

Environment and Natural Resources Trust Fund 2009 Phase 2 Request for Proposals (RFP)

LCCMR ID: 031-A3

Project Title: Technical Guidance to Perennial Establishment for Bioenergy Uses

Total Project Budget: \$ \$281,430

Proposed Project Time Period for the Funding Requested: 3 Yr, July 2009 to June 2012

Other Non-State Funds: \$ \$120,000.00

Priority: A3. Technical Assistance for Conserving Land

First Name: Linda

Last Name: Meschke

Sponsoring Organization: Rural Advantage

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Region:

County Name:

City / Township:

NW, Central, Metro,
SW, SE

Summary: Building from our previous work with perennial 3rd crops, we will accelerate establishment of perennial plantings by identifying constraints; develop technical guidance; and demonstrate techniques for establishment, growth and management.

Main Proposal: 1008-2-029-proposal-Main Proposal- Rural Advantage2009.doc

Project Budget: 1008-2-029-budget-Project Budget- RuralAdvantage 2009.xls

Qualifications: 1008-2-029-qualifications-Project Manager - Rural Advantage2009.doc

Map: 1008-2-029-maps-Map- Rural Advantage 2009.pdf

Letter of Resolution: 1008-2-029-resolution-Letter- Rural Advantage2009.pdf

MAIN PROPOSAL

PROJECT TITLE: Technical Guidance to Perennial Establishment for Bioenergy Uses

I. PROJECT STATEMENT

The rapid growth of renewable energy interest across Minnesota has created a unique opportunity to expand the number of acres of perennials- whether native grasses or woodies- on the landscape to capture multiple benefits for society along with local grown renewable energy. Local leadership can help to drive these projects toward a perennial feedstock [versus annual crops] and we have been leading that effort since 2000 with our 3rd Crop Initiative and since 2004 with the development of the Madelia Model.

Projects such as Koda Energy, UM-Morris, Little Falls Ethanol Gasification, Chippewa Valley Ethanol, FibroMinn and St. Paul District Energy all have perennial feedstock needs immediately. At least 15 other projects across the state have made commitments to new renewable energy projects, using various technologies that can utilize perennial feedstocks. These opportunities have created gaps between feedstock demand, bioenergy crop knowledge and availability of perennial feedstocks. Our partner team has been providing a variety of information to landowners and natural resource managers about perennial bioenergy crops that has been gleaned from a wide variety of sources.

These requests have been growing each year and it is time to develop a technical guide around the establishment of perennials for bioenergy uses to reach a wider audience. This guide needs to glean information from those working with perennial establishment from around the Midwest whether they are from private industry, universities, local, state or federal governments. We understand that not everything is known about growing bioenergy crops today, but we want to gather the best *pieces* of information to disseminate to natural resource delivery people across the state. The development and availability of this information, in combination with a wide range of outreach efforts, will increase the establishment and elevate the quality of perennial bioenergy plantings in Minnesota.

II. DESCRIPTION OF PROJECT RESULTS

Result 1: Identifying Constraints to Perennial Crop Establishment Budget: \$ 85,500

Focus groups would be held in three targeted areas- the Madelia Model, Wadena and the Koda Energy [Shakopee] fuelsheds to get a better understanding of current issues. Within each targeted area there would be two levels of focus groups: 1) landowners and 2) local natural resource deliverers. Through dialogue we would identify constraints to landowner adoption and potential ability to mitigate those constraints. From the focus groups one Technical Resource Group [TRG] will be established in each of the three target areas. The TRG's will meet semi-annually throughout this project as a resource for the project team as the deliverables are developed. The TRG's will also enable us to elevate local leadership around perennial bioenergy crops in these three key areas. These groups would also be used to discover overarching questions people have about perennial crop opportunities through private, state and federal programs. This component would be lead by the Center for Integrated Natural Resources and Agricultural Management [CINRAM] at the UMN and build off of what was learned in focus group discussions held as part of the RIM-CE program in 2007.

Deliverable

Completion Date

- | | |
|---|-----------|
| 1. Identify participants and hold the focus group discussions.
Prepare Summary Report | June 2010 |
| 2. Identify Technical Resource Group and hold Semiannual Meetings
Prepare summary Report | June 2012 |

Result 2: Technical Guidance to Perennial Establishment for Bioenergy Uses

Budget: \$ 86,680

To assist in meeting the many challenges landowners are identifying as they consider establishing perennial bioenergy crops to meet the needs of an ever growing feedstock requesting bioenergy industry in Minnesota we will develop a "Technical Guidance to Perennial Establishment for Bioenergy Uses." This information will be made available electronically and in hard copy [3 ring binder]. Each SWCD in

Minnesota, and other important entities advancing these issues, will receive a hard copy to use. This document will be a critical tool for landowners wanting to transition to a more sustainable agricultural production system that result in landscape scale change to provide significant water quality improvement and other benefits. The guidance will include steps a landowner can adopt to minimize risk, maintain economic viability and target critical areas on their land. It will go beyond the agronomic aspects [seeding mixes, rates, fertilization, harvesting, etc.] to include information such as energy values, feedstock characteristics and emission considerations. The guidance will include a section on transitioning from a traditional farm system to a more diverse system that includes perennials.

Deliverable

1. Gather Information and Develop Technical Guidance
2. Print and distribute Technical Guidance

Completion Date

June 2011
December 2011

Result 3: 3rd Crop Outreach and Demonstration

Budget: \$ 109,250

We will use a variety of techniques to deliver outreach and demonstration about perennial establishment, growth and management. We will utilize a UMN Extension Conservation Agronomist as the lead delivery person for this component. We will host our 3rd Crop Winter Series [4 annually] meetings; 3rd Crop Walk-N-Talks [5 - 7 annually]; add technical guidance to and maintain our website supporting perennial adoption; disseminate research results; provide one on one consultation with landowners; promote higher level BMP's; develop materials specific to the establishment of perennials [native grasses and woodies] for bioenergy use for landowner use; hold a major 3rd Crop/ Bioenergy Crop field day annually at the UMN SROC- Waseca; and work with local conservation delivery staff to provide them the necessary tools to promote perennial applications through their work.

Deliverable

1. Four 3rd Crop Winter Series Meetings held annually
2. 5 – 7 3rd Crop Walk-N-Talks held annually
3. SROC Major Field Day held annually
4. One on One Landowner Consultations
5. Maintain Website and add new Perennial Bioenergy Info
6. Collaborate with Local Natural Resource Managers June 2012

Completion Date

March 2012
June 2012
December 2011
June 2012
June 2012

III. PROJECT STRATEGY AND TIMELINE

A. Project Partners

- Rural Advantage- Linda Meschke, Jeff Jensen, Kim Shoemaker, Conservation Agronomist
- CINRAM- Dean Current, RaeLynn Jones
- U of MN- Don Wyse, Craig Scheaffer, Ken Brooks, Wm. Easter
- U of MN Extension- Gary Wyatt, Diomides Zamora
- U of MN SROC- Gregg Johnson, Jeanette Williams

B. Project Impact

We expect this project to result in more acres, and better quality acres, of perennials for bioenergy use across Minnesota. Current and new projects will demand several thousand acres of perennial feedstocks. While some existing acres can be harvested, most of the supply will need to come from newly established acres planted for bioenergy use. Information developed will be distributed to all SWCD offices across the state.

C. Time

3 years [July 2009 to June 30, 2012]

D. Long-Term Strategy

Since 2000 this project team has been working on the 3rd Crop Initiative. The increase in interest for renewable energy that is local grown has focused our efforts toward perennial bioenergy crops- especially native grass mixes, willows and hybrid poplar. In 2004 we began developing the Madelia Model to demonstrate how you could utilize local grown perennials for renewable energy and gain multiple societal benefits including clean water, enhanced wildlife and pollinator habitat, and increased economic engines in rural communities. This proposal is part of these larger focused efforts to increase the long term sustainability of our rural landscapes and communities.

Project Budget

Technical Guidance to Perennial Establishment for Bioenergy

IV. TOTAL PROJECT REQUEST BUDGET

BUDGET ITEM <i>(See list of Eligible & Non-Eligible Costs, p. 17)</i>	AMOUNT	% FTE
Personnel: <i>Who is getting paid to do what and what is the % of full-time employment for each position? List out by position.</i>	\$ -	%
Conservation Agronomist [Partnership W/Rural Advantage & UMN Extension]	\$ 120,000	50%
Clerical W/ Rural Advantage [Only 2nd Year- compile/distribute Technical Guides]	\$ 4,680	15%
Contracts: <i>With whom and for what? List out by item.</i>	\$ -	
CINRAM- Student[s] to Coordinate Focus and Technical Resouce Groups, assist with development of Technical Guide and Outreach	\$ 120,000	NA
UMN Extension- for Gary Wyatt and Diomides Zamora to assist with Agroforestry collaborations for Focus Groups and Outreach.	\$ 12,000	NA
UMN-SROC-Waseca [Annual field day and technical assistance]	\$ 15,000	
Other: <i>List by item and explain.</i>	\$ -	
Printing Brochures and Technical Guides	\$ 3,050	
Postage, 125- 3 ring notebooks, dividers	\$ 3,200	
Mileage- Rural Advantage [focus & Technical Resource groups, outreach]	\$ 3,500	
TOTAL PROJECT BUDGET REQUEST TO LCCMR	\$ 281,430	

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Remaining \$ From Previous Trust Fund Appropriation (if applicable): Pyrolysis Project with Dr. Roger Ruan. Rural Advantage portion \$54,000	\$ 45,000	<i>Unspent</i>
Other Non-State \$ Being Leveraged During Project Period: Conservation Agronomist- 50% time paid with McKnight Foundation & Bush Foundation Funds- Secured; Packard Foundation - Pending	\$ 120,000	<i>Secured or Pending</i>
Rural Advantage- Two FTE Staff plus supporting resources [part time clerical, mileage, phone, internet, etc.] working on advancing 3rd Crop/Perennial Issues paid with funds from McKnight, Bush, Steven Leuthold, and Southern MN Initiative Foundations; Three Rivers RC&D and USDA- Conservation Innovation Grant- Secured Two years out and part of third year; Pending Balance Third Year	\$ 450,000	<i>Secured or Pending</i>
Other State \$ Being Spent During Project Period:	NONE	<i>Secured or Pending</i>
In-kind Services During Project Period:	NONE	
Past Spending: 2005 LCMR- 3rd Crop - \$500,000; EPA 319/ PCA - \$30,000; Clean Water Legacy Act [via Greater Blue Earth River Basin Alliance to Rural Advantage] - \$80,000; CERTS - \$5,000; 2008 LCCMR- Prairies for Biofuels- C. Lehman- \$22,500	\$ 637,500	

Project Managers Qualifications and Organization Description

Linda Meschke, President, Rural Advantage

Ms. Meschke has over 20 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 non point 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 south central Minnesota.

In 2004 she began to develop the concept for what is now the Madelia Model. The Madelia Model demonstrates how rural communities can benefit from developing local renewable energy facilities that utilize perennial biomass to provide multiple benefits, such as clean water, sustainable family farms, increased business opportunities and more jobs, in addition to local renewable energy.

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 lead over \$10 million dollars in projects in the Greater Blue Earth River watershed area that have resulted in an estimated reduction of at least 9 percent of the pollution loading going to the Minnesota River from the Blue Earth River system.

She is currently an SWCD Supervisor for Martin County and was recently named an Associate Fellow for the Institute for the Environment at the University of Minnesota. 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.

Rural Advantage

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.

