



Environment and Natural Resources Trust Fund

2021 Request for Proposal

General Information

Proposal ID: 2021-245

Proposal Title: Improving Landscape Ecological Value With Hazelnuts

Project Manager Information

Name: Linda Meschke

Organization: Rural Advantage

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Project Basic Information

Project Summary: Monitoring, education, technical assistance and establishment of hazelnuts, with cooperating landowners, to provide landscape scale ecological value [water quality, erosion reduction, carbon sequestration, habitat] to protect and enhance degraded land.

Funds Requested: \$161,000

Proposed Project Completion: 2024-06-30

LCCMR Funding Category: Small Projects (H)

Secondary Category: Methods to Protect, Restore, and Enhance Land, Water, and Habitat (F)

Project Location

What is the best scale for describing where your work will take place?

Statewide

What is the best scale to describe the area impacted by your work?

Region(s): Central, SE, SW,

When will the work impact occur?

During the Project

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

The goal of this project is to demonstrate ecological benefits from establishing 15,000 hazelnut plants [about 30 acres] over three years at priority sites utilizing new clonal and seedling plant materials developed by the UMN Forever Green Initiative over the past 15 – 20 years. Sites established provide field scale test locations for new plant materials and demonstrate a crop that provides mitigation for water quality and quantity impacts, reduced soil erosion, carbon sequestration and wildlife habitat within our conventional agricultural landscapes.

Landowners will be assisted by the project team to develop, design and establish a successful hazelnut orchard. Collaborating with area Hazelnut Grower Networks at least two field days and four meetings will be organized each year in addition to one on one consultations with landowners. Each field site established will be monitored, by plant, for growth, survivability and health and then reported back to the Forever Green Initiative.

There is a need to better understand the productivity and performance of these new hazelnut varieties under farmer established field conditions. This project will provide an opportunity to monitor performance, train farmers, and provide a reliable supply for a growing hazelnut industry in Minnesota that supports improved environmental outcomes.

What is your proposed solution to the problem or opportunity discussed above? i.e. What are you seeking funding to do? You will be asked to expand on this in Activities and Milestones.

Demonstrating that hazelnuts developed by the University of Minnesota can be a viable commercial crop with ecological value in Minnesota is one of our goals. The University is at a stage where plant materials will be coming available and need sites where they can be tested at a field scale to demonstrate success in growth, yield and health to be able to then scale up production to meet market demand.

This proposal would provide a cost-sharing with private landowners of 50% of the cost of the plant, tree tube, stake and mulch. In addition to the 50% landowner share of those costs, the land owner would supply the land, prepare the soil on the site for planting, do the planting and mulching, maintain the site, and assist with monitoring plant growth and progress in collaboration with our team. Rural Advantage would serve as project manager, provide technical assistance, education, demonstration and coordinate a grower network. During the project we will work with the Center for Natural Resources and Agricultural Management [CINRAM] and an undergraduate student Gary Wyatt, UMN Extension – Agroforestry and Alex Christiansen, Rural Advantage staff to bring expertise and resources to the project.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

Establish about 30 acres [15,000 plants] of hazelnuts at priority sites in south east, north central and MN river basin of Minnesota. We will prioritize hazelnut plant materials developed at the University of Minnesota when available and select improved varieties from private vendors if University varieties are not available, utilizing a 50% cost sharing with private landowners. We will provide technical assistance to growers and provide educational opportunities to the broader hazelnut grower group through a grower network. Outreach will include increasing awareness of the ecological value. We will collaborate with University of Minnesota Researchers to monitor the sites established.

Activities and Milestones

Activity 1: Establishment of Hazelnut Field Scale Plantings

Activity Budget: \$86,000

Activity Description:

Working with landowners participating in our Hazelnut Grower Networks [currently about 100 in Minnesota] we will identify interested growers who are ready to establish plantings. Team members will visit their sites and work with the landowner to develop a site plan and prepare the ground. A regular and boron soil test will be completed at this stage. In the first year we will cost share on 3,000 plants; second and third year 6,000 plants each. These plantings will be at least one acre in size. If additional growers are interested, and want to proceed without cost share, we will assist them as time allows. Team members will provide technical assistance to the landowner throughout the three years of the project to ensure success. Tasks include advising on orchard layout, planting, weed control, watering, maintenance, and evaluation of orchard condition.

Activity Milestones:

Description	Completion Date
Establish 6 acres of Hazelnuts on Private Lands	2022-06-30
Establish additional 12 acres of Hazelnuts on Private Lands	2023-06-30
Establish additional 12 acres of Hazelnuts on Private Lands	2024-06-30
Provide Technical Assistance & Coordinate Grower Network	2024-06-30

Activity 2: Development and Dissemination of Monitoring, Education and Demonstration

Activity Budget: \$39,000

Activity Description:

Team members will develop opportunities for at least four education events and two field days each year plus provide one on one landowner consultations as needed. Alex Christiansen, Rural Advantage will be the lead coordinator of the educational component. These activities will be available to the broader hazelnut audience and not just those participating in cost sharing from this project. Topics will include hazelnut establishment, soil fertility, care and management, pest management, harvest and processing.

Each year we will monitor all of the plants established and report the results to the Forever Green Initiative. In these early years of plant growth we will focus on growth, survivability and health, working with UMN Researcher Lois Braun to determine exact protocol. The undergraduate student will lead the monitoring with assistance from the project team.

Activity Milestones:

Description	Completion Date
Monitor and Collect Data from Established Sites and Submit to the UMN	2024-06-30
Provide Education and Demonstration to Growers via Meetings, Field Days	2024-06-30

Activity 3: Project Administration and Coordination

Activity Budget: \$36,000

Activity Description:

Rural Advantage staff, Linda Meschke will be the Project Director and guide the progress of the project and coordinate activities between team members and hazelnut growers. Meschke will be responsible to meet all deliverables.. Project reporting will be completed within the timelines established by the LCCMR.

Dean Current, UMN Center for the Integration of Natural Resources and Agricultural Management [CINRAM] will serve on the Advisory Team and coordinate an UMN undergraduate student in each of the three years. [new student each year] Dr. Current will also assist with the educational programming, bringing his global perspective as a leader in Agroforestry.

Activity Milestones:

Description	Completion Date
Administration of Project and Reporting	2024-06-30
Coordinate Undergraduate Student Activities with the project	2024-06-30
Coordinate the Project with All Project Partners	2024-06-30

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Alex Christiansen	Rural Advantage	Christiansen is a new staff member and is working part time [.31 FTE] for the USDA-NIFA Specialty Crop Research Initiative grant awarded to the University. Christiansen will serve on the advisory team and provide technical assistance and help with the educational programming.	Yes
Gary Wyatt	UMN Extension - Agroforestry	Wyatt has over thirty years working statewide with Minnesota landowners on conservation and agroforestry. He brings extensive experience on planning, establishment and management of agroforestry crops. He will serve on the Advisory Team and assist with educational programming. Note that the budget item for him is only mileage for participation.	Yes
Dean Current	University of Minnesota Center for Integrated Natural Resources and Agricultural Management [CINRAM]	Dean Current will serve on the Advisory Team and coordinate an UMN undergraduate student in each of the three years. [new student each year] Dr. Current will also assist with the educational programming, bringing his global perspective as a leader in Agroforestry.	Yes

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this be funded?

Knowledge gained will continued to be disseminated to interested hazelnut growers, researchers and industry through Rural Advantage, Extension and CINRAM outreach efforts and expanded to the Midwest grower base via the Upper Midwest Hazelnut Development Initiative [midwesthazelnuts.org] to reach a broader audience. The University of Minnesota will utilize the monitoring results as they continue to develop new germplasm to improve hazelnuts for Minnesota growers.

Project Manager and Organization Qualifications

Project Manager Name: Linda Meschke

Job Title: President

Provide description of the project manager's qualifications to manage the proposed project.

Ms. Meschke has over 40 years of experience in working on water resource issues in south central Minnesota. Her work has been focused on the implementation of innovative conservation practices to address agricultural nonpoint source pollution. She currently is working on landscape diversification that includes targeting of perennials or 3rd Crops throughout the intense corn and soybean region of southern Minnesota.

Ms. Meschke has extensive experience in working with producers/ landowners; local governments; non-profits; University of Minnesota researchers and educators and private industry to bring them together and work toward common goals. In collaboration with multiple partners she has developed and successfully led over \$10 million dollars in projects in the Greater Blue Earth River watershed area.

She is currently an elected SWCD Supervisor for Martin County and was awarded the Distinguished Service in Sustainable Agriculture Award from the Minnesota Sustainable Farming Association. Ms Meschke serves on the Boards of the University of Minnesota Southwest Regional Sustainable Development Partnership, I-90 Restorative Farmers and the Green Lands, Blue Waters. She has additional experience working as the Water Planner, Wetland Administrator and

Agricultural Inspector for Martin County, Minnesota; farm partner; doing loan servicing for Farmers Home Administration during the farm crisis of the mid 1980's; and as a Vocational Agricultural Instructor and FFA Advisor.

Organization: Rural Advantage

Organization Description:

Linda Meschke, with other partners, established on November 13, 2003 a 501[c][3] non profit called Rural Advantage under MN Statutes Chapter 317A to provide a vehicle to continue to advance the 3rd crop work in Minnesota and the Midwest. Linda Meschke is President of Rural Advantage. Rural Advantage's mission is to promote the connections between agriculture, the environment and rural communities in order to improve ecological health, economic viability and rural vitality. Objectives include:

- Advance landscape diversification to improve ecological health, rural vitality and farm profitability.
- Cultivate a more sustainable approach to agriculture that is diverse, resilient and responsible; and supports natural and agricultural 'systems' thinking.
- Foster rural economic development that supports rural families and local communities.
- Promote increased stewardship through education, demonstration and implementation.

In 2014, Rural Advantage was donated a farm with 18 acres of mature hazelnuts near LeRoy, MN. Until recently, this was the largest commercial planting of hazelnuts in Minnesota. Staff actively manage the hazelnuts including harvest and marketing.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Project Director		Project Administration and Reporting			7.65%	0.3		\$27,000
Program Manager		Provide Technical Assistance, education, monitoring, coordinate landowners			7.65%	0.75		\$39,000
							Sub Total	\$66,000
Contracts and Services								
University of Minnesota CINRAM [Center for Integrated Natural Resources and Agricultural Management]	Sub award	Provide coordination with under graduate students, serve on advisory team, participate in meetings, field days, student assist with plant monitoring and site development and establishment, coordinate with Forever Green on project activities. Student will be .31 FTE x 3 years for \$19,200. CINRAM will be \$6,000/yr x3yr				0.93		\$37,000
							Sub Total	\$37,000
Equipment, Tools, and Supplies								
	Tools and Supplies	Hazelnut Plants	To establish 15,000 hazelnut plants [about 30 acres]. Priority to UMN developed plant materials.. Landowner will match 50-50 not to exceed \$2.00 per plant.					\$30,000
	Tools and Supplies	Tree Tubes and Stake - 15,000 for hazelnut plants	To protect new plants in the field. 18" x 4" diameter, 50-50 cost hare with landowner not to exceed \$.60 per plant.					\$9,000
	Tools and Supplies	Plastic or wood chip mulch for weed and moisture control around 15,000 hazelnut plants.	To protect new plants from weed pressure and retain moisture for good growth. \$.27 per plant x 15,000 plants.					\$4,000

	Tools and Supplies	Regular and Boron Soil Test for 15 fields where hazelnuts will be established.	To determine fertility levels so fertilizers [if needed] can be applied prior to planting. Boron is a critical element for hazelnut development and requires a separate test \$50 for regular test with recommendations and \$10 for boron test., plus shipping.					\$1,000
							Sub Total	\$44,000
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	Mileage for Rural Advantage staff - IRS rate [\$.575] per mile x 25 sites x 163 miles round trip x 3 years	To travel to cooperating landowners, meetings and field days from Rural Advantage office..					\$7,000
	Miles/ Meals/ Lodging	Mileage for Gary Wyatt 15 trips x 193 mile round trip x \$.575 per mile x 3 yr	To travel to landowner sites, meetings & field days.					\$5,000
							Sub Total	\$12,000
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
		Meeting Room Rental - 3 times x \$222 x 3 years	Meeting Room needed for grower meeting during winter period					\$2,000

							Sub Total	\$2,000
							Grand Total	\$161,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	-
Non-State				
Cash	Private landowners establishing plantings will cost share 50-50 for plants, tree tube and stake and mulch. This will be a cash expenditure by the participating landowner.	These funds will go toward the cost of the plants, tree tube and stake and mulch. Cost share is 50% of the cost, not to exceed \$2.00 per plant; \$.60 per tree tube and stake; and \$.25 per plant for mulch..	Secured	\$43,000
			Non State Sub Total	\$43,000
			Funds Total	\$43,000

Attachments

Required Attachments

Visual Component

File: [efed12e2-ead.pdf](#)

Alternate Text for Visual Component

The proposal titled "Improving Landscape Ecological Value Using Hazelnuts" advances research the University of Minnesota has done on the development of improved hazelnut plant materials by placing these plant materials out in the landscape at a field scale [one acre or more]. We will be focusing on three areas of the state: south east, MN River Basin and north central Minnesota. These areas compliment the Hazelnut Grower Networks that are being developed under a federal grant, received by the UMN.

Financial Capacity

File: [ada9d611-9d5.pdf](#)

Board Resolution or Letter

Title	File
Letter - Rural Advantage	2ffa09ae-92b.doc

Optional Attachments

Support Letter or Other

Title	File
Two Letters of Support	aa1d3507-4c2.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Does your project have patent, royalties, or revenue potential?

No

Does your project include research?

No

Does the organization have a fiscal agent for this project?

No

2021 LCCMR Proposal – Improving Landscape Ecological Value Using Hazelnuts

Project area will focus on North Central, South East and the MN River areas of Minnesota, which compliments Hazelnut Grower Networks being developed by the federally funded UMN Specialty Crop Research Initiative grant.



