 Grant Available Monthly: The Awesome Foundation, Food Chapter**

The Food Chapter of the Awesome Foundation is now accepting applications to further food awesomeness in the universe. They give out \$1,000 micro-grants once a month. Anyone can apply and any project topic - research, technology, and marketing - may be funded. The Awesome Foundation pools money from micro-trustees and provides upfront grants with no strings attached. Autonomous chapters offer funding in specific geographic areas or for specific issue areas. Online [applications](#) are accepted on an ongoing basis. Learn more at [awesomefoundation.org/](http://awesomefoundation.org/).

### **Small Business Innovation Research Program - Due September 26**

If your farm business employs fewer than 500 people, you could be funded up to \$100,000 for research and development projects that address innovative agricultural technology, particularly renewable energy technologies. Learn more about eligible research topics and application information [here](#), applications due by September 26. Contact Charles Cleland at [ccleland@nifa.usda.gov](mailto:ccleland@nifa.usda.gov) with questions about the program.

### **Good Husbandry Grants**

Animal Welfare Approved is pleased to announce the 2013-2014 Good Husbandry Grants cycle. The program is in its sixth year and has funded over one hundred projects across the country to improve farm animal welfare. Certified farmers and those who have submitted an application for AWA certification may apply for up to \$5,000 towards projects such as mobile housing, breeding stock, and on-farm processing equipment. Slaughter plants working with or seeking to work with AWA farmers are also eligible for funding. More information and profiles of previous Good Husbandry Grants awarded are available at <http://www.animalwelfareapproved.org/farmers/grants-for-farmers/>.

### **Initiatives to Enhance Rural America Funded - CHS Foundation**

The CHS Foundation is committed to investing in the future of rural America, agriculture, and cooperative business through education and leadership development. The Foundation supports national efforts related to its mission as well as programs within the [CHS trade territory](#) for regional, multi-state, or statewide projects. The Foundation's funding focuses on the following program areas: Cooperative Education, Rural Youth Leadership Development, Farm and Agricultural Safety, Returning Value to Rural Communities, and University Partnerships. All applications are accepted on an ongoing basis,

with the exception of Cooperative Education applications, which are due in the fall of each year. Visit the Foundation's website for a description of each grant category and online application instructions. The CHS Trade Territory includes the Midwest. <http://www.chsfoundation.org/programs.html>

**Farm Aid** (Rolling deadlines) provides grants to IRS 501(c)(3) tax-exempt nonprofit (family farm and rural service) organizations that fulfill the goals of three different programs:

- *Helping Farmers Thrive*  
Grants in this category fund organizations that provide farmers with the tools and resources they need to get started on the land, access new markets, transition to more sustainable farming practices, produce renewable fuels and stay on the land in the face of financial crisis and natural disasters.
- *Taking Action to Change the System*  
Grants in this category fund organizations that promote fair farm policies and grassroots organizing campaigns to defend and bolster family farm agriculture, lifting the voices of family farmers and promoting their interests on a local, regional or national level.
- *Growing the Good Food Movement*  
Grants in this category fund organizations that are creating innovative programs that build local and regional food systems, connecting farmers directly to consumers and creating new value-added markets for family farmers.

## **Whole Foods Local Producer Loan Program**

### THE PROGRAM

- Strengthens the partnerships between Whole Foods Market and local producers
- Works with producers to expand the availability of high-quality local products for our customers
- Supports the communities where Whole Foods Market does business
- Reinforces Whole Foods Market's commitment to environmental stewardship

### THE PRODUCERS

- Must meet Whole Foods Market's Quality Standards and standards for animal welfare
- Use funds for expansion and capital expenditures (e.g., buy more animals, invest in new equipment and infrastructure, or expand crops), not operating expenses
- Have a viable business plan and adequate cash flow to service debt

### THE PROCESS

- Streamlined process with fees, interest rates, and paperwork minimized
- Targeted loan amounts between \$1,000 and \$100,000 (maximum \$25,000 for start-ups)
- Loan amount not to exceed 80% of total project cost
- Low, fixed interest rates (currently between 5% and 9%)
- No penalty for early repayment
- Collateral required
- One-time minimal processing fee covers administrative expenses, including credit report
- Approval and terms dependent on product characteristics, risk assessments and use of proceeds
- Opportunity to apply for additional financing after one year if initial loan is in good standing
- Existing vendor relationship with Whole Foods Market preferred

- Applications accepted on a rolling basis

## GET STARTED

- For an application, talk to your local Whole Foods Market contact or visit us online at [wholefoodsmarket.com/loans](http://wholefoodsmarket.com/loans). For general information, email us at [LPLP@wholefoods.com](mailto:LPLP@wholefoods.com) or call 512-542-0895.

## Bridge Loan Program

The Bridge Loan Program builds on 2012's High Tunnel Loan Program, which allowed producers to combine the loan with their participation in the USDA-NRCS program, reducing producers' out of pocket costs. Reimbursement funds issued after producers completed their projects were used to fulfill the short-term loan notes. Approximately one-third of Missouri producers approved for USDA high tunnel reimbursements in 2012 also participated in the loan program.

To be eligible for assistance through the Bridge Loan Program, producers must be approved for cost-share reimbursements through USDA-NRCS, EQIP and/or SWCP and show proof of financial ability to cover any gaps between reimbursement amounts and project costs, should a gap arise. Applicants must be materially participating in the farming operation and at risk for price or production costs and must commit reimbursement payments from NRCS or SWCP to fulfill the loan note.

Loans offered through the Bridge Loan Program will include monthly interest payments of 5.9 percent interest rate and a \$25 closing costs. Funds may be withdrawn only when practices are being implemented, and loan terms may be up to the duration of USDA-NRCS, EQIP and SWCP programs.

Loan applications are available online, or by contacting the Missouri Agricultural and Small Business Development Authority at [masbda@mda.mo.gov](mailto:masbda@mda.mo.gov). For cost-share assistance, producers may also contact their local USDA-NRCS or Soil and Water Conservation District office for application information and forms. For more information on the Missouri Department of Agriculture and its programs, visit the Department online at [mda.mo.gov](http://mda.mo.gov).

## Sheep Producers: Flock Expansion Funds Available

The National Livestock Producers Association's (NLPA) Sheep and Goat Fund Committee has identified up to \$2 million available for the purchase of breeding animals (ewes and rams). New and current sheep producers seeking to expand their flocks are encouraged to apply. Applications accepted on a rolling basis. Learn more about the Sheep and Goat Fund and apply [here](#).

## Rural Development Grants

### *Value-Added Producer Grants (VAPG)*

Grants are made to help producers increase revenues through value-added activities that expand the customer base for their products or commodities.

### *Business and Industry Guaranteed Loans (B&I)*

Loans made by conventional lenders and guaranteed by USDA Rural Development to help maintain or

establish private business and industry enterprises that creates employment opportunities. Eligible projects must be located in communities with populations of 50,000 or less. (Farms should fit these criteria as well if you employ individuals from your rural area.)

#### *Rural Business Enterprise Grants (RBEG)*

Grants made by USDA Rural Development to public bodies, not-for-profit entities or Indian tribes to support the development of private business enterprises. Eligible projects must be located in communities with populations of 50,000 or less. (Farms should fit these criteria as well if you employ individuals from your rural area.)

#### *Rural Business Opportunity Grants (RBOG)*

Grants made by USDA Rural Development to public bodies, nonprofit corporations, Indian tribes, institutions of higher education, and rural cooperatives. The primary objective of the RBOG program is to promote sustainable economic development in rural communities with exceptional needs. Eligible projects must be located in communities with populations of 50,000 or less.

#### *Intermediary Relending Program (IRP)*

Loans made by USDA Rural Development to intermediaries (public bodies, not-for-profit entities or Indian tribes) at 1% interest for 30 years. The maximum loan to ultimate recipients is \$250,000 or 75% of the project cost, whichever is less. Intermediaries establish revolving loan fund accounts and then relend to individuals or public or private organizations to finance business enterprises or community development. Eligible projects must be located in communities with a population of 25,000 or less.

#### *Rural Economic Development Loans & Grants (REDLG)*

The REDLG program provides funding for job creation or community development projects through rural electric or telephone cooperatives. Under the RED Loan program, USDA provides zero interest loans to the electric or telephone cooperative which in turn re-lends the funds to local businesses (ultimate recipients) for projects that will create and retain employment in rural areas. Under the RED Grant program, USDA provides grant funds to rural electric or telephone cooperatives which use the funding to establish revolving loan funds. Loans are made from the revolving loan fund to projects that will create or retain rural jobs.

#### *Rural Energy for America Program (REAP)*

Grants and guaranteed loans are made to farmers, ranchers, and rural small businesses for eligible renewable energy and energy efficiency projects.

#### *Community Facility Direct and Guarantee Loans*

Loans made or guaranteed by USDA Rural Development to public bodies, not-for-profit entities or Indian tribes, to finance essential public use facilities and equipment (health, fire, nutrition, libraries, etc.) Projects limited to location in communities with a population of 20,000 or less. (Idea could be a community licensed kitchen.)

### *Community Facility Grants*

Grants made by USDA Rural Development to public bodies, not-for-profit entities or Indian tribes, to finance essential public use facilities and equipment (health, fire, nutrition, libraries, etc.) Projects limited to location in communities with a population of 20,000 or less. (Idea could be a farmers' market facility, food hub, farm product aggregation center or community licensed kitchen.)

### *Solid Waste Management Grants*

Grants made by USDA Rural Development to public bodies, not-for-profit entities or Indian tribes to reduce/eliminate pollution of water resources or improve planning and management of solid waste sites. Projects limited to location in communities with a population of 10,000 or less. (Idea could be a composting facility for food waste in your town.)

There are also housing programs as well.

### **New Microloan Program**

The Farm Service Agency (FSA) developed the Microloan (ML) program to better serve the unique financial operating needs of beginning, niche and the smallest of family farm operations by modifying its Operating Loan (OL) application, eligibility and security requirements. The program will offer more flexible access to credit and will serve as an attractive loan alternative for smaller farming operations like specialty crop producers and operators of community supported agriculture (CSA). These smaller farms, including non-traditional farm operations, often face limited financing options.

### *Use of Microloans*

Microloans can be used for all approved operating expenses as authorized by the FSA Operating Loan Program, including but not limited to:

- Initial start-up expenses;
- Annual expenses such as seed, fertilizer, utilities, land rents;
- Marketing and distribution expenses;
- Family living expenses;
- Purchase of livestock, equipment, and other materials essential to farm operations;
- Minor farm improvements such as wells and coolers;
- Hoop houses to extend the growing season;
- Essential tools;
- Irrigation;
- Delivery vehicles.

### *Simplified Application Process*

The application process for microloans will be simpler, requiring less paperwork to fill out, to coincide with the smaller loan amount that will be associated with microloans. Requirements for managerial experience and loan security have been modified to accommodate smaller farm operations, beginning farmers and those with no farm management experience. FSA understands that there will be applicants for the ML program who want to farm but do not have traditional farm experience or have not been raised on a farm or within a rural community with agriculture-affiliated organizations. ML program

applicants will need to have some farm experience; however, FSA will consider an applicant's small business experience as well as any experience with a self-guided apprenticeship as a means to meet the farm management requirement. This will assist applicants who have limited farm skills by providing them with an opportunity to gain farm management experience while working with a mentor during the first production and marketing cycle.

### *Security Requirements*

For annual operating purposes, microloans must be secured by a first lien on a farm property or agricultural products having a security value of at least 100 percent of the microloan amount, and up to 150 percent, when available. Microloans made for purposes other than annual operating expenses must be secured by a first lien on a farm property or agricultural products purchased with loan funds and having a security value of at least 100 percent of the microloan amount.

### *Rates and Terms*

Eligible applicants may obtain a microloan for up to \$35,000. The repayment term may vary and will not exceed seven years. Annual operating loans are repaid within 12 months or when the agricultural commodities produced are sold. Interest rates are based on the regular OL rates that are in effect at the time of the microloan approval or microloan closing, whichever is less.

### *More Information and Eligibility Criteria*

Additional information on the FSA microloan program may be obtained at local [FSA offices](#).

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## ***IN PRINT/ON-LINE/IN THE NEWS***

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

Plant growth is affected by numerous factors, including climate, pest pressure, and nutrient availability. As plants grow, they rely on their roots to provide structural support, water, and nutrients. The right nutrients are essential for growing healthy, productive plants. Well-managed, fertile soils can supply plants with all the nutrients they need. Managing soil fertility requires attention to the source, timing, rate, and placement of nutrient applications. Certified organic growers use only nutrients that are derived naturally because the use of most synthetic fertilizers is not allowed. Many types of fertilizers and soil amendments are available for organic plant production. This publication discusses fertilizer formulations, nutrients and nutrient availability, and application practices for common organic products. While the primary focus of this publication is on building and maintaining fertile soil, protecting soil and water resources will also be discussed. Online at:

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

### **Farming for a Sustainable Community: A Training Manual**

This free publication by the American Friends Service Committee documents the knowledge of lifelong New Mexican farmer and the sustainability lessons he has learned from fellow farmers throughout his life. The guide includes models for land selection, soil preparation, crop planning, cultivation, handling, marketing and season extension with point-by-point instruction, case studies, and illustrations.

Download a free copy [here](#).

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

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

### **NRCS Develops Soil Carbon Dataset**

USDA's Natural Resources Conservation Service (NRCS) has developed the world's largest soil carbon dataset to help producers and planners estimate the impacts of conservation practices on soil carbon levels. This Rapid Carbon Assessment, or RaCA, dataset serves as a baseline for the amount of carbon each soil type is holding. Landowners can calculate how much carbon their conservation practices can remove from the atmosphere with other new tools from NRCS, COMET- FarmT and the Agricultural Policy Environmental Extender, or APEX, model.

### **New NOP Fact Sheet Summarizes Allowed and Prohibited Substances**

The USDA National Organic Program (NOP) has released a new fact sheet summarizing allowed and prohibited substances in organic crop and livestock production and processing. The two-page fact sheet is available online.

### **Easily Find Farms and Farmland for Sale**

The website [farmflip.com](http://farmflip.com) connects viewers to farmland for sale across the United States and provides details about previous land usage. It also contains information about farm auctions, farms for lease, farm foreclosures, and how to advertise your own land. Search the database by location, farm type, or price. Start your search [here](#).

### **Bringing Local Food to Local Institutions**

National Sustainable Agriculture Information Service has updated this publication that offers example and insight into the farm to institution local movement. This resource explores models of farm to institution programs, implementation considerations, policy information, case studies, and further resources for tapping into the full potential of the local food movement. Download the PDF free or order copies [here](#).

### **Iowa State study shows soil-building benefits of organic practices**

Producers making the switch to organic crops to meet growing market demand not only fetch premium prices, according to a recent study; they also build healthy soil and sequester carbon, making organic agriculture a useful strategy for dealing with climate change.

### **Updated Crop Budgets Offered**

University of Wisconsin Extension offers field crop, vegetable, and pasture budgets online to help producers in making cropping decisions.

### **A Community and Local Government Guide to Developing Local Food Systems in North Carolina**

This guide published by the Center for Environmental Farming Systems - a partnership between NC State, NC A&T, and the NC Department of Agriculture and Consumer Services - offers practical advice,

tools, and resources on topics related to developing and supporting local food systems in North Carolina.

### **USDA Approves Voluntary GMO-Free Label**

USDA Food Safety and Inspection Service (FSIS) approved the [labeling of meat and liquid egg products that tell the consumer whether the product has genetically modified ingredients](#). The verification will come through the [Non-GMO Project](#), a nonprofit dedicated to educating consumers about non-GMO choices. This seal will let consumers know whether their animal was fed GMO crops. The USDA has adopted Non-GMO Project's requirements and standards, and will approve all labels before the product is delivered. Non-GMO Project also offers label verification for restaurants and delis. Chipotle Mexican Grill became the first fast food chain to voluntarily label menu items. Whole Foods and Ben & Jerry's have done the same.

### **TOOL: 4 Ways to Find Out if Your Social Marketing is Working**

This month, Thinking Forward published a tumblr post with [4 tips for evaluating whether your social media efforts are successful or not](#). Tips include monitoring actions from your audience and evaluating traffic. Tools like [Facebook Insights](#) allows you to monitor your page and see what posts or actions get the most attention. Another tool, [Google Analytics](#) can also assist with monitoring and evaluation to see who visits a site, the times of day a site receives the most traffic, and if some promotions are more engaging than others. These tips and tools can help you evaluate your current social marketing use and create new ways of engaging consumers.

**Transplant Production Decision Tool.** The tool provides information about transplant production, maintenance and equipment based on case studies of nine large-scale produce operations in Iowa, Minnesota and Wisconsin. The Iowa Organic Association received a Leopold Center grant to develop the online resource. - See more at: <http://www.leopold.iastate.edu/news/leopold-letter/2013/summer/news#sthash.SDZqwSbi.dpuf>

### **Farmers Market Mangers Training Manual**

<http://www.nesare.org/Dig-Deeper/Resources-Nationwide/Northeast-guides-and-books/Farmers-Market-Managers-Training-Manual>

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## ***ON THE CALENDAR***

Aug 9-10 - Soil Health Exp, Columbia MO. Preregister by calling (573) 884-7945, sending a text message to (660) 351-4696 or [email](#).

Aug 16 - From Recipe to Reality, Lincoln, NE. Contact [Jill Gifford](#) at (402) 472-2819.

Sept 9 - Beginning Farmer Webinar - SARE Farmer/Rancher Grant Writing - 7-8:30 pm. Log in under guest with your own name at [univmissouri.adobeconnect.com/debikelly](http://univmissouri.adobeconnect.com/debikelly)

Sept 17 - SARE Farmer/Rancher Grant Writing Workshop, Warrenton, MO. Contact [Janet Hurst](#) at 660-216-1749.

Oct 7 - IPM Practices to Do Now for Next Season with Jacob Wilson, Lincoln University - 7-8:30 pm. Log in under guest with your own name at [univmissouri.adobeconnect.com/debikelly](http://univmissouri.adobeconnect.com/debikelly)

Oct 26 - From Recipe to Reality, Lincoln, NE. Contact [Jill Gifford](#) at (402) 472-2819.

Nov 1-2 - National Small Farm Today Trade Show and Conference, Columbia, MO. Contact 800-633-2535.

Nov 4 - Irrigation System Planning for Horticulture Crops with Bob Schultheis, MU Extension Regional Ag and Natural Resources Engineer - 7-8:30 pm. Log in under guest with your own name at [univmissouri.adobeconnect.com/debikelly](http://univmissouri.adobeconnect.com/debikelly)

Nov 6-8 - National Conference for Women in Sustainable Agriculture, Des Moines, IA. [Click here for more information!](#)

Dec 2 - On-Farm Vegetable Crop Storage with Scott Sanford, Michigan State University - 7-8:30 pm. Log in under guest with your own name at [univmissouri.adobeconnect.com/debikelly](http://univmissouri.adobeconnect.com/debikelly)

Jan 9-11 - Great Plains Growers Conference, St. Joseph, MO.

Feb 6-8 - Missouri Organic Association's Annual Conference, Springfield, MO.