

Aquaculture & Aquaponics

Aquaculture is the cultivation of fish, aquatic animals, and plants. Aquaponics is a bio-integrated system that links recirculating aquaculture with hydroponic vegetable, flower, and/or herb production. In aquaponics, nutrient-rich effluent from fish tanks is used to fertigate hydroponic production beds. SARE has supported advances by producers, researchers, and educators that are helping to advance aquaculture and aquaponics into working models of sustainable production.

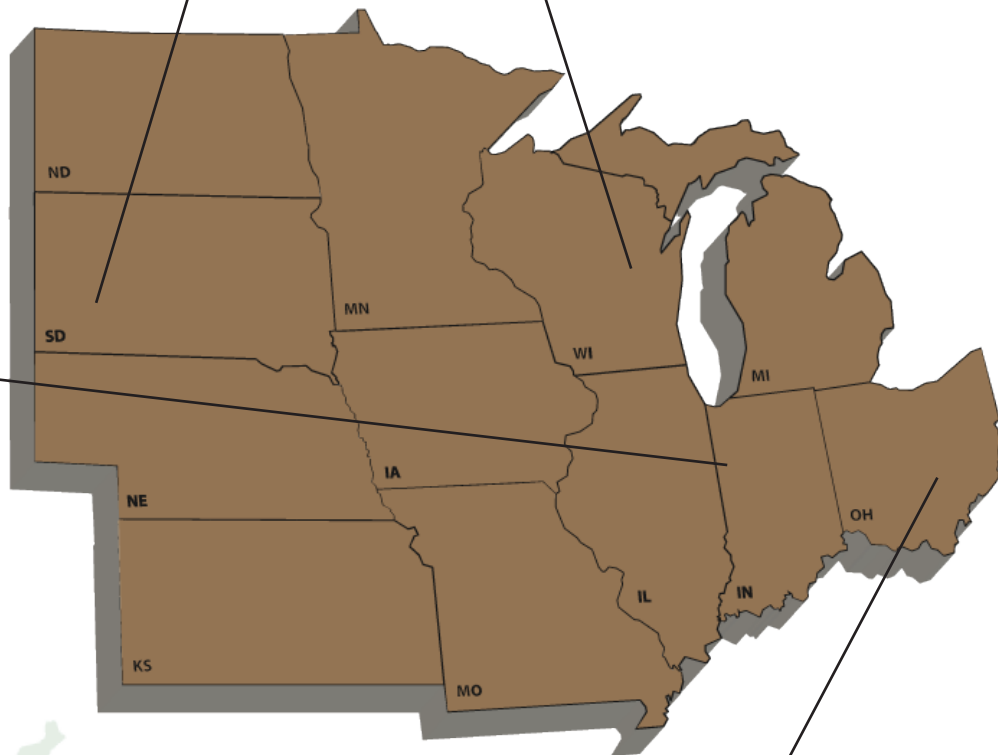
NCR-SARE Project Sampler

To view SARE's entire aquaculture and aquaponics portfolios, or just the North Central region's, visit <https://projects.sare.org> and search using the terms "aquaculture" or "aquaponics." For selected North Central region aquaculture and aquaponics grants, see the reverse side of this sheet.

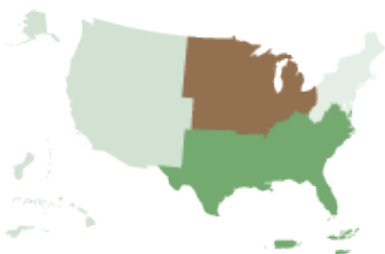
Western Dakota Tech (WDT) took first place in the National Science Foundation's 2018 Community College Innovation Challenge for a SARE-supported aquaponics project that involved designing, constructing, and implementing a medium-sized aquaponics system in a middle school STEM classroom. See <https://projects.sare.org> and search for project number YENC19-138.

Bill West has explored using unused manure pits as a resource for aquaculture production. He hopes to provide former dairy farmers with a good use for their unused manure pits. See <https://projects.sare.org> and search for project number FNC17-1105.

Dr. Carolyn Orr worked on a SARE project to raise trout in cages in her family's existing farm pond. During the project, they developed efficient fish feeders, effective methods of aeration, and helpful ways to weigh and sort trout for marketing. See <https://projects.sare.org> and search for project number FNC20-1241.



Don Maloney received SARE support to increase the yield and size of his fresh water prawns in Ohio. He sells unprocessed prawns to the public with a pondside harvest event, has a wholesale distributor, and sells at the Ohio Fish and Shrimp Festival. See <https://northcentral.sare.org/news/producer-raises-prawns-for-ohio-locavores/>.



SARE's four regional programs and outreach office work to advance – to the whole of American agriculture – innovations that improve profitability, stewardship and quality of life by investing in ground-breaking research and education.

— NCR-SARE's Aquaculture & Aquaponics Portfolio —

Selected Grants

FARMER AND RANCHER GRANTS

Indoor Rearing of the Eastern Oyster (*Crassostrea virginica*) within a Recirculation Biofloc Aquaculture System
Chandler Glover, Grownup Vertical Farming, Ohio, FNC21-1273, \$18,000

Improving Oxygen Transfer in a Recirculating Aquaculture System, to Increase Production and Promote the Sustainability of Raising Tilapia Indoors
Traci Bell, Ripple Rock Fish Farms, Ohio, FNC20-1207, \$26,990

Revisiting Farm Diversification through Trout and Walleye Food Fish Production
Dr. Carolyn Orr, Strawridge Farm, Indiana, FNC20-1241, \$8,932

Developing a Production and Distribution Mechanism for Feed Trained Perch Fingerlings for Use in Aquaculture Grow-out Facilities
Tami Hallam, Scenic Valley Perch, Wisconsin, FNC19-1166, \$26,993

Development and Testing of a Drainable Floating Fish Tank for Fish Culture in Deep Water Bodies
Jim Frey, Jim Frey Fish Hatchery, Indiana, FNC19-1163 \$9,000

North St. Louis Riverfront "GreenCubator"
James Forbes, Good Life Growing, Missouri, FNC19-1162, \$25,736

Increasing Farm Income and Diversification By Converting Abandoned Manure Pits Into Aquaculture Production Facilities
William West, Blue Iris Fish Farm, Wisconsin, FNC17-1105, \$20,406

Growing Mealworms as a Fish Feed for Sustainable Aquaponics
Barry Adler, RainFresh Harvests, Ohio, FNC16-1024, \$3,467

The Viability of Small Scale Aquaponics in Urban and Rural Underserved Communities
Gregory Fripp, Whispering Roots, Nebraska, FNC13-911, \$2,915

YOUTH EDUCATOR GRANTS

Pathways to Produce: Learning to Maximize Aquaponics Systems for Local Food Production
Beth Kastner, Maddie Earnest, and Pattie LaBrott, Saint Louis Science Center, Missouri, YENC20-148, \$4,000

Planting the Pond
Dr. Kelsey Murray and Bryan Mitchell, Western Dakota Tech, South Dakota, YENC19-138 \$4,000

Finding Success with Yellow Perch in an Aquaculture System

Between 2008 and 2020, Bill West of Blue Iris Fish Farm in Black Creek, Wisconsin, worked on six related SARE grants involving aquaculture and yellow perch. A 2022 report written by West includes a summary of those aquaculture research projects and updates for each SARE project. See <https://northcentral.sare.org/resources/aquaculture-and-yellow-perch>.



Updated 2023

For information on many more SARE-funded aquaculture and aquaponics projects, search the SARE project database: <https://projects.sare.org>.



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