

2020 NCR-SARE Graduate Student Grant Program Projects Recommended for Funding

Project #	Title	Graduate Student	Major Professor	Primary Grantee	State	\$\$ Requested	Cumulative	Brief Description
GNC20-294	Establishing Pullet Welfare Measurements and Guidelines for Growers and Managers on Commercial Poultry Farms	Meagan Abraham	Darrin Karcher	Purdue University	IN	\$ 14,962	\$ 14,962	This project will establish practical, hands-on welfare measurements and assessments that growers and producers can use on-farm to improve the health, welfare, and production of their pullet flocks.
GNC20-295	Removing Barriers of Adoption to Kura Clover Living Mulch Systems	Jonathan Alexander	John Baker	University of Minnesota	MN	\$ 15,000	\$ 29,962	This project will address the remaining barriers to the adoption of kura clover living mulch systems for maize production. Three experiments will address kura clover establishment, practical living mulch management solutions, and in-season nitrogen fertilizer management.
GNC20-307	Rancher Preferences for Conservation Program in Nebraska's Grasslands	Kyle Martens	Mark Burbach	University of Nebraska-Lincoln	NE	\$ 7,926	\$ 37,888	This project utilizes a payment for ecosystem services model to measure Nebraska ranchers' preferences for the design and implementation of grassland conservation programs.
GNC20-297	Improving apple and peach pollination by advancing knowledge of how forest management affects wild bee functional diversity	Marissa Chase	Jennifer Fraterrigo	University of Illinois at Urbana-Champaign	IL	\$ 14,799	\$ 52,687	Ensuring pollination on farms is essential to crop production, but we know little about how forest management adjacent to crops affects pollinator species. We will investigate how forest management affects wild bee functional diversity and pollination of nearby apple and peach farms.
GNC20-298	Refining Interseeding Winter Wheat Practices as a Sustainable Approach for Suppressing Common Waterhemp in Soybean	Madison Decker	Karla Gage	Southern Illinois University	IL	\$ 15,000	\$ 67,687	This project interseeds winter wheat in the spring at the time of soybean planting to provide groundcover and competition to suppress the germination and development of the highly competitive weed, common waterhemp. This approach could benefit growers in need of alternative weed control strategies.

GNC20-299	"How are you really doing?": Social Sustainability of Beginning Farmers	Fiona Doherty	Michelle Kaiser	The Ohio State University College of Social Work	OH	\$ 14,797	\$ 82,484	This project is focused on conducting a needs assessment and two community asset maps related to mental health, social supports, and external stressors of beginning Ohio farmers. Year 1 findings will inform resource development with the input of farmer key informants in Year 2.
GNC20-296	Winter Hardy Small Cereal Cover Crops for Grazing and Silage in Nebraska	Kallie Calus	Mary Drewnoski	University of Nebraska Lincoln	NE	\$ 14,389	\$ 96,873	Minimal information is available on cereal rye, winter wheat, and winter triticale for grazing or silage production in the North Central Region. This project will compare these forages so that integrated crop and cattle producers can make decisions about how they might fit into their operation.
GNC20-300	Maximizing Nitrogen Fixation in Cold-Hardy Hairy Vetch	Rebecca Fudge	Julie Grossman	University of Minnesota	MN	\$ 14,589	\$ 111,462	This project will identify rhizobia strains best suited to maximize nitrogen fixation in new cold-hardy ecotypes of hairy vetch in the cold temperatures of the upper Midwest.
GNC20-301	Increasing the effectiveness of pollinator conservation grasslands within the tallgrass prairie region	Katharine Hogan	Craig Allen	University of Nebraska - Lincoln	NE	\$ 15,000	\$ 126,462	This project compares the availability of floral resources for pollinators from two conservation grassland planting methods within a public green-way. It will quantify the floral community and bee visitation rates over time and determine effects of management (mowing).
GNC20-302	Effects of ericoid mycorrhizal fungi on performance of V. macrocarpon and V. oxycoccus under abiotic stresses related to climate change	Rebecca Honeyball	Amaya Atucha	University of Wisconsin - Madison	WI	\$ 14,879	\$ 141,341	Ericoid mycorrhizal fungi have the potential to reduce climate stress without the need to increase water or nutrient inputs, thus reducing risk of environmental impact. Our objective is to evaluate the impact of ErMF strains on cranberry vine performance under water, heat, pH, and nutrient stresses.
GNC20-303	Peer-to-Peer Labor Management Training for Diversified Organic Vegetable Producers	Sarah Janes Ugoretz	Michael Bell	University of Wisconsin-Madison	WI	\$ 14,873	\$ 156,214	This project will address diversified organic vegetable producers' complex labor management needs by creating a peer-to-peer education and training program and establishing a lasting community of practice.

GNC20-304	Assessing growers' knowledge of and interest in implementing insect resistant varieties as a part of an integrated pest management plan	Emily Justus	Elizabeth Long	Purdue University	IN	\$ 13,588	\$ 169,801	We will assess specialty crop growers' perceptions of the use of insect-resistant crop varieties and evaluate carrot varieties for insect resistance. The goal of this project is to aid specialty crop growers in making informed decisions about alternative management strategies for insect control.
GNC20-305	Economic Impacts of Bats in Dakota Agroecosystems: Do Insect-Eating Bats Reduce Pesticide Needs and Contribute to Plant Pollination?	Hanna Karevold	Erin Gillam	North Dakota State University	ND	\$ 14,850	\$ 184,651	Aims to quantify the dietary composition of North and South Dakota bat populations. Specifically, if bats predate upon common crop pests, their economic value as agents of natural pest removal in agroecosystems and examine if bats indirectly contribute to pollination.
GNC20-306	Defining Business Education for Small Scale Specialty Crop Farmers	Megan McManus	Cary Rivard	Kansas State University	KS	\$ 10,000	\$ 194,651	This project seeks to address issues surrounding financial viability of small-scale specialty crop growers by surveying and interviewing farmers on what they see as essential components of business education to develop a curriculum that can better address small farmer needs.
GNC20-309	Effect of recurring flooding on greenhouse gas emissions, soil C and N contents and forage quality in grazing and hay fields.	Marina Miquilini	Marilia Chiavegato	Ohio State University	OH	\$ 13,488	\$ 208,139	This project will monitor the effects of recurring flooding on greenhouse gas emissions from pasture soils, soil C and N contents, forage quality and productivity in grazed and hay pastures.
GNC20-310	Smart Farming with Microbes: Managing Summer Cover Crops to Cultivate Beneficial Soil Communities	Marie Schaedel	Julie Grossman	University of Minnesota	MN	\$ 14,993	\$ 223,132	This project investigates how summer cover crops may be leveraged to decrease soil nitrogen losses via their impacts on targeted microbial communities.
GNC20-308	The Use of Nematodes and Enzyme Activities For On-Farm Soil Biological Health Tests	Tvisha Martin	Christine Sprunger	The Ohio State University	OH	\$ 10,875	\$ 234,007	This project utilizes two long-term field trials and fields of 30 Ohio farmers to create a knowledge base that will be able to inform farmer management decisions from soil biological indicators.
GNC20-311	Examining the utility of black soldier fly larvae composting on urban farms	Caydee Terrell	Laura Ingwell	Purdue University	IN	\$ 14,832	\$ 248,839	Black soldier fly larvae have the potential to improve compost production on urban farms. I aim to develop a BSF compost system optimized for urban production. The goal is to increase the capacity of urban farms to recycle organic waste and generate nutrient dense soil amendments.

GNC20-312	Exploring how farmers' perceptions of soil health affect their management decisions	Taylor Ulbrich	Sarah Evans	Michigan State University	MI	\$ 12,710	\$ 261,549	Despite widespread interest in soil health among farmers, adoption of soil health practices is low. This study seeks to describe how farmers' understanding of soil health, or mental models, influences their management decisions and can inform agricultural advisors' outreach and training activities.
GNC20-313	Measuring the impacts of returning to tillage on soil health parameters after long-term no-till soil management: An educational opportunity.	Shaina Westhoff	David Clay	South Dakota State University	SD	\$ 14,976	\$ 276,525	The objective of this project is to monitor changes in soil physical, chemical, and biological properties as an outcome of returning to tillage after long-term no-till in a corn-soybean rotation in Northeastern South Dakota.
GNC20-314	Managing sericea lespedeza infestation in native warm season grass pastures utilizing goats	Chrisee Wheeler	Harley Naumann	University of Missouri	MO	\$ 14,973	\$ 291,498	Managing sericea lespedeza persistence and invasiveness in native warm season grass pastures will evaluate the effects of utilizing goats at various stocking rates to control, minimize, or eliminate sericea lespedeza in established native warm season grass pastures.
GNC20-315	Design and Management of On-Farm Wetlands for Water Quality and Climate Regulation	Danielle Winter	Sara McMillan	Purdue University	IN	\$ 14,838	\$ 306,336	This project will investigate how vegetation species selection and hydrologic management of wetlands influence emissions of methane and nitrous oxide from wetlands that treat agricultural runoff.