

**Environment and Natural Resources Trust Fund
2014 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 153-F

Increasing Cover Crop Adoption on Working Lands

Category: F. Methods to Protect, Restore, and Enhance Land, Water, and Habitat

Total Project Budget: \$ 162,500

Proposed Project Time Period for the Funding Requested: 3 Years, July 2014 - June 2017

Summary:

This project increases cover crop adoption in Minnesota by partnering with farmers' knowledgeable crop advisors, removing barriers to implementation, and demonstrating on-farm feasibility.

Name: Megan Lennon

Sponsoring Organization: BWSR

Address: 520 Lafayette Rd N
St. Paul MN 55155

Telephone Number: (651) 296-1285

Email megan.lennon@state.mn.us

Web Address www.bwsr.state.mn.us

Location

Region: Central, Northwest, Southwest, Southeast

County Name: Becker, Benton, Big Stone, Blue Earth, Brown, Chippewa, Chisago, Clay, Cottonwood, Dakota, Dodge, Douglas, Faribault, Fillmore, Freeborn, Goodhue, Grant, Houston, Isanti, Jackson, Kanabec, Kandiyohi, Lac qui Parle, Le Sueur, Lincoln, Lyon, Mahnommen, Marshall, Martin, McLeod, Meeker, Mille Lacs, Morrison, Mower, Murray, Nicollet, Nobles, Norman

City / Township:

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ Employment	_____ TOTAL _____%



PROJECT TITLE: Increasing Cover Crop Adoption on Working Lands

I. PROJECT STATEMENT

This project utilizes Minnesota Certified Crop Advisers (CCAs) in tandem with Soil and Water Conservation Districts (SWCDs) to promote the benefits of cover crops and assist producers in integrating cover crops into existing management systems, establish 10 to 15 demonstration plots, and advance knowledge sharing amongst local producers. Environmental and on-farm benefits of cover crops include: reduced soil erosion and nutrient runoff, improved nutrient cycling and reduced fertilizer costs, reduced sedimentation and improved water quality, and increased soil organic matter and water holding capacity. Barriers to widespread cover crop adoption exist and include lack of access to specialized equipment, conflicting messaging on feasibility, high establishment cost, and a narrow window of opportunity for establishment. This project is intended to increase cover crop adoption by removing logistical hurdles, promoting a compelling and unified message on cover crop use and impacts, and encouraging innovative management that demonstrates cover crop feasibility on a local scale.

Despite the numerous benefits cover crops provide, cover crops are rarely integrated into row crop rotations. One main impediment to cover crop adoption in Minnesota is that producers do not see cover crops as 'field proven' throughout the agricultural regions of the State. While some producers use cover crops in niche production systems (after corn silage, edible beans and other specialty crops), cover crops are uncommon in the traditional corn-soybean rotation in Minnesota. The corn-soybean rotation dominates Minnesota's row crop landscape. Soil in this rotation is particularly vulnerable after bean harvest because very little crop residue remains on the soil to protect against wind and water erosion. Incorporating cover crops into corn-soybean rotations protects and enhances the soil resource, improves water quality and provides economic benefits to producers. Even a modest increase in cover crop adoption on Minnesota's 15 million corn and bean acres would produce significant environmental benefits.

In order to foster cover crop adoption in Minnesota's corn-soybean rotation, conservationists must employ a strategy that goes above and beyond providing financial assistance (e.g., cost share). This project recognizes crop advisers are often producers' most trusted and valued source of information, and utilizes this strong relationship to encourage cover crop adoption. Cover crop adoption increases in regions with innovative and successful producers because the early adopters demonstrate cover crops as a 'field-proven' practice. This project is designed to increase cover crop adoption by:

- 1) Using certified crop advisers to promote cover crop technology and management, and assist producers in integrating cover crops into cash crop rotations, and
- 2) Establishing regional trial sites demonstrating feasibility and facilitating knowledge sharing amongst local producers

II. DESCRIPTION OF PROJECT ACTIVITIES

Activity 1: Establish 10-15 Cover Crop Demonstration Sites

Budget: \$ 150,000

Certified Crop Advisers and SWCD staff will identify innovative producers interested in working cover crops into their existing crop rotation. Demonstration sites will be established in fall of 2015 and fall of 2016. Site selection will target erosion prone soils (sandy, sloped, or rotations leaving little vegetative cover). Depending on a producer's resource concerns and needs, demonstration plots will range in size from 1 acre to 10 acres and utilize tailored species mixes. Tasks include 1) CCA coordination with participating landowners to determine cover crop type and seeding method, 2) establishment and maintenance of demonstration site, and 3) monitoring cover (emergence, biomass production) and cash crop (yield, height, stem count). Demonstration site locations will be located throughout row-crop agriculture regions of the state to capture a wide variety of climate, soil and topography.



Environment and Natural Resources Trust Fund (ENRTF)

2014 Main Proposal

Project Title: Increasing Cover Crop Adoption on Working Lands

Outcome	Completion Date
1. Identify producers and establish demonstration site (first field season)	Spring – Fall 2015
2. Monitor cover crop and cash crop on 2015 demonstration site	Fall 2015 – Spring 2016
3. Identify producers and establish demonstration site (second field season)	Spring – Fall 2016
4. Monitor cover crop and cash crop on 2016 demonstration site	Fall 2016 – Spring 2017

Activity 2: Field Days and Outreach Events

Budget: \$ 7,500

This activity includes hosting a field day at each demonstration site. CCAs and SWCD staff will lead tours of demonstration sites and facilitate discussion on cover crop benefits, establishment success, species selection, establishment and termination logistics, on-farm benefits to producers and benefits to soil health and water quality. The skills and knowledge shared at the field days has the potential to impact Minnesota's 15 million acres of land devoted to corn and soybean production.

Outcome	Completion Date
1. Host field day at each 2015 demonstration site	April 2016
2. Host field day at each 2016 demonstration site	April 2017

Activity 3: Develop Resource Materials

Budget: \$ 5,000

This activity includes developing a Cover Crop Business Directory (CCBD). A Minnesota-specific CCBD will be a new resource for producers to access information on aerial seed applicators, cover crop seed houses and custom sprayer application. The CCBD will be available in both print and online format. Copies of the CCBD will be distributed to SWCD and NRCS offices for dissemination to producers. The CCBD will also be distributed at the 2015 and 2016 Minnesota Conservation Tillage Conference.

Outcome	Completion Date
1. Develop Cover Crop Business Directory	December 2014

III. PROJECT STRATEGY

A. Project Team/Partners

Megan Lennon, Minnesota Board of Water and Soil Resources (contributing funds via in-kind contribution) – project manager

SWCDs (receiving LCCMR funds) – recruit producers, co-host field days and develop resource materials

Minnesota Certified Crop Advisers – (receiving LCCMR funds through contract with SWCDs) – recruit producers, advise producers on cover crop species and seeding methods, provide logistical support for demonstration site establishment and management, and co-host field days.

B. Timeline Requirements

3 years. This project contains two complete field seasons and ends June 2017. Cover crop season one: fall 2015 – spring 2016. Cover crop season two fall 2016 – spring 2017.

C. Long-Term Strategy and Future Funding Needs

The long-term vision of this project is to increase permanent adoption of cover crops and integration into cropping systems in Minnesota. This vision will not be achieved in the short-term LCCMR project period.

However, this project is important because the 3 year LCCMR project period provides the opportunity to address and remove the roadblocks to cover crop implementation and paves the way for more widespread adoption.

2014 Detailed Project Budget

Project Title: *Increasing Cover Crop Adoption on Working Lands*

IV. TOTAL ENRTF REQUEST BUDGET 3 years

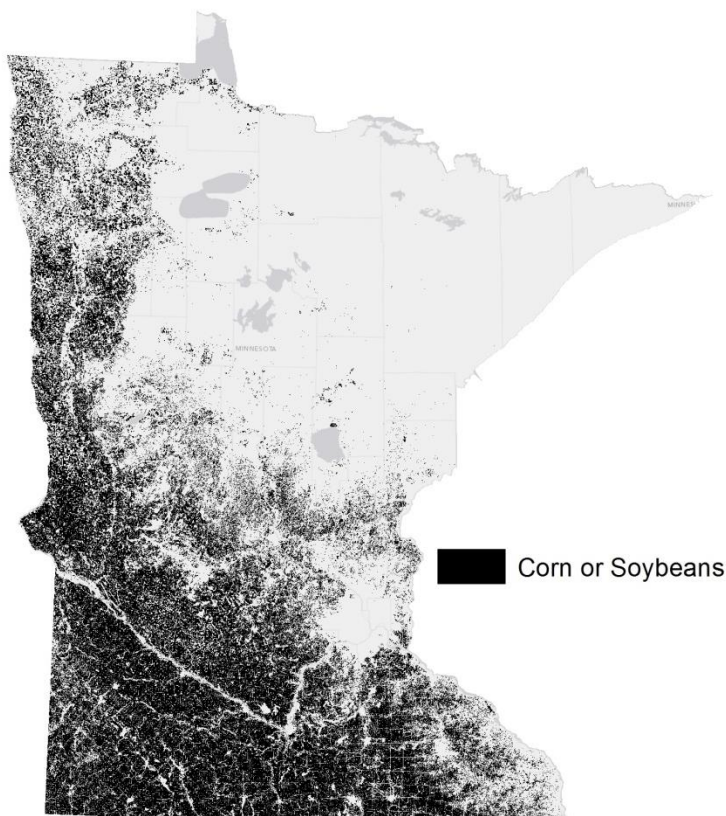
<u>BUDGET ITEM</u>	<u>AMOUNT</u>
Contracts: Soil and Water Conservation Districts (TBD) - recruit producers, host field days at demonstration sites, develop Cover Crop Business Directory. <ul style="list-style-type: none">• \$64,500 for work on 15 demonstration sites at an average of \$4,300 per site• \$5,000 for development of cover crop business directory	\$ 69,500
Certified Crop Advisers (TBD) - recruit producers, advise on cover crop type, establishment, and cover crop management, secure necessary equipment and seed, and monitor cover crop and cash crop. <ul style="list-style-type: none">• \$93,000 based on work for 15 demonstration sites at an average of \$6,200 per site	\$ 93,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 162,500

V. OTHER FUNDS

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
In-kind Services During Project Period: Megan Lennon, BWSR, project manager, 5% time in-kind	\$ 10,000	Secured

Increasing Cover Crop Adoption on Working Lands

Minnesota Corn and Soybean Crop Distribution



Minnesota has 15 million acres of corn and soybean land.

A modest increase in cover crop adoption provides significant environmental and economic benefits:

- Reduces erosion and nutrient runoff
- Improves nutrient cycling and reduces fertilizer costs
- Reduces sedimentation and improves water quality
- Increases organic matter and water storage on the landscape

Rye cover crop growing in corn stubble in late fall. Photo courtesy Mark Zumwinkle, MDA.



This project increases cover crop adoption by partnering with crop advisers to promote cover crop technology and management, and establishing regional trial sites that demonstrate feasibility and facilitate knowledge sharing amongst local producers.

Project Manager Qualification and Organization Description

Project Manager: Megan Lennon

Current Position: State Soils Specialist, Minnesota Board of Water and Soil Resources

Education:

- BS: University of Minnesota – Twin Cities
Major: Environmental Science
- MS: University of Minnesota – Twin Cities
Major: Soil Science

Experience:

- Project Manager for ENTRF funded projects *Completion of a Statewide Soil Survey* and *Measuring Conservation Practice Outcomes*
- MS research in carbon sequestration in Minnesota soils
- Co-instructor for soils component of Wetland Delineators Certification Program
- Coordinate and provide technical guidance and policy support for BWSR programs and functions regarding soil and water conservation, soil quality, and related topics

Other:

- Professional Soil Scientist (License # 49298)

Organization Description:

The Minnesota Board of Water and Soil Resources consists of 20 members, including local government representatives that deliver BWSR programs, state agencies, and citizens. The board sets a policy agenda designed to enhance service delivery through the use of local government. Board members, including the board chair, are appointed by the governor to four-year terms.

The board is the state's administrative agency for 90 soil and water conservation districts, 46 watershed districts, 23 metropolitan watershed management organizations, and 80 county water managers.

The BWSR mission is to improve and protect Minnesota's water and soil resources by working in partnership with local organizations and private landowners. Core functions include implementing the state's soil and water conservation policy, comprehensive local water management, and the Wetland Conservation Act as it relates to the 41.7 million acres of private land in Minnesota.