



NOTICE OF INTENT TO AWARD

This Funding Announcement is not a request for applications. This announcement is to provide public notice of the U.S. Geological Survey's intention to fund the following project activities without full and open competition.

ABSTRACT	
Funding Announcement	USGS-19-FA-2380
Project Title	Improving pollinator habitat using mycorrhizal inoculum
Recipient	University of Minnesota
Principal Investigator / Program Manager	Nick Jordan Dept. of Agronomy and Plant Genetics University of Minnesota P: 612-625-3754 email: jorda020@umn.edu
Anticipated Federal Amount	\$56,172.00
Cost Share	N/A
Total Anticipated Award Amount	\$63,910.00
New Award or Continuation?	New
Anticipated Period of Performance	8/1/2019 – 7/31/2021
Award Instrument	Cooperative Agreement
CFDA # and Title	15.808 U.S. Geological Survey_ Research and Data Collection
USGS Point of Contact	Diane L. Larson 1561 Lindig St. St. Paul, MN 55108 voice 651-649-5041 email: dlarson@usgs.gov

OVERVIEW

Prior research indicates that soil mutualists, in particular arbuscular mycorrhizal fungi (AMF), may be critical to establishment of prairie reconstructions that have the high levels of species richness needed for optimal pollinator habitat; it may be very important to improve the AMF community available in new reconstructions. However major gaps in understanding remain. This

study will improve understanding of the value of AMF in improving reconstruction outcomes for the Upper Midwest tallgrass prairie via a tiered approach. In the first tier of work we will evaluate the difference in AMF taxa colonizing roots of plant species collected in high-quality remnant versus reconstructed prairies. Objectives in the first tier of the study are:

1. Identify and compare AMF taxa from roots collected on reconstructions and nearby high-quality remnant prairie of at least 20 plant species used in tallgrass prairie reconstructions in Minnesota and Iowa.
 - a. Determine if plant species that establish poorly or decline in reconstructions consistently have AMF communities that differ from those of the same species that thrive in remnant prairies; this will help us understand which plant species are most likely to be helped by AMF inoculum.
2. Evaluate consistency among AMF communities collected in different geographic locations from species in decline versus those that perform well to assess how local the inoculum needs to be.

RECIPIENT INVOLVEMENT

University of Minnesota will be responsible for locating and collecting root samples of the target species and soils from the study sites; DNA extraction from root samples; soil analyses for NPK and soil texture; sequencing of DNA extracts; and will work with other cooperators and USGS to interpret results and develop outreach materials and publications.

USGS INVOLVEMENT

Substantial involvement on the part USGS is anticipated for the successful completion of the objectives to be funded by this award. In particular, USGS will be responsible for the following:

USGS will be responsible for providing monitoring data from the established reconstructions to direct target plant species selection; provide Dneasy plant mini kits and other consumables for DNA extraction; and will work with other cooperators and the University of Minnesota to interpret results and develop outreach materials and publications.

SINGLE-SOURCE JUSTIFICATION

DEPARTMENT OF THE INTERIOR SINGLE SOURCE POLICY REQUIREMENTS
Department of the Interior Policy (505 DM 2) requires a written justification which explains why competition is not practicable for each single-source award. The justification must address one or more of the following criteria as well as discussion of the program legislative history, unique capabilities of the proposed recipient, and cost-sharing contribution offered by the proposed recipient, as applicable.
In order for an assistance award to be made without competition, the award must satisfy one

or more of the following criteria:

- (1) Unsolicited Proposal – The proposed award is the result of an unsolicited assistance application which represents a unique or innovative idea, method, or approach which is not the subject of a current or planned contract or assistance award, but which is deemed advantageous to the program objectives;
- (2) Continuation – The activity to be funded is necessary to the satisfactory completion of, or is a continuation of an activity presently being funded, and for which competition would have a significant adverse effect on the continuity or completion of the activity;
- (3) Legislative intent – The language in the applicable authorizing legislation or legislative history clearly indicates Congress’ intent to restrict the award to a particular recipient of purpose;
- (4) Unique Qualifications – The applicant is uniquely qualified to perform the activity based upon a variety of demonstrable factors such as location, property ownership, voluntary support capacity, cost-sharing ability if applicable, technical expertise, or other such unique qualifications;
- (5) Emergencies – Program/award where there is insufficient time available (due to a compelling and unusual urgency, or substantial danger to health or safety) for adequate competitive procedures to be followed.
- (6) Cooperative Agreements - USGS Unique Authority cited at 43 U.S.C. 36d (Federal, State, and academic partners) or DOI Authority cited at 43 U.S.C. 1457b (not-for-profit organizations).

USGS did not solicit full and open competition for this award based the following criteria:

(4) UNIQUE QUALIFICATIONS

Single Source Justification Description:

The purpose of this agreement is to allow the U.S. Geological Survey (USGS) to enter into collaborative projects with the University of Minnesota Department of Agronomy and Plant Genetics with a specific focus on developing methods to apply beneficial arbuscular mycorrhizal fungi (AMF) when conducting prairie reconstructions and restorations on public (e.g., U.S. Fish and Wildlife Service properties) and private lands. Scientists in the Department of Agronomy and Plant Genetics have expertise collecting, processing, and extracting DNA to determine taxa of AMF, and the university houses the Genomics Center which has the technology necessary to conduct ITS2 bi-directional sequencing of the samples extracted. Through its extensive outreach network, the university is well placed to broadly distribute the findings of this research to members of the public who wish to add pollinator habitat to their land and increase resilience of their prairie reconstructions.

STATUTORY AUTHORITY

43 U.S.C. § 36d. Notwithstanding the provisions of the [Federal Grant and Cooperative Agreement Act of 1977](#) ([31 U.S.C. 6301–6308](#)), the United States Geological Survey is authorized to continue existing, and on and after November 10, 2003, to enter into new cooperative agreements directed towards a particular cooperator, in support of joint research and data collection activities with Federal, [State](#), and academic partners funded by appropriations herein, including those that provide for space in cooperator facilities.