

SARE: Advancing the Frontier of Sustainable Agriculture in...

Minnesota

Project Highlight: *Cutting edge research to help bees help themselves*

Diseases, pests and the mysterious phenomenon of colony collapse disorder pose a dire threat to the U.S. beekeeping industry and, in turn, to the \$20-billion-a-year crop industry that relies on insect pollination.

As researchers across the country scramble to find solutions, University of Minnesota Entomologist Marla Spivak is advancing effective strategies that help bees help themselves. Supported by six SARE grants since 1997, Spivak is showing beekeepers how to identify and breed for hygienic bees—bees that are adept at spotting immature infected bees and quickly removing them from the nest before a disease or pest can get out of control in a colony.

While the exact cause of colony collapse disorder is unknown, researchers believe it to be the result of a com-

bination of factors, one of which is the *Varroa destructor* (*V. destructor*) mite, a pest introduced to the country in the late 1980s. *V. destructor*, difficult to control because it has become pesticide resistant, attacks bees by sucking their blood, thus spreading viruses among colonies and weakening individual bees, making them susceptible to pesticides not intended to harm them.

In addition to her work with hygienic bees, Spivak helps large-scale beekeepers in Minnesota and around the country adopt the sustainable pest management strategies that make sense for them, including breeding and sampling strategies.

For more information on these projects, see www.sare.org/projects, and conduct a coordinator-name search for “Spivak.”

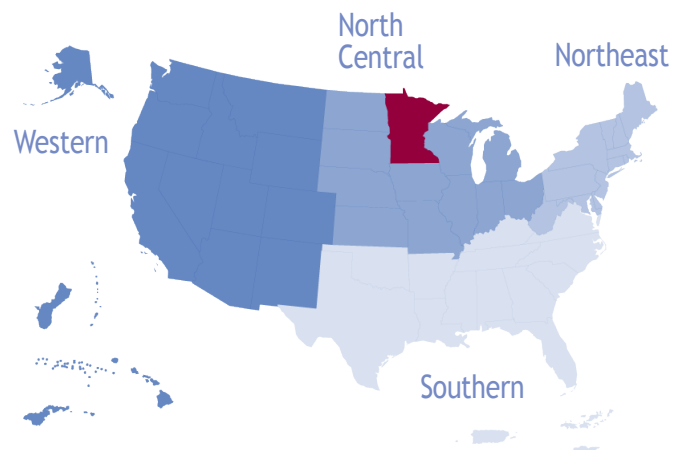
SARE in Minnesota

\$8.3 million in total funding

220 grant projects

(since 1988)

For a complete list of grant projects state by state, go to www.sare.org/state-summaries



SARE's four regional programs and outreach office work to advance sustainable innovations to the whole of American agriculture.

What is SARE?

Since 1988, the Sustainable Agriculture Research & Education (SARE) program has been the go-to USDA grants and outreach program for farmers, ranchers, researchers and educators who want to develop innovations that improve farm profitability, protect water and land, and revitalize communities. To date, SARE has awarded \$197 million for more than 5,000 initiatives.

SARE is grassroots with far-reaching impact

Four regional councils of expert practitioners set priorities and make grants in every state and island protectorate.

SARE communicates results

SARE Outreach has produced a library of how-to books, bulletins and online courses for producers and researchers on everything from clean energy farming to direct marketing to raising pastured poultry.

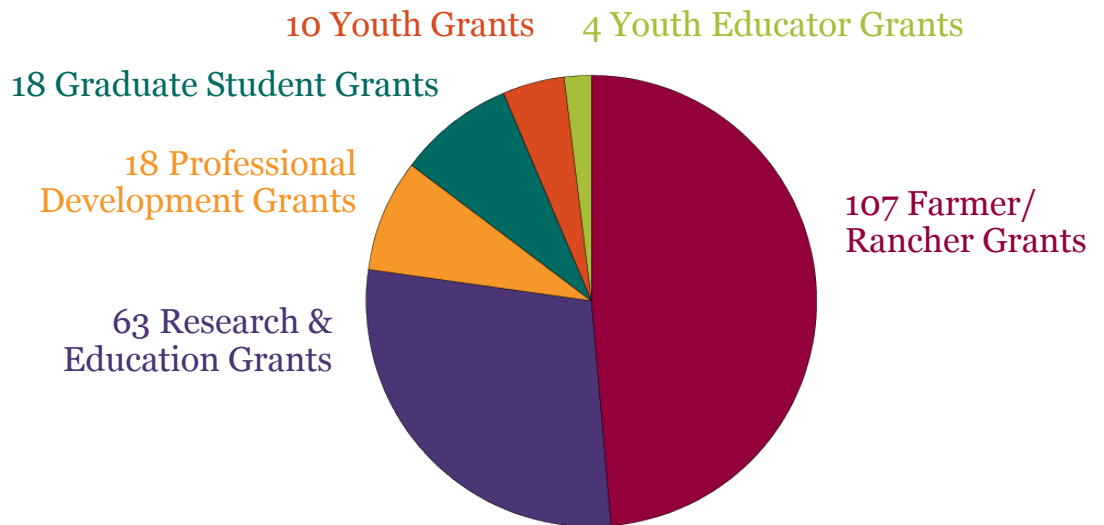


Sustainable Agriculture Research & Education

www.sare.org

SARE Grants in Minnesota

SARE has awarded a total of **220 grants** in Minnesota since 1988



SARE's Impact

53 percent of producers report using a new production technique after reading a SARE publication.



79 percent of producers said they improved soil quality through their SARE project.



75 percent of SARE-funded educators led at least one program to share innovations.



64 percent of producers said their SARE project helped them achieve higher sales.



Contact Your SARE State Coordinator

SARE sustainable ag coordinators run state-level educational programs for Extension and other ag professionals, and many help grant applicants and recipients with planning and outreach.

Kate Seager
Univ. of Minnesota
411 Borlaug Hall
1991 Upper Buford Circle
St. Paul, MN 55108
(612) 625-8235
kseager@umn.edu

Betsy Wieland
Univ. of Minnesota
411 Borlaug Hall
1991 Upper Buford Circle
St. Paul, MN 55108
(612) 625-8235
eliza003@umn.edu



SARE is funded by the USDA's National Institute of Food and Agriculture (NIFA).

For detailed information on SARE projects, go to www.SARE.org