

Researchers and Educators Collaborate to Teach Youth about Cover Crops

The Newsletter
of the NCR-SARE
Program

Summer/Fall 2012
Issue 27

Across the region, farmers are planting cover crops, a method of revitalizing soil, curbing erosion, and managing pests. Steve Sutera, an Extension educator at South Dakota State University (SDSU), saw an opportunity to bring together Bon Homme County's Extension service, FFA Chapter, 4-H Club, and ongoing research at SDSU.

In 2008, Sutera submitted a proposal and was awarded a \$2,000 grant from the **NCR-SARE Youth Educator Grant Program** to educate students about cover crops, both in the field and in the classroom.

"The Dean of Agriculture and Biological Sciences at SDSU encourages Extension Educators to get youth involved in our research projects," explained Sutera. "I felt this was an excellent opportunity to involve, educate, and empower local youth to assist with this sustainable agriculture project. It provided an opportunity for youth to take on leadership and responsibility roles. Also, the work they accomplished could be reported in their FFA or 4-H project work."

Gary Kriz, a local farmer who was producing winter wheat, helped Sutera and area youth prepare 1½ acres for their test plots. Starting in July, with assistance from a technician from the SDSU Plant Science Department, Sutera and a dozen students staked out the plots, planted 10 different crops with 12 repetitions throughout, and put up signs and markers. Crops included oats, barley, triticale, cowpeas, soybeans, turnips, radishes, and millets. The students labeled the harvest bags and did all the harvesting. Over the course of three fall harvests, they submitted close to 40 samples to SDSU to be weighed,

dried, and analyzed for feed quality. In addition to the hands-on field work, Sutera provided 2½ hours of classroom instruction for 24 Bon Homme High School students. Several of the students who had assisted with the plot shared information and observations.

"The teamwork and cooperation from the FFA students and 4-H members was outstanding," said Sutera. "Doing a hands-on project such as the research plot was really a great way for them to connect and understand the whole concept of how cover crops can help us sustain and improve our environment and our land as a resource."

Sutera sent the samples to SDSU to be evaluated for feed quality based on total dry matter production, crude protein content, acid detergent fiber content, and neutral detergent fiber content. The data from the samples gathered by these students will contribute to an ongoing, multi-state, USDA Special Grant project called "Five States Ruminant Consortium." This ongoing \$563,000 special grant is supporting research and Extension faculty and stakeholder cooperators who are examining opportunities within the ruminant livestock industry for economic development in western South Dakota, southwestern North Dakota, southeastern Montana, eastern Wyoming, and northwestern Nebraska.

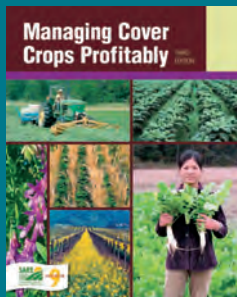
"The incorporation of cover crops into our farming practices is a concept that will take time to implement," said Sutera. "The information and data from this research



Through a SARE-supported project, youth learned about planting and harvesting cover crops. Photo by Steve Sutera.

project will be used to help producers make good decisions when they select the cover crops and mixes that will benefit them, primarily for grazing alternatives. By providing our youth with a positive educational hands-on experience, they can now assist us in promoting cover crops as a part of the sustainable agriculture efforts in our area."

Read more about this NCR-SARE Youth Educator Grant project online on the SARE project reporting website. Simply search by the project number, YENC08-003, at <http://mysare.sare.org/> or contact the NCR-SARE office for more information at ncrsare@umn.edu.



Ready to learn more about Cover Crops? *Managing Cover Crops Profitably* explores how and why cover crops work and provides all the information needed to build cover crops into any farming operation.



NCR-SARE Recognizes Bill Wilcke, NCR-SARE Hero

Photo courtesy of the University of Minnesota.

NCR-SARE is pleased to announce that William F. Wilcke is the first person to receive the "NCR-SARE Hero Recognition."

Coordinated by the NCR-SARE Alumni Organization, the term "NCR-SARE Hero" recognizes the leadership, vision, contributions, and impact that certain people have made in the field of sustainable agriculture in the region. William (Bill) Wilcke brought great credit, visibility, and leadership to the NCR-SARE program in his long career of service to sustainable agriculture and its people and communities. He has been selected as the first-ever recipient of this recognition.

Among a wide variety of activities to advance sustainable agriculture, Wilcke served as the Minnesota State SARE Coordinator from 1996-2004, and was also elected to the NCR-SARE Administrative Council. He co-chaired the University of Minnesota's Small Farm Task Force from 1997-1998, was a founding member of the Northwest Regional

Development Partnerships Board, served on the Minnesota Organic Advisory Task Force, was a member of the Sustainable Agriculture Network Steering Committee, and was a board member of Compatible Technology International. He served on the Board of Directors of the Minnesota Institute for Sustainable Agriculture from 1994-1999, and provided interim leadership as Acting Administrator from 2000-2002. In 2002, he became the NCR-SARE Regional Coordinator and remained in that position until disability forced him to give up the position in 2010. He retired in fall 2011 and established a graduate fellowship to perpetuate his interest in sustainability and to guarantee the future professional work of the Bioproducts and Biosystems Engineering Department at the University of Minnesota.

Read more about Bill Wilcke and the NCR-SARE Hero recognition at www.northcentralsare.org/About-Us/Regional-Initiatives/NCR-SARE-Hero-Recognition.

A Note from Beth Nelson

It's been a busy fall in my hometown of St. Paul. Here in Minnesota, like in most areas in our North Central region, harvest—if there is a crop to harvest—is ahead of schedule, and we are all hoping for rain.

Fall is a time of transition and that is especially true for us here in the St. Paul office, as I begin my position as the Regional Coordinator directing research and education programs, and we implement new timelines for several grant programs and our Administrative Council meetings. We thank our Interim Director, Vance Morey, for not just maintaining our programs, but moving us forward in several key areas during the past two years. We are also pleased to have the NCR-SARE Alumni Organization honor our former Coordinator, Bill Wilcke, with the inaugural presentation of an NCR-SARE Hero recognition, which you can read about on this page of *Field Notes*.

Resilience is the key word in sustainable agriculture these days and a concept that gets a lot of traction with a broad audience, given the weather extremes we've been experiencing. There is an increased appreciation for the resilience that diversity within a cropping system or diversity of enterprises brings to a farm or ranch operation. At a region-wide "Carbon, Climate and Energy" training in Michigan this fall, we heard that soil building practices, like cover crops and reduced tillage, mitigated some of the drought effects this past season. Read more about the training on page 7.

But it was the resilience of the farmers and ranchers themselves that struck me this summer, as NCR-SARE grant coordinators traveled throughout Nebraska visiting grant projects. The Switzer ranch lost fertile crop land to a development project, and responded by developing an agritourism business that attracts birders to this unique place in the Sandhills where ruffed grouse and prairie chickens breed and nest. The Berns families looked at high land prices and decided to diversify and build a cover crop business rather than expand acreage. Both used NCR-SARE Farmer Rancher grants to test innovative ideas.

We began a new grant season in November, with preproposals and proposals due for our Research & Education, Farmer Rancher, and Youth Educator programs. We can't wait to see what's coming next!

Beth Nelson was named the Regional Coordinator and Director of Research and Education for NCR-SARE in July, 2012.



Photo by Jean Andreasen.

Welcome to the Know Your Farmer, Know Your Food Compass

Did you know that the Department of Housing and Urban Development, the Department of Labor, EPA and many other federal agencies have resources to support local food systems? That's why USDA has just expanded their Know Your Farmer, Know Your Food Compass. The Know Your Farmer, Know Your Food (KYF) Compass is a new online resource about USDA's support of local and regional food at www.usda.gov/KYFCompass. The Compass is an online, multi-media narrative with stories, pictures, and video about local and regional food systems and



an interactive map of local and regional food activities in all 50 states, including stories about SARE grantees. The KYF Compass is a result of the USDA's Know Your Farmer, Know Your Food Initiative. Launched in 2009, the Know Your Farmer, Know Your Food Initiative has been working with the USDA's 17 agencies to coordinate USDA's work and investments in local and regional food system. The Know Your Farmer, Know Your Food Compass allows you to easily navigate the stories of USDA and other federal agencies' work in local and regional food systems, and will spur ideas for how to build stronger local and regional food opportunities in your community.

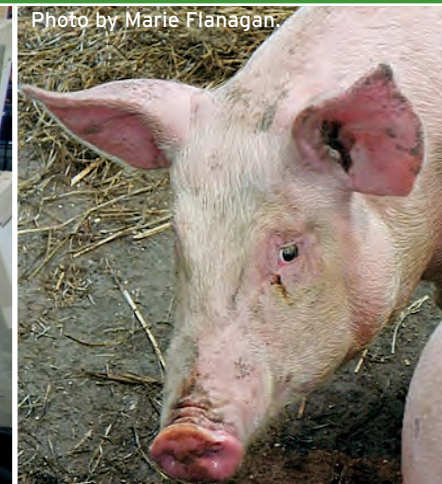
Ohio Farmer Explores Hydroponic Forage to Increase Bottom Line

Photo by Jack Donnelly.



Photo by Jack Donnelly.

Photo by Marie Flanagan.



Implementing a hydroponic forage production system with SARE support has allowed Jack Donnelly to reduce his feed outlay on his Ohio farm.

Due to the rising cost of feed, many small scale pork producers are exploring alternatives in order to increase their profit margins. At Donnelly Farms, Jack Donnelly is producing hydroponically-grown green forage for his hogs, and has been able to reduce feed outlay and increase their bottom line.

Donnelly Farms is a small, family-owned farm located in McClure, Ohio. The Donnelly family has been raising pork and goat meat for private buyers since 1981. They raise 25-45 hogs per month. The majority of their hogs are sold to private individuals, and a small batch is sold to Tyson Meats. Donnelly reviewed existing research on hydroponic forage, and learned that the protein content could be comparable to that of commercially available feed mixes. In 2009, he submitted a proposal to the [NCR-SARE Farmer Rancher Grant Program](#) and was awarded \$6,000 to develop a hydroponic green forage production system.

"The process could allow us to produce 5-10 times bigger feed volume for a comparable price," said Donnelly in his 2009 proposal.

Donnelly says they were able to produce 200-256 pounds of hydroponically-grown wheat per day at a cost of \$101-\$120.75 per ton for seed. Their hydroponic forage production system for the project was based on a Héctor M. León Gallegos design. It consisted of ten-foot racks with three shelves on each side that held sprouting/growing trays (pictured

above, center), which they set up in a garage without supplemental lighting. With assistance from Chad Beman at the Gerald Grain Center, they selected their wheat seed. They seeded each tray with 10 pounds of soaked wheat kernels, and they watered it once every 24 hours. After 5-10-day growth periods, each shelf held approximately 50-60 pounds of hydroponic green forage (pictured above, left).

For the project, the Donnellys raised three batches of 15 feeder hogs each. Each batch was separated into a control group (seven hogs) and a test group (eight hogs). The control groups were fed traditional pork rations (18% protein finisher shelf diets or 16% ground meal diets) and the test groups were fed the hydroponic forage. They took monthly weight measurements of the control and the test batches, compared the grades and weights that the batches received at the processor, and conducted blind taste tests.

According to Donnelly, both the control and the test batches recorded similar weight gains, and averaged 6-8 months to market (with the 8-month timeframe occurring in colder months). Donnelly says the test batch resulted in more uniform weight gain (all of the hogs were within 5-10 pounds of one another) while the control group had obvious winners and runts.

The Donnellys conducted several blind taste tests, offering meat samples of hydroponic forage fed pork to existing customers. Donnelly says their customers were able to tell the difference between the hydroponic forage fed pork and the traditionally

fed pork, and all of their customers specifically requested pork raised on hydroponic forage after the taste test.

Donnelly said he would recommend the system to a small farmer. He was able to substantially reduce feed his outlay implementing this hydroponic forage production, which has allowed them to remain competitive in the market. However, he warns that it comes with distinct trade-offs.

"The obvious advantages are the reduced production cost, reduced finishing time, more uniform product, and, of course, improved taste. The trade-off is increased labor," explained Donnelly. "Keep in mind hydroponic feed might not integrate well with existing automatic hog feeding systems...it has a quite higher water content which makes it more palatable to the hogs (but it also makes it more difficult to handle and dispense)...and it requires you to produce a fresh batch daily."

[Read more about this NCR-SARE Farmer Rancher Grant project online on the SARE project reporting website. Simply search by the project number, FNC09-786, at <http://mysare.sare.org/> or contact the NCR-SARE office for more information at \[ncrsare@umn.edu\]\(mailto:ncrsare@umn.edu\).](#)

Michigan Researchers Use Flowering Plant Strips to Support Beneficial Insects and Increase Crop Productivity



With support from a SARE grant, Michigan State University Researchers found that wildflower plantings adjacent to blueberry fields can increase pollination within the adjacent crop, resulting in a higher crop yield. Photo by Brett Blaauw.

Beneficial insects are valued on farms for their abilities to perform services like pollination and pest control. Researchers at Michigan State University are exploring whether plantings of native Midwest flowers can support beneficial insects and lead to improved crop productivity and quality.

"There has been a growing interest in recent years about the economic and ecological benefits of re-incorporating natural resources into agricultural systems, in part because of the documented declines in populations of beneficial insects," said Rufus Isaacs, Professor of Entomology and Small Fruit Extension Specialist at Michigan State University's (MSU) Department of Entomology. "Providing a broad range of flowering plants is an essential component of rebuilding a strong beneficial insect community in farmland."

Isaacs, and Brett Blaauw, a research assistant at MSU, have been exploring ways to help conserve beneficial insects on farms while simultaneously helping to enhance pollination and pest control within crop fields. They each applied for NCR-SARE grants to support their complementary research. Blaauw was awarded \$9,910 through the [NCR-SARE Graduate Student Grant Program](#), and Isaacs was awarded \$148,837 through the [NCR-SARE Research and Education Program](#) to work with Blaauw and MSU extension educators Nikki Rothwell, Carlos Garcia, and David Epstein. As specialists

with experience in small fruit production, Blaauw, Isaacs, and the team at MSU were learning about the resources insects need to thrive on farms, and wanted to share the results of their research with growers and the public.

"In order to understand how to best conserve beneficial insects and their services, it is not only important to do scientific research, but to also inform growers and the public so that this approach can be adopted," said Blaauw. "As a funding source, SARE's mission fits perfectly with our plan to advance sustainable agriculture through research and education."

Blaauw and Isaacs conducted their research on Michigan fruit farms, working with producers of blueberries, cherries, and apples. Research at MSU had previously evaluated native Midwest flowers for their attractiveness to bees and insect natural enemies, so they selected species from that list for their research. They found that the abundance of both native bees and insect natural enemies increased while pest insects did not change in crop fields adjacent to conservation strips.

"There were significantly more of these beneficial insects in fields and orchards adjacent to the wildflower plantings compared to those adjacent to control (unenhanced) perimeters," said Isaacs.

Additionally, after two years of wildflower establishment, in the third year of

measuring the ecosystem services from the beneficial insects, they found a significant increase in percent fruit set and berry weight in blueberry fields adjacent to the conservation strips, compared with the control fields. They used these numbers to calculate a predicted fruit yield for blueberry farms, and Isaacs reported that the fruit yield was 10-20% higher in blueberry fields adjacent to the wildflower plantings.

Blaauw found that densities of both insect natural enemies and pollinators increased with wildflower plot size. He also found that

This story is continued on page 5.



Green lacewings (*Chrysoperla rufilabris*) are used as biological control agents of insect and mite pests. This lacewing rests on a beeblam flower (*Monarda*). Photo by Brett Blaauw.

for each of three wildflower species he measured (sand coreopsis, cup plant, and New England aster) there was an increase in pollination with an increase in wildflower plot size.

Isaacs points out that the establishment of native, perennial wildflowers along the borders of crops fields in the form of conservation strips can be an initially costly practice, but said that with time these conservation strips can lead to an increase in the number of native bees and natural enemies, and with the measured yield benefits they may also pay for themselves in the long run. This happens even more quickly if the planting costs are supported by one of the NRCS conservation programs to increase habitat for beneficial insects.

In order to share information with producers and the public about the use of flowering plant diversity in farms to conserve beneficial insects, Isaacs and Blaauw have presented information at numerous extension meetings and conferences. These presentations included information about using wildflower plantings to support beneficial insects and current results from this SARE funded project. They also developed many tools for public use.

They contributed to a website called "Native Plants and Ecosystem Services" that shows how Michigan growers can use native plants to produce win-win situations for agriculture, communities, and the environment at www.nativeplants.msu.edu/. Their 2-page, at-a-glance "Beneficial Insect Guide" identifies common crop pollinators and common natural enemies, and can be found online at www.northcentralsare.org/Beneficial-Insect-Guide. Along with the website and the 2-page guide, their video, "A Quick Guide to Establishing Wildflower Plantings for the Conservation of Beneficial Insects," is available on NCR-SARE's YouTube channel at www.youtube.com/user/NCRSAREvideo.

According to Isaacs and Blaauw, growers' interest in insect conservation has increased. At their blueberry grower meeting in 2009, 18% of those in attendance had an area of their farm dedicated to beneficial insect conservation. At their 2012 grower meeting, 90% of the surveyed growers responded that they were somewhat or very likely to implement

wildflower plantings at their farms to help conserve beneficial insects. One of their grower cooperators on their project has independently implemented a third wildflower planting at his farm. Two of their other grower cooperators, who produce blueberries and cherries, are preparing to establish more wildflower plantings at their farms, with support from the Farm Service Agency's SAFE program for pollinators.

"These meetings have generated much interest in the use of conservation strips to help conserve beneficial insects, with growers taking the initiative to adopt this approach on their own," said Isaacs. "Adoption of this practice is increasing in Michigan, with increasing sales of native plant seed, and greater enrollment in government programs for pollinator conservation."

In addition to presenting this information to producers and the public, Blaauw has presented this work at numerous national entomology meetings, and will be presenting at the annual meeting of the Entomological Society of America in Tennessee this fall. Based partly on his work for this project, Blaauw has been awarded the graduate student award of the International Organization of Biological Control Nearctic Regional Section.

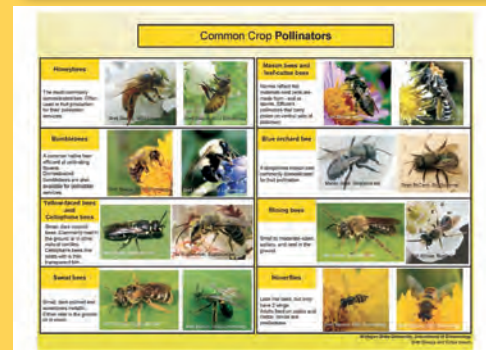
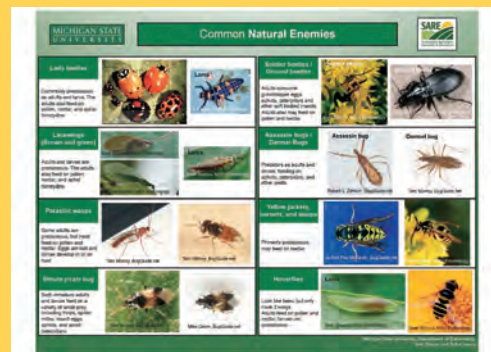
Isaacs has presented his research to Michigan's House of Representatives as part of an effort to improve policy options for supporting sustainable pollination practices. According to Blaauw, the results of this project have also helped MSU secure a new \$1.7 million USDA Specialty Crop Research Initiative Grant to lead a national crop pollination research and extension project.

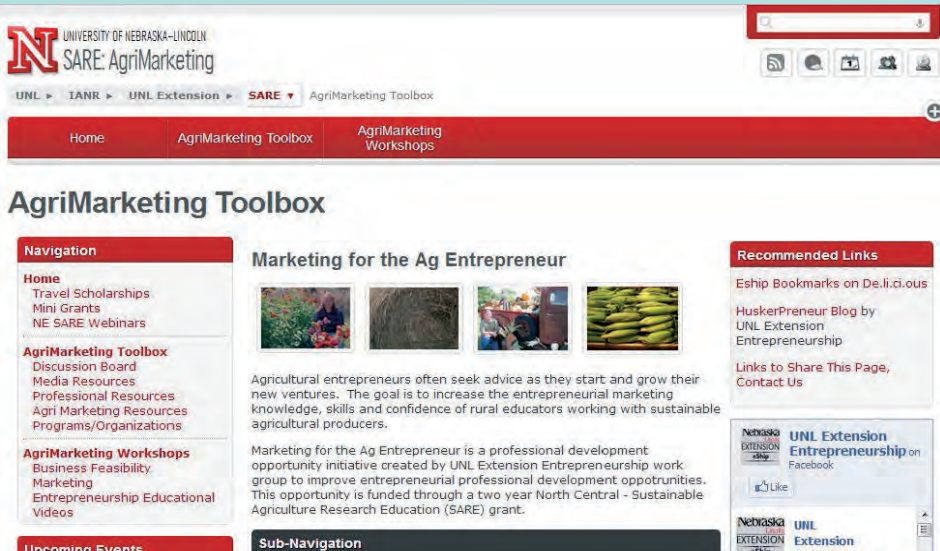
Read more about these NCR-SARE projects online on the SARE project reporting website. Simply search by the project numbers, GNC09-116 and LNC08-297, at <http://mysare.sare.org/> or contact the NCR-SARE office for more information at ncrsare@umn.edu.



According to SARE-supported research at Michigan State University, conservation strips can lead to an increase in the number of native bees. Photo by Brett Blaauw.

Rufus Isaacs and Brett Blaauw at Michigan State University developed this 2-page Beneficial Insect Guide to help identify common insect natural enemies and crop pollinators. Find it online at www.northcentralsare.org/Beneficial-Insect-Guide.





New Tools for Sustainable Entrepreneurs and Service Providers

University of Nebraska-Lincoln's new agri-marketing site, developed with SARE support, is a "one-stop" shop for sustainable entrepreneurs and service providers.

Communities often have access to a variety of production agriculture expertise, including University Extension Educators, Resource Conservation and Development coordinators and assistants and vocational agriculture instructors who are commonly consulted for advice and guidance, especially in the area of sustainable agriculture practices. University of Nebraska-Lincoln (UNL) Extension Specialist, Cheryl Burkhart-Kriesel, says that these resource experts can feel unprepared to help when it is time for a product or service to move to the marketplace. Burkhart-Kriesel is working to create targeted professional development for creating feasibility and marketing plans, and conceptualizing and organizing online direct marketing websites.

In a survey, University of Nebraska Extension faculty were asked what areas they felt they needed to learn more about so that they could better help local entrepreneurs. The results of that survey showed that marketing was an area of need. In 2009, Burkhart-Kriesel and a team of researchers from Nebraska applied for a **NCR-SARE Professional Development Program** grant, and were awarded \$73,984 to increase the small business knowledge, skills, and confidence of recognized public sector agricultural experts to improve their ability to consult with sustainable agricultural producers as they formulate and develop business enterprises.

"If producers can successfully connect with viable markets and grow those

markets, they can dedicate more time and resources to keeping their business sustainable," explained Burkhart-Kriesel. "It can become a positive spiral upward. Conversely, when producers struggle financially it can become very difficult dedicate these resources when there are so many short-term demands."

The goals of their NCR-SARE project were accomplished through three face-to-face trainings and a series of follow-up internet webinars, the development of a web-based "tool box" of resources including regionally relevant agri-entrepreneur examples, new and improved educational individual and institutional networks, and an evaluative case study.

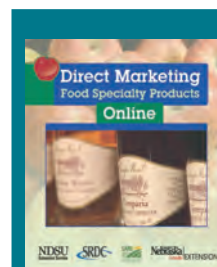
More than 50 educators attended the face-to-face training sessions, and the participants indicated that their awareness, knowledge, motivation, confidence, and potential skills that were targeted for each learning objective had increased. According to Burkhart-Kriesel, several programs evolved and incorporated this training information within Nebraska, South Dakota, and Iowa Extension as a result of this opportunity.

"The project brought together public service providers from across the state (and even from other states) that work with agri-entrepreneurs," said Burkhart-Kriesel. "From a process perspective, this was an opportunity for us to get to know and to strengthen the agri-entrepreneurial 'network' in Nebraska."

The agri-marketing site that they developed is a "one-stop" shop for sustainable entrepreneurs and service providers. The site includes a discussion board, media resources, marketing resources, entrepreneurship educational videos, and more. Find it online at <http://nesare.unl.edu/agrimarketing>.

Their "Direct Marketing of Specialty Food Products," curriculum was developed with experts from the University of Nebraska and North Dakota State University. It teaches producers strategies to direct market and sell specialty food products online. As the user pages through the magazine-style online tool, they can read the content and watch embedded videos. Find it online at [www.northcentralsare.org /Direct-Marketing-Food-Specialty-Products-Online](http://www.northcentralsare.org/Direct-Marketing-Food-Specialty-Products-Online).

Read more about this NCR-SARE Professional Development project online on the SARE project reporting website. Simply search by the project number, ENC09-109, at <http://mysare.sare.org/> or contact the NCR-SARE office for more information at ncrsare@umn.edu.



The "Direct Marketing of Specialty Food Products," curriculum was developed with experts from the University of Nebraska and North Dakota State University. It teaches producers strategies to direct market and sell specialty food products online. Find it online at [http://www.northcentralsare.org /Direct-Marketing-Food-Specialty-Products-Online](http://www.northcentralsare.org/Direct-Marketing-Food-Specialty-Products-Online).

Training on Carbon, Climate, and Energy Looks Toward the Future



In September 2012, [NCR-SARE's Professional Development Program](#) began a two-year professional development and training initiative around topics of bioenergy, climate, and connecting issues such as soil carbon. To launch this initiative, the conference organizers invited state teams of educators to attend a kickoff training conference held at the W.K. Kellogg Biological Station operated by Michigan State University in southwestern Michigan. Attendees were from the 12 North Central region states plus a few representatives of the other SARE regions.

Attendees not only heard from leading scientists in the region but also participated in hands-on workshops to learn about practical approaches for soil carbon testing, cover crop planting, bioenergy production, weather data interpretation, communicating about climate information, and other skills. The 2½ day program began with three keynote sessions featuring Dr. Harry Baumes from the USDA Office of Energy Policy and New Uses, Dr. Jerry Hatfield from the National Lab for Agriculture and the Environment, and Dr. Mark Seeley, State Climatologist and Professor at the University of Minnesota, as they provided the broad context on carbon, bioenergy, climate, and intersecting issues. A farmer panel provided an initial response to the keynotes. The panel discussion was followed by afternoon field tours of current research related to carbon, bioenergy, and climate being conducted at the W.K. Kellogg Biological Station.

This kickoff training initially reached about 120 agriculture educators from across the North Central region, but they will in turn provide training for farmers and other end users via workshops, tours, and other educational efforts on carbon, energy, and climate issues facing farmers in the region. These educators will also provide practical help such as relevant farming system practices and selection of appropriate federal and state farmer assistance programs related to bioenergy, energy conservation, carbon capture, and organic matter improvement.

An extension staff member from Cornell University stated, "It was one of the best organized and thoughtfully executed conferences I have ever attended."

According to Dr. Rob Myers, NCR-SARE's PDP Coordinator and Regional Director for Extension Programs, this professional development conference was well received not only because participants heard from leading scientists on climate and energy but also because they were able to gain hands-on experience in workshops that covered practical approaches for soil carbon testing, cover crop planting, bioenergy processing, weather/climate data interpretation and communication, and other skills that can be conveyed in follow-up extension programs.

"Ultimately, we expect over 1000 people to participate in follow-up training events in their states," said Myers. "As farmers deal with challenging weather conditions, such as the 2012 drought, and try to respond to the demand for more bioenergy, they face the need to continually improve management approaches. We think this regional training initiative will help extension workers and other farm advisors be prepared to assist farmers in a way that contributes to the sustainability of their farming operations in the future."

A followup event organized by the Food, Feed, and Fiber Network (an informal, multi-state, extension group) is scheduled for August 20-22, 2013 in Champaign, IL. This event will be primarily a study tour where participants get to see bioenergy and sustainable agriculture projects on various farms, both university farms and private farms. For more information about this event contact Gary Letterly, University of Illinois Extension at letterly@illinois.edu.

For more information about NCR-SARE's Carbon, Climate, and Energy initiative, contact Dr. Rob Myers at myersrob@missouri.edu.

Dennis Pennington, a Michigan State University bioenergy educator, describes research on giant Miscanthus, switchgrass, and other biomass crops. Photo by Rob Myers.

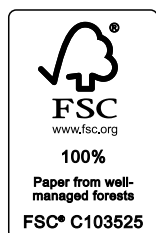


Across the country, farmers and ranchers are investigating the potential economic benefits and use of energy crops to revitalize the landscape. As energy prices climb, clean energy practices have become more important to their operations. In 2007, NCR-SARE issued a special call for the Professional Development Grant Program (PDP) for projects to provide professional development in topics related to bioenergy and energy-efficient production. Read about the results of these completed projects online at www.northcentralsare.org/AgEnergyEducators.



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Did you know NCR-SARE is on facebook, twitter, and YouTube?
Keep track of our grant opportunities, projects, events, and more.
Search for North Central Region SARE and follow us!



ABOUT NCR-SARE

NCR-SARE has awarded more than \$40 million worth of competitive grants to farmers and ranchers, researchers, students, educators, public and private institutions, nonprofit groups, and others exploring sustainable agriculture in 12 states.

NCR-SARE funds cutting-edge projects every year through grant programs.

Are you interested in submitting a proposal for a NCR-SARE grant? Before you write the grant proposal, determine a clear project goal, and engage in sustainable agriculture research on your topic. Need help determining which program is best suited for your project? Go to <http://www.northcentralsare.org/Grants> for more information, or contact the NCR-SARE office.

For more information about any of the NCR-SARE grant programs, go to <http://www.northcentralsare.org/Grants> or contact the NCR-SARE office at 612-626-3113 or ncrsare@umn.edu.

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Jean Andreasen, Brett Blaauw, Jack Donnelly, Marie Flanagan, Rob Myers, Steve Sutera, and the University of Minnesota.

GRANT PROGRAM TIMELINES*

Research and Education*

September - Call for Preproposals released
November - Preproposals Due
Late February - Preproposal Status
May - Full Proposals Due
Late July - Funding Decisions
Fall - Funds Available to Recipient

Farmer Rancher*

August - Call for Proposals released
Late November - Proposals Due
March - Funding Decisions
Spring - Funds Available to Recipients

Graduate Student*

March - Call for Proposals released
Late May - Proposals Due
August - Funding Decisions
October - Funds Available to Recipients

Professional Development Program*

Mid March - Call for Preproposals released
May - Preproposals Due
Late June - Full Proposals Invited
Late August - Full Proposals Due
November - Funding Decisions
January - Funds Available to Recipient

Youth Educator*

Late August: Call for Proposals released
Mid November: Proposals Due
March: Funding Decisions
Spring: Funds Available to Recipients

*Timelines are subject to change.

NORTH CENTRAL REGION SUSTAINABLE AGRICULTURE
RESEARCH AND EDUCATION PROGRAM

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Online: <http://www.northcentralsare.org/>
SARE Outreach: <http://www.sare.org/>



Photo by Marie Flanagan.