North Central region SARE:
advancing the frontier of...

Crop Rotation

Crop rotation is the ancient practice of growing a wide variety of crops in a sequential system throughout a field in order to avoid a buildup of disease and pests. Strategic crop rotations can help producers promote good soil health by alternating crops with different nutrient needs and benefit overall soil structure by breaking up subsoil by alternating deep and shallow rooting plants. NCR-SARE supports research and education projects that study the applications of crop rotation-including improving soil quality and health, and managing pests, diseases, and weeds.

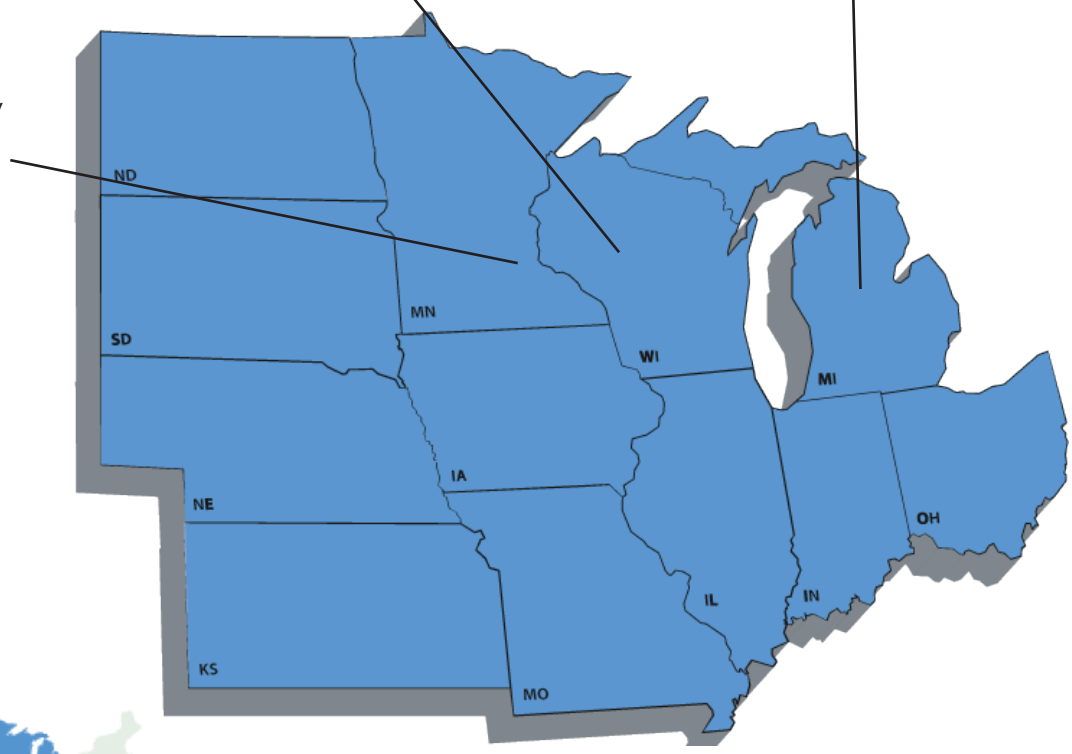
NCR-SARE Project Sampler

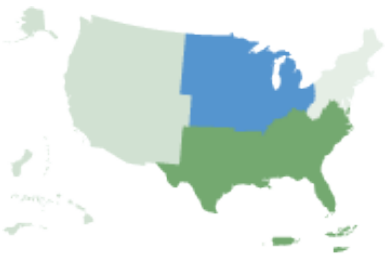
To view SARE's entire crop rotation portfolio, or just the North Central region's, visit https://projects.sare.org. For selected NCR crop rotation grants, see the reverse side.

Researchers compared two vegetable-poultry-cover crop rotations with a typical vegetable-cover crop rotation system to determine its effects on soil health, poultry health, vegetable crop performance, and economic feasibility, and prevalence of food-borne pathogens in soil especially following pasture raised poultry. See https://projects.sare.org and search for project number GNC13-178.

A producer tested various rotational acre plots to determine if compost would increase overall soil quality, reduce the use of fertilizer, and see how economical compost would maintain crop yields. See https://projects.sare.org and search for project number FNC14-976 to see his results.

Researchers at the University of Minnesota are exploring the viability of winter camelina for integration in sugar beet crop rotations See https://projects.sare.org and search for project number LNC17-398.





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 Crop Rotation Portfolio

Selected Grants

Farmer and Rancher Grants

Comparing Measurable Indicators of Soil Health Under Two Different Forage Harvesting Methods Four Times During the Growing Season

Benjamin Bartlett, Log Cabin Livestock, Michigan, FNC14-943. $6,462

Developing a Strategy for Utilizing Yard Waste Compost In a Corn and Soybean Rotation to Increase Soil Quality

Ryan Schweihofer, Schweihofer Farms, Michigan, FNC14-976, $15,736

Determining What Multi-Species (8 or more) Cover Crops Mixes Perform Well in a Corn and Soybean Crop Rotation

Matt Vantilburg, VTF Inc., Ohio, FNC13-937, $22,500

Maintaining Companion Planting Techniques while Mechanizing in Diverse, Small-Farm Vegetable Operations

Rob Faux, Genuine Faux Farm, Iowa, FNC10-814, $6,000

Professional Development Grants

Training Agricultural Professionals and Extension Educators Manage Crop Environment and Soil Quality in High Tunnel Vegetable Production

Ajay Nair, Iowa State University, Iowa, ENC16-155, $69,924

Graduate Student Grants

Assessing Agroecosystem Services and End-Use Malting Quality of Winter Barley in a Soybean-Winter Barley Double Crossing System in the Upper Midwest

Becky Zhong, University of Minnesota, Minnesota, GNC17-252, $11,986

Agroecosystems Impact of Relay and Double Cropping Winter Annual Oilseeds in Corn and Soybean

Moriah Bilenky, Iowa State University, Iowa, GNC17-236, $11,977

Impacts of Crop Management and Climate Change on Hydrology Across the Wisconsin Central Sands

Mallika Nocco, University of Wisconsin, Wisconsin, GNC13-178, $9,999

Youth Educator Grants

School-Farm Partnerships: Creating Natural Systems of Education for Food Production and Environmental Stewardship

Eric Oglesbee, Good Shepherd Montessori School, Indiana, YENC17-117, $2,000

Research and Education Grants

Winter Camelina: New Cash Crop Opportunities for Sustainable Sugar Beet Production

M. Scott Wells, University of Minnesota, Minnesota, LNC17-398, $199,999

Rotational Benefits and Agronomic Evaluation of Field Pea in Cereal-Based Cropping Systems

Cody Creech, University of Nebraska-Lincoln, Nebraska, LNC16-385, $200,000

Combining Strip-Tillage and Cover Crops for Resource Conservation and Profit in North Central Vegetable Cropping Systems

Daniel Brainard, Michigan State University, Michigan, LNC11-330, $169,853

Updated 2018

For information on more SARE-funded crop rotation projects search the SARE project database: https://projects.sare.org.

This product was developed with support from the Sustainable Agriculture Research and Education (SARE) program, which is funded by the U.S. Department of Agriculture — National Institute of Food and Agriculture (USDA-NIFA). Any opinions, findings, conclusions or recommendations expressed within do not necessarily reflect the view of the SARE program or the U.S. Department of Agriculture. USDA is an equal opportunity provider and employer.