Sustainable Agriculture Research & Education

www.sare.org

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 over $6.8 million to more than 152 initiatives [1].

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 an online library of practical publications, grantee-produced information products and other educational materials.

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

South Dakota

Project Highlight: *High-Efficiency, Year-Round, Tropical Greenhouse*

In South Dakota, soybeans, corn, wheat, sunflowers, and alfalfa come to mind when considering the state's number one industry: agriculture. However, at Wayward Springs Acres in Aurora, farmer and mechanical engineer Shannon Mutschelknaus is taking a different route—one that combines engineering with horticultural passion to cultivate exotic, tropical crops far from their native climates.

As a child, Mutschelknaus was fascinated by plants and began collecting seeds, experimenting with the growth of tropical and subtropical trees. Over the years, he successfully propagated rare species like soursop, mamey, *Garcinia humilis*, cherimoya, *Monstera deliciosa*, and passion fruit. Realizing the strong demand for tropical fruit trees—often in short supply due to hurricane damage—he saw an opportunity to scale up his efforts with support from an NCR-SARE Farmer Rancher grant.

With that support, Mutschelknaus designed and built a high-efficiency greenhouse featuring an insulated rear wall, passive solar heat, and an in-ground “climate battery” system. This innovative setup uses underground tubing to store and redistribute heat, maintaining a consistent greenhouse temperature day and night, regardless of weather conditions in South Dakota. Today, he's not only growing leafy greens and tomatoes, but also rare fruits like loquats and cherimoya, offering a glimpse into what's possible with creativity and innovation. His greenhouse plans, complete with clear visuals and easy-to-follow instructions, are now available to help other growers explore this unique approach.

View Wayward Spring's greenhouse plans and instructional videos at projects.sare.org and search for project number FNC19-1185.

SARE in South Dakota

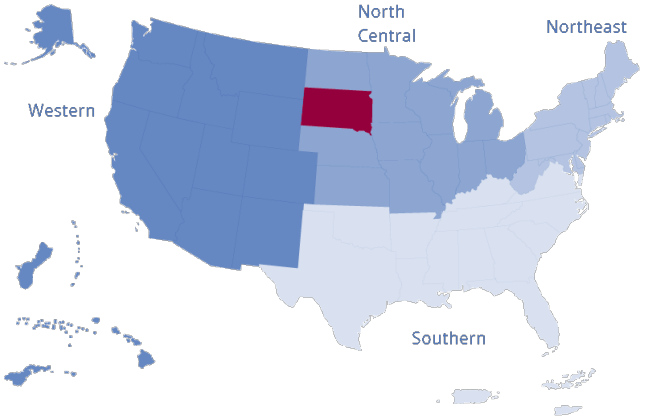
northcentral.sare.org/state-profiles/south-dakota/

$6,770,734 in total funding

152 grant projects

(since 1988 [1])

For a complete list of South Dakota grant projects, go to projects.sare.org/state-fact-sheets/



[1] These totals reflect available data; complete information may not be available for all grant programs prior to 2016.

SARE in South Dakota, 2021–2026

This is a summary of recent SARE-funded activities and impacts in the state. To search all SARE projects visit projects.sare.org. For a list of all projects in South Dakota visit projects.sare.org/state-fact-sheets/.

Grants awarded

Total awards: **34 grants**

4	Farmer/Rancher
8	Research and Education
2	Professional Development Program
6	On Farm Research/Partnership
6	Graduate Student
4	PDP State Program [2]
4	Youth Educator

Total funding: **$2,978,883**

$61,051	Farmer/Rancher
$1,810,613	Research and Education
$188,475	Professional Development Program
$221,473	On Farm Research/Partnership
$113,448	Graduate Student
$559,826	PDP State Program [2]
$23,997	Youth Educator

[2] The Professional Development Program (PDP) State Program is a non-competitive award that funds the activities of the state coordinator(s). See more below.

Farmer and rancher impacts

SARE grantees have reported the following impacts from their projects:

4,406 farmers participated in a SARE-funded project

281 farmers changed a practice

For a complete list of South Dakota awards, visit: projects.sare.org/state-fact-sheets/

Learn about local impacts at: northcentral.sare.org/state-programs/south-dakota/

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 northcentral.sare.org/state-profiles/south-dakota/ to learn more.

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SARE Sustainable Agriculture Research & Education

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