Pollinators Take Center Stage at Xerces Society Workshops

Honeybee losses, compounded with rising rental rates for pollination, are a concern for many producers. Not only are growers looking for alternative pollinators to improve crop security, but they also want to learn how to manage on-farm habitats for native bees and other pollinators.

Eric Mader knows that pollinators are essential for sustaining agriculture. Mader is the assistant pollinator program director at the Xerces Society, a nonprofit organization that protects wildlife through the conservation of invertebrates and their habitat, and he has a secondary role as assistant professor of entomology at the University of Minnesota’s (U of MN) Bee Lab. This dual role is a direct outgrowth of Mader’s time as a horticulture graduate student at the U of MN where he had coursework in entomology with Dr. Marla Spivak, a leading expert in pollinators. Since graduating, Mader’s career, first as a crop consultant for the native seed industry, then as a biologist with Xerces, has fostered the relationship among conservation, agriculture, and ecology. He describes his position as, “having one foot in agriculture and one foot in conservation.”

Mader says the ecological service pollinators provide is necessary for the reproduction of more than 85 percent of the world’s flowering plants (Ollerton et al. 2011). This includes more than two-thirds of the world’s crop species, whose fruits and seeds together provide over 30 percent of the foods and beverages that we consume (Klein et al. 2007). Despite the necessity of pollinators, the essential service of pollination is at risk. Mader says habitat loss, alteration, and fragmentation, pesticide use, and pathogens have all contributed to recent pollinator declines.

To address the need for pollinator habitat, the 2008 Farm Bill contains specific conservation priorities, so Xerces and Eric Mader applied for an NCR-SARE Professional Development program grant in 2009, and were awarded $72,168 to present nine pollinator workshops in the North Central region. Farmers and staff from the Natural Resources Conservation Service (NRCS), Soil and Water Conservation Districts, Farm Service Agency (FSA), Extension, state agencies, and farm organizations learned how on-farm habitats can increase populations of native pollinators.

Xerces provided a train-the-trainer approach to expanding pollinator conservation efforts, facilitating the installation of additional habitat on the ground, and encouraging enrollment in NRCS and FSA conservation programs. Farm educators gained a basic knowledge of native bee biology, identification, habitat requirements, pollinator-friendly farming practices, the design and development of habitat enhancements, how to support those efforts through Farm Bill conservation programs, and where to find additional resources.

“Anecdotally, I know that people who have taken the course have been excited to discover the diversity of roles that native pollinators play,” said Mader. “One farmer was amazed to discover that native bees could fulfill all of his squash pollination needs. Now he’s working with Iowa State University to support pollinator conservation systems on his farm.”

In the year since participants attended the pollinator short course, 97% of participants reported that they had utilized the information they learned at the training. Follow-up surveys also revealed that the training led to improved conditions for pollinators on over 11,000 acres of midwestern farmland, and the direct restoration of 4,475 acres of native wildflower habitat. Mader says he still gets a number of follow-up inquiries.

At a SARE-supported Pollinator Short Course in Michigan, attendees had an opportunity to observe pollinators on rare Eastern prickly pears, native cacti of the eastern tallgrass prairie states. Photo by Eric Mader.

“Small gains add up. I would guess that has been the central success of this model,” explained Mader. “We’re giving attendees multiple points of entry and small steps they can take to improve the service of pollination.”

Xerces has ongoing, SARE grant-supported pollinator short courses scheduled throughout the country. By the time these SARE grant projects are complete, Mader says as many as 85 short courses will have been conducted in 50 states, reaching as many as 4,000 ag professionals. Additionally, he says the Xerces Society wants to offer more pollinator courses in the future, as well as courses, guides, and books about other beneficial insects and farm habitat management for pest control.

For more information on Mader’s NCR-SARE Professional Development program grant project, visit the SARE project reporting website. Simply search by the project number, ENC09-111, at www.mysare.sare.org, or contact the NCR-SARE office.

Eric Mader is one of the co-authors of Managing Alternative Pollinators: A Handbook for Beekeepers. It’s 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. Read it for free online at www.northcentralsare.org/Pollinators
Newly Funded Grant Projects in the North Central Region

NCR-SARE has announced the projects that have been recommended for funding for the 2013 Farmer Rancher, the 2013 Youth Educator, and the 2012 Professional Development competitive grant programs. More than 60 projects were awarded more than $1 million through these three NCR-SARE grant programs, which offer competitive grants for producers, educators, organizations, and others who are exploring sustainable agriculture in America’s Midwest.

For the 2013 Farmer Rancher Grant Program, NCR-SARE awarded more than $495,000 to 45 projects ranging from $2,219 to $22,500. The Farmer Rancher Grant Program is a competitive grants program for farmers and ranchers who want to explore sustainable solutions to problems through on-farm research, demonstration, and education projects.

For the 2013 Youth Educator Grant Program, NCR-SARE awarded almost $20,000 to 10 projects ranging from $1,957 to $2,000. The Youth Educator Grant Program supports educators who seek to provide programming on sustainable agriculture for youth.

For the 2012 Professional Development Program, NCR-SARE awarded almost $650,000 to 9 projects ranging from $64,934 to $75,000. Professional Development Program competitive grants emphasize training agricultural educators in extension, Natural Resources Conservation Service, private, and not-for-profit sectors, using farmers as educators and addressing emerging issues in the farm community.

To learn about the NCR-SARE grants funded in your state, visit the NCR-SARE website here: www.northcentralsare.org/Educational-Resources/Funded-Grants-in-Your-State, where you can view a portfolio summary and funded grants list for every state and island protectorate.

NCR-SARE administers several competitive grant programs. New this year, applicants can now submit their grant proposals online. Each grant program has specific priorities, audiences, and timelines. Funding considerations are made based on how well the applicant articulates the nature of the research and education components of their sustainable agriculture grant proposals.

NCR-SARE’s Administrative Council (AC) members decide which projects will receive SARE funds. A collection of farm and non-farm citizens, the AC includes a diverse mix of agricultural stakeholders in the region. Council members hail from regional farms and ranches, the Cooperative Extension Service, universities, and nonprofit organizations. In addition, regional representatives of the U.S. Geological Survey, the U.S. Department of Agriculture, the Environmental Protection Agency, the Natural Resources Conservation Service, and NCR agribusinesses, state agencies, and foundations sit at the table to distribute grant money.

For 25 years, the SARE program has helped advance farming systems that are profitable, environmentally sound and good for communities through a nationwide research and education grants program. The program, part of USDA’s National Institute of Food and Agriculture, funds projects and conducts outreach designed to improve agricultural systems.
In southeastern Michigan, a dedicated non-profit organization is growing and delivering fresh produce to low-income residents through a youth program. Edible Avalon is an organic community garden and education program in association with Avalon Housing, the largest provider of permanent, supportive affordable housing for extremely low-income residents in Washtenaw County, Mich.

“Most Avalon Housing residents rely on food banks to complete their diets,” said Kristin Kaul, program coordinator for Edible Avalon. “Edible Avalon gives students the knowledge to grow their own nutritious food, and provides a community-generated source of sustenance that fosters health consciousness and independence while decreasing family dependence on food assistance.”

In 2010, Kaul applied for an NCR-SARE Youth Educator grant to support the Edible Avalon Summer Youth Program, and was awarded $1,807 to conduct summer youth programming focusing on local food and sustainable agriculture. In 2010, Avalon offered their Summer Youth Program to K-12 student tenants. More than 20 youth participated.

“Our hope was that students would realize the importance of living soil and of using sustainable methods – working with nature, rather than against it,” said Emily Canosa, youth education coordinator at Edible Avalon. “We also hope they got a glimpse into the burgeoning world of sustainable urban agriculture and the ways in which even disenfranchised communities have used community and urban gardening to empower themselves and build community.”

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The youth involved in Edible Avalon’s Summer Youth Program planned gardens, learned about sustainable growing practices, sowed seeds, planted transplants, and maintained the gardens over the summer. They harvested produce and learned how to prepare and cook it. Much of the produce was incorporated directly into the Edible Avalon’s daily meal program. Dietetic interns held weekly cooking classes and provided nutrition counseling and education.

High school youth involved with Edible Avalon’s Summer Youth Program were able to seek high school class credit through Ann Arbor Community High School’s Community Resource Program, which allows students to study with an outside expert for elective credit. Those teens were required to complete a total of 90 hours of work with the program. They had additional mentoring opportunities with other youth, additional community service work, volunteer hours at local farms and ag organizations, and field trips designed to show youth the depth and breadth of the area’s local food economy.

“Many of Avalon’s families have experienced homelessness and/or frequent relocation. Many of the children are behind academically, and have not had positive messages about themselves from school or society,” said Kaul. “For both young and older youth, our program aims to take them out of this limiting mental environment and expose them to new ways of thinking about themselves and the world around them, to people who are self-directed and self-reliant, and who feel a deep sense of responsibility for the Earth, and to the joy and satisfaction that can be found in the natural world and in simple, natural tasks like growing one’s own food and caring for one’s local environment.”

For more information on the Edible Avalon Summer Youth Program and to see a copy of Edible Avalon’s Summer Youth Program curriculum, visit the SARE project reporting website. Simply search by the project number, YENC10-036, at www.mysare.sare.org, or contact the NCR-SARE office.
In western Ohio, farmers and agricultural educators are making a compelling case that cover crops and no-till will get you more from less: requiring less fuel, less machinery, fewer chemical inputs and less acreage, these ecological farming practices lead to improved profitability, better soil health, more jobs, improved environmental stewardship and a better quality of life.

Jeff Rasawehr, a Celina, Ohio, farmer who is among those leading by example, estimates he has improved his net profitability by $200 per acre since switching from conventional farming to using cover crops and no-till eight years ago.

“This is a whole different approach,” says Rasawehr, who grows corn, soybeans and wheat on 2,000 acres. “Less of all the things we’ve been told we need to do—less tillage, less chemicals—makes for more profitability, more quality of life.”

On the matter of quality of life, his reasoning is this: by improving his profitability so significantly, he has found he can afford to downsize strategically. This not only gives him less farm work to do, it potentially frees up more acreage for young farmers. “I tell people you don’t need to be farming the whole county to make a decent profit.”

In 2009, Rasawehr received an NCR-SARE Farmer Rancher grant for $18,000 to test the role of various cover crop species in nutrient cycling and weed management. He worked with seven farm operations and two community service organizations to look at the economic and environmental viability of a continuous no till cover crop system and to reduce nutrient discharge into the watershed.

Through this experience, he decided to launch a cover crop seed business, Center Seeds, which today employs four full-time staff and others part time (a second business, Sustain Seeds, services gardeners). Last year, Center Seeds sold seeds and offered management information for 30,000 acres nationwide, and Rasawehr expects business to increase to 100,000 acres in 2013.

Rasawehr, Ohio State University Extension Educator James Hoorman, and others are making a big difference in local watersheds also. Supported by a 2008 NCR-SARE Graduate Student grant for $10,000, James Hoorman studied the role of cover crops and no-till in protecting water quality.

Hoorman found that a rye cover crop can tie up as much as 70 percent of the soluble nitrogen and 20 pounds per acre of the soluble phosphorus in a manure application.

This matters for Ohio’s nearby Grand Lake St. Mary’s, which supports a $160 million tourism industry that is in doubt because of algae blooms and hypoxia that are likely caused by nutrients leaving farms. Through extensive outreach, Hoorman helped boost the use of cover crops in local watersheds to 20,000 acres in 2011, including 9,300 acres in the Grand Lake St. Mary’s watershed, or 21 percent of the watershed. This was one reason why, in 2011, the lake’s problem with toxic algae showed signs of diminishing, Hoorman says.

In association with his SARE project, Hoorman published five fact sheets about cover crops and their relationship to soil compaction, water quality, no-till, and nutrient recycling.

You can find Hoorman’s cover crop fact sheets on the MySARE reporting site at www.MySARE.sare.org using project number GNC08-093. Search for Rasawehr’s project using project number FNC09-775 or contact the NCR-SARE office.

Cover Crops Online Resources

Ready to learn more about cover crops?
SARE’s new Cover Crops Topic Rom explores how and why cover crops work and provides all the information needed to build cover crops into any farming operation. Visit www.sare.org/cover-crops.

Cover crop photos (left to right): clover in wheat, crimson clover. Photos courtesy of SARE Outreach.
Across America, tens of thousands of farmers are planting cover crops, a time-tested method of revitalizing soil, curbing erosion, and managing pests. Cover crop adoption has increased rapidly in the last 5 years, with an estimated 1.5 to 2.0 million acres of cover crops planted in the U.S. in 2012.

During the winter of 2012-13, the NCR-SARE program contracted with the Conservation Technology Information Center to carry out a survey of farmers who have grown cover crops. A short survey instrument of a dozen questions was developed with help from steering committee members of the Midwest Cover Crops Council. The survey was distributed at several farmer conferences in the Midwest over the winter, and was also sent out in an online format to individuals across the U.S.

A total of 759 farmers completed the survey. The farmers who completed the survey used cover crops on about 218,000 acres in 2012, and expected to increase that to over 300,000 acres in 2013.

One of the most important findings of the survey is that farmers reported a significant yield advantage for corn and soybeans grown after cover crops in 2012, including in areas hit hard by drought. Farmers also reported that cover crops reduced soil erosion and compaction while improving soil health.

“Cover crops will save and even rebuild your soil,” reported one farmer who took the survey. “There is a place for a cover crop in every operation, and the benefits will accumulate over time.”

Full results of the survey will be published in a report made available online at the NCR-SARE website this summer.

For more information about the cover crops survey and results, contact Dr. Rob Myers, Director of Professional Development Programs for NCR-SARE at myersrob@missouri.edu.

SARE’s New Season Extension Online Resources

With consumer interest in locally raised foods steadily growing, vegetable farmers are discovering they can add an important income stream through high tunnels—a cost-effective means to extend production and sales into the traditional off-season.

Now, in-depth information about high tunnels can be found in SARE’s new Season Extension Topic Room—a one-stop collection of dozens of guidebooks, curricula, webinars, bulletins, and other how-to materials to help farmers, educators, and researchers across the country implement effective season extension strategies.

Information products in the Season Extension Topic Room derive from SARE-funded grant projects, and are organized according to key topic areas:

- Overview; Types and Construction
- Variety Trials and Selection
- Fertility Management
- Pest Management
- Water Management
- Energy
- Marketing and Economics

While the Season Extension Topic Room includes extensive information on high tunnels (also known as hoop houses), some materials also address greenhouse and nursery production, low tunnels, and winter storage.

The Season Extension Topic Room will be updated with new resources as they become available, so check back often at www.sare.org/season-extension.

Learn more about Jennifer Grabner’s EZ Build-n-Gro cold frame in central Mo. in the SARE Season Extension Topic Room. This is SARE project FNC07-668. Photo by Jennifer Grabner.
The Agricultural Innovation and Commercialization Center at Purdue University has developed a Comparative Decision Support online toolkit to assist with entry-level decision-making about small-scale livestock enterprises.

This Comparative Decision Support (CDS) toolkit provides realistic expectations across multiple livestock enterprises. It uses an individual’s input and returns customized results.

In 2010, Purdue University graduate student, Anna Lee Allcorn, received a $10,000 NCR-SARE Graduate Student Grant to evaluate the economic returns and business opportunities for alternative sustainable livestock enterprises, and to develop a decision support tool for farmers and ranchers considering a new livestock enterprise.

“Small scale livestock enterprises can be profitable ventures that contribute to the sustainability of rural communities,” said Allcorn. “Individuals looking to begin an agricultural endeavor, whether full- or part-time, or existing farmers and ranchers looking to diversify, can find value in small scale livestock operations.”

Cow-calf, dairy steers, sheep, goats, and turkey enterprises are included in the decision toolkit because Allcorn recognized a need for a diverse set of species that are readily available in the North Central region. Ultimately, she developed the online toolkit to help people make better decisions.

“When decision-makers are able to make better investment decisions there is a greater chance they will be successful, which in turn has a positive long term impact on the quality of life of the participants, the economies of the rural communities where they live and the livestock industry overall,” said Allcorn.

Find the toolkit online at www.agecon.purdue.edu/newventures/cds. For more information on Allcorn’s NCR-SARE Graduate Student grant project, visit the SARE project reporting website. Simply search by the project number, GNC10-133, at www.mysare.sare.org, or contact the NCR-SARE office.

NCR-SARE Elects New Administrative Council Member

Jill Pritchard was recently elected as a new Administrative Council member for NCR-SARE.

Pritchard will be serving on the NCR-SARE Administrative Council as a State Department of Agriculture representative. Pritchard is an entrepreneur and diversified products manager at the Indiana State Department of Agriculture. Pritchard assists agriculture entrepreneurs in finding new points of entry for the products and resources within the industry. She helps them find funding sources and cutting edge opportunities as the niche of local foods interest continues to expand. She also assists consumers in connecting with local producers to source local foods and educate themselves to the diversity of the Indiana value-added and fresh food economy.

NCR-SARE would like to extend gratitude to the following Administrative Council members who either fulfilled their terms or are stepping down: Deborah Allan, Julie Fox, and Vance Owens.

More Projects in the Field

Learn more about exciting SARE-supported projects! Use the project number listed with these projects to find more information at www.MySARE.sare.org, or follow NCR-SARE on Facebook or twitter to receive regular updates like these.

The Kansas Ranch and Range Management Internship Program is bringing young people back to the ranch through a SARE-supported summer internship program. Learn more at www.northcentralsare.org/KansasRanchInternship. This is SARE project FNC10-798.

With SARE support, the Grabners at Wintergreen Farm in Mo. are using unheated hoop houses, large cold frames, and small high tunnels to grow cool-season greens and vegetables throughout the year. This is SARE project FNC07-668.

The Dickinson Research Extension Center is conducting a SARE-supported study on an integrated crop-livestock system in N.D. Numerous data points are being recorded for crops, livestock, soils, and economic inputs, and returns. This is SARE project LNC11-335.

Since 2003, Stu Jacobson has received four NCR-SARE grants for his work to increase understanding and adoption of disease and mite resistant lines among beekeepers in Ill. and surrounding areas. Learn more here www.northcentralsare.org/JacobsonBees. Jacobson’s most current SARE project is FNC10-822.

With support from SARE, Sanjun Gu trained more than 3,000 farmers, master gardeners, extension educators, and other agriculture professionals on emerging vegetable grafting technology. This is SARE project ENC08-102.

Practical Farmers of Iowa conducted a SARE-supported comparison of biofuel crop systems in Iowa and found that a diversified rotation was more energy efficient than continuous corn. This is SARE project LNC08-293.

Rural Action and Green Edge Organic Gardens are partnering on a SARE grant in Ohio to educate state and national agriculture professionals on season extension. This is SARE project ENC12-134.
A grassroots apple-breeding program has released its first apple variety, EverCrisp. The variety was bred by the Midwest Apple Improvement Association (MAIA), a group of more than 140 apple growers who are interested in developing new varieties for the Midwest.

Diane Miller is an apple geneticist and researcher at Ohio State University. She is also the special advisor for the MAIA. In 2008, Miller and her team received an NCR-SARE Research and Education grant for $121,000 to determine if consumers would choose apples based upon labeling by fruit characteristics, production method, and/or growing area, with or without variety name. Among apple varieties, they evaluated size, firmness, storability, flavor, and maturity.

“The rationale for the project was that consumer demand must pull apples through the marketing streams based upon quality,” explained Miller. “This inverts the current system which attempts to push apples through the markets based upon the ability of growers to produce them.”

During the 4-year project, almost 40 apple selections and varieties were evaluated at multiple events. The main evaluation event took place at Cleveland’s Fabulous Food Show in November 2010. All together, the project team recorded more than 4,000 consumer reactions throughout the project.

Miller says the decision to release MAIA’s EverCrisp variety can partially be attributed to the consumer taste panels they conducted through their SARE grant. According to Miller, EverCrisp generally rated higher than Fuji and Cameo, and was equivalent to Honeycrisp and SweeTango.

In addition to consumer taste panels, growers evaluated selections for tree and fruit characteristics at orchards throughout the Midwest, both as original seedlings and as grafted second test selections. More than 600 apple growers participated in apple tastings and informational sessions.

“Working to give growers high quality apple varieties that consumers would seek while giving the grower the desired option of reduced pesticide application was a no-brainer, but it takes a lot of years to develop new varieties and lots of work,” said Miller. “And the impact of high quality apples was equally important – if a variety is disease-resistant but doesn’t have outstanding texture and flavor, it’s going to have a small following.”

Miller said she noticed a positive attitude among growers when confronted with the idea of creating their own future by working with other growers to develop and test new varieties. She reported MAIA membership has increased by 85 new members (144 total) since the release of EverCrisp.

“This SARE project provided a tangible stimulus that has empowered apple growers to determine their own future by developing environmentally adapted, high quality varieties for whatever marketing scheme they prefer,” said Miller. “Additionally, sales of 250,000 trees of a new high quality variety to growers in the Midwest (and beyond) can partially be attributed to tastings and information presented as a result of this SARE project.”

MAIA describes EverCrisp as a sweet, crispy apple that’s grower-friendly with long storability. Mitch Lynd, a grower from Ohio and one of MAIA’s co-founders, states that EverCrisp looks and tastes a lot like Fuji, but it’s a bit crispier.

Read more about Miller’s NCR-SARE Research and Education grant project online on the SARE project reporting website. Simply search by the project number, LNC08-292 at www.mysare.sare.org, or contact the NCR-SARE office for more information.
ABOUT NCR-SARE

NCR-SARE has awarded more than $50 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 North Central region states.

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

Are you interested in becoming a project coordinator for an 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 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 www.northcentralsare.org/Grants or contact the NCR-SARE office at 612-626-3113 or ncrsare@umn.edu.

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NCR-SARE GRANT TIMELINES*

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

Graduate Student*
March - Call for Proposals
Early May - Proposals Due
Late July - Funding Decisions
October - Funds Available to Recipients

Research and Education*
September - Call for Preproposals
November - Preproposals Due
Late February - Preproposal Status
May - Full Proposals Due
Late July - Funding Decisions
October - Funds Available to Recipient

Professional Development Program*
Late March - Call for Preproposals
Late May - Preproposals Due
Late June - Preproposal Notification
Early September - Full Proposals Due
November - Funding Decisions
January - Funds Available to Recipient

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

*Timelines are subject to change.