

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

Indiana

Project Highlight: *Improving honey bee resilience*

Varroa mites can be a honey bee's worst enemy—attacking both adults and broods—and are often recognized as the cause of death of an entire beehive over the winter. Fortunately, a small subset of honey bees carries a gene that helps them identify and clean off threatening bodies, like Varroa mites, from themselves and the comb.

So, SARE-funded Purdue University scientists bred honey bees for this mite-grooming behavior and for winter resilience, to increase honey bee sustainability and improve resistance to Varroa mites. Through the course of their four-year SARE grant, they distributed 1,500 queen cells among producers in Indiana that showed hygienic mite-grooming behavior, suppression of mite population growth in the field and improved disease resistance.

When compared to queen bees sold by commercial vendors in the state, researchers found the Purdue bees to be superior: Commercial bees had six-fold more mites than the Purdue bees, and showed symptoms of chalkbrood fungus and deformed wing virus, whereas the Purdue bees did not.

Grooming behavior has yet to be considered in U.S. breeding programs. This research improved the hardiness of bees against the mites, not only for farmers, but also for the large-scale beekeeping operations in Indiana that host 500 to 2,500 colonies of bees. Healthy bee colonies are vital to the future production of the dozens of common fruits and vegetables that require pollination.

For more information on this project, see www.sare.org/projects, and search for project number LNC08-295.

SARE in Indiana

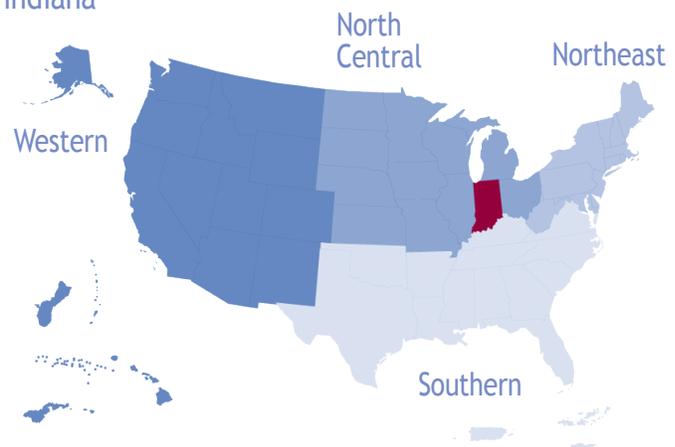
www.northcentralsare.org/indiana

\$2.6 million in total funding

99 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 \$245 million for more than 6,100 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 shares project results by requiring grantees to conduct outreach and grower engagement; and by maintaining the SARE Learning Center—a library of practical publications, grantee-produced information products and other educational materials.

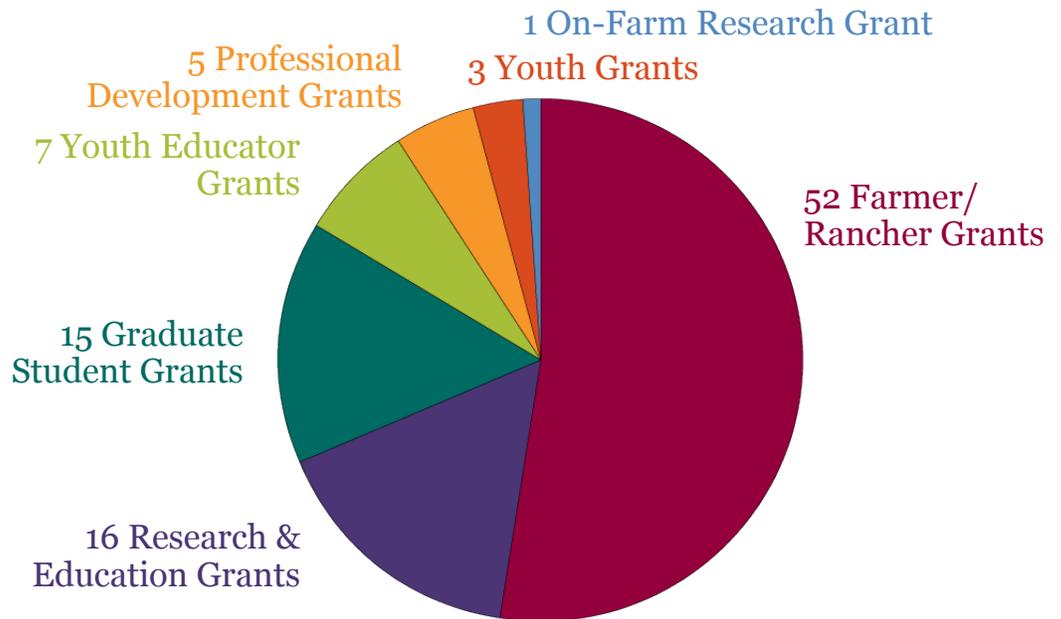


Sustainable Agriculture Research & Education

www.sare.org

SARE Grants in Indiana

SARE has
awarded a
total of
99 grants
in Indiana
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.

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. Visit www.northcentralsare.org/indiana to learn more.

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