

# Oregon Department of Agriculture Fertilizer Research Program 2018 Request for Proposals

Applications must be postmarked or received no later than May 31, 2018

The Oregon Department of Agriculture (Department) and the Fertilizer Research Committee are soliciting grant applications for the distribution of research funds collected by the Department's Fertilizer Program. The Department is seeking proposals to distribute up to \$70,000 for 2018, \$60,000 for 2019, and \$70,000 for any subsequent years (*single or multiple year projects will be considered*). Grant applications will be accepted through May 31, 2018.

Funding for fertilizer research is administered by the Department to provide grants addressing the interaction of fertilizers, agricultural amendments, agricultural minerals, or lime products with ground or surface water (ORS 633.465 (3)). Funding for this specific purpose is derived from an inspection fee based on tons of fertilizer, agricultural mineral, agricultural amendment and lime products distributed into Oregon.

## **RESEARCH FOCUS -Please Read Carefully**

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Projects funded by this Request for Proposals must further the understanding of the interaction of fertilizers, agricultural amendments, agricultural minerals, or lime products with the protection of ground or surface water quality in Oregon. Project outcome must be transferable to industry advisors, consultants, and the end users of fertilizer, agricultural amendment, agricultural mineral, or lime products.

In addition, projects must be conducted within Oregon and should focus on,

- Typical Oregon agricultural soils, crops, and cultural practices.
- Fertilizer, agricultural amendment, agricultural mineral, or lime products registered in Oregon applied at typical agronomic rates.
- Integration of projects, sites, and objectives is strongly encouraged.
- Establish how the best management practices (BMPs) in the region benefit the environmental impact of fertilizer, agricultural amendment, agricultural mineral, or lime usage. Furthermore, assess and verify the effectiveness of current best management practices (BMPs), involving inputs, vadose transport and groundwater protection, using typical agricultural soils and crops in Oregon. Proposed research should produce field level data that is replicated, widely applicable and metrics that quantify the environmental impact. Examples of specific project areas include but are not limited to the following:
  - a. Enhanced efficiency fertilizer products which may include slow or controlled release products, nitrogen stabilizers and nitrification or urease inhibitors;
  - b. Precision agriculture technologies that supply precise nutrient rates at the right time and/or place given varying field, weather and soil conditions;

- i. Adaptation of the 4R's as defined below.
  1. **Right Source:** Ensure a balanced supply of essential nutrients, considering both naturally available sources and the characteristics of specific applied products in plant available forms.
  2. **Right Rate:** Assess and make application rate decisions based on all nutrient supply sources, soil characteristics, weather variability and plant demand.
  3. **Right Time:** Assess and make application timing decisions based on the dynamics of crop uptake, all nutrient supply sources, nutrient loss risks, and field operation logistics.
  4. **Right Place:** Address root-soil dynamics and nutrient movement, manage spatial variability within the field to meet site-specific crop needs and limit potential losses from the field.
- c. Creative use of cover crops including farming techniques like planting scavenger crops, relay cropping and crop rotation to control excessive soluble nutrient leaching to groundwater.
- d. Best use of emerging classes of materials including but not limited to:
  - thermo-chemical byproducts (i.e. biochar & ash) to help retain plant available nutrients in the soil. To ensure that proposed thermo-chemical byproducts can be replicated, the production process or standard by which it was manufactured must be fully described.
  - Biologically active material (i.e. bacteria & fungi) that may improve nutrient utilization, retain nutrients in the soil system or reduce applied nutrient needs.
- e. Holistic and sustainable approach to fertility management, such as projects that combine soil fertility and irrigation management.

## **APPLICANT ELIGIBILITY**

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Persons, public and private organizations, educational institutions, governmental agencies, political subdivisions of the state, tribes, conservation districts, and local Groundwater Management Area committees are encouraged to apply.

## **PROJECT ELIGIBILITY**

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Projects should have statewide representation to address regional geographic, agronomic and hydrologic conditions. It is required that funded research be conducted in Oregon, with the exception that areas adjoining the state that have a hydrologic connection can be included, if the majority of the study area is within Oregon. Field projects can be proposed for multiple years, but cash awards are made annually subject to the fertilizer research funds.

## **PROPOSAL EVALUATION CRITERIA (total 100 points)**

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Proposals will be evaluated and ranked by the Fertilizer Research Committee based on meeting criteria listed below and the information provided in the “Grant Application” sections:

- Overall quality of the proposed research: Assess the scientific rigor and merit. Assess that the project does not duplicate efforts already completed or in progress substantiated by a pertinent literature review. Assess if the project collaborates with other projects having related objectives. (20 points)
- Objectives in relation to research focus. Assess if the proposal is consistent with the priorities as identified in the research focus. Assess if the objectives have a reasonable timeline for completion of project. Applicability and transfer of research findings to agricultural operators in Oregon. Can research findings be implemented over a defined range of systems with existing or readily available technologies? Is research conducted in a Ground Water Management Area (GWMA) on agricultural nitrogen/nitrate fate or will the research findings help manage agricultural nitrogen/nitrate in a recognized ground water management area? (30 points)
- Investigator’s qualifications: Assess the PI’(s) experience in the area of the proposed study. Assess the technical expertise of the PI’(s) and collaborators and that the principal investigator has access to appropriate equipment and facilities to conduct the research proposed. (20 points)
- Appropriateness of budget: Assess if the budget is adequate to accomplish the stated objectives. Assess if the project includes matching funds or services from other sources, looking at in kind and cash contributions, where the latter is more preferable. Assess that the project does not include travel expenses other than those necessary to conduct research or to make a final presentation to the Department. (15 points)
- Overall quality of the proposal: Clarity conforming to RFP guidelines, adequate background information and through scientific development. Does the project have clear and identifiable goals and objectives and describe how it plans to meet them? If applicable, assess if the proposal uses standard lab methodologies, equipment, and QA/QC procedures. (15 points)

## **FUNDING LIMITATIONS**

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- Approved projects must be completed within the time frame agreed upon between the Department and the grantee.
- Multi-year projects must ensure continuity and consistency in project. Benchmarks of progress must be met prior to release of funds for successive years.
- Administration or indirect costs cannot be more than 10% funded by this grant.
- Non-expendable equipment costs or other capitol assets will not be funded from this source without significant justification.
- Portions of larger multi-funded projects will be funded from this source only after documentation of funding from other sources can be verified in writing.

## PROPOSAL CRITERIA AND FORMAT

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1. Application material submitted should be limited to concise narratives, with **5 single-spaced pages (12 point font, 1 inch margins) in length maximum** (not including budget, CV of project participant(s), and if applicable complete QA/QC procedures (field and lab)). Proposals exceeding this length will not be accepted. Reviewers will not read beyond this page limit. Format (proposal must be prepared as follows and contain the following sections):

- **Title:** Project title should be brief and indicate what the project is about.
- **Personnel:** List the project leader(s), collaborator(s), and support personnel assigned to the project and identify their affiliation (e.g. agency, university, etc.).
- **Contact Information:** List the **Lead** principal investigator address, phone number, and email address.
- **Amount Requested:** State the amount of grant money being requested. Specifics in attached budget.
- **Abstract of the Proposed Research Project/Scope of Work:** In text, not to exceed one paragraph (**250 words maximum**), provide concise abstract/summary of the proposed research project.
- **Justification and Statement of Problem:** Include a short statement (one page maximum) of the problem, its magnitude, the status of the current research knowledge, and the anticipated benefits/impacts of the proposed work and its relevance to the Department's fertilizer research focus. If this application is a part of either a larger or multi-year project, provide a short narrative of how the application to this funding source fits with the entire project.
- **Hypothesis and Research Objectives:** State the hypothesis to be tested in the project and state specific objectives of the proposed study. The concise objectives should be numbered and listed in order of importance. State how the results of this project will enhance the Department's understanding of the interaction of fertilizers, agricultural amendments, agricultural minerals, or lime products with ground or surface water.
- **Research Procedures by Objective (including cooperative efforts):** Include expected results, a description of the methods to be used for attaining each objective. If applicable: A general explanation of proposed research site design, field sampling procedures, and measures taken to maintain research site integrity. A general explanation of proposed laboratory analytical method to be used to determine nitrate levels and why it is the most appropriate. A brief description of the QA/QC program that will be used for the methodologies described above.
- **Implementation Plan:** Provide a description of specific products and deliverables, upon completion of the project. Provide a description and timetable of specific activities and benchmarks to be accomplished during the course of the project. Payment of funds will be contingent upon timely reporting and execution of benchmarks and deliverables in accordance with the project timetable. The Department reserves the right to audit all project activities.
- **Literature Review:** A summary of pertinent publications with emphasis on their relationships to the effort being proposed should include all important and recent

publications. The citations should be accurate, complete and written in an acceptable journal format.

2. The following should be included as addenda and will not count toward the page limit:
  - **CV of project participants:** An up-to-date abbreviated 2-page maximum curriculum vita for principal investigator(s) is required.
  - **Annual budget(s):** Provide budgets for each year, if applying for a multi-year project, and a cumulative budget. List any matching funds available in the budget identifying both in kind funds and real/cash contributions. Identify grant request, cash match, in-kind match, and total project cost separately.
  - **QA/QC Procedures:** If applicable, complete QA/QC Procedures (field and lab).

## **GRANT APPLICATION SUBMITTAL**

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Grant Applications **must be postmarked or received no later than May 31, 2018. Submit a complete application by mail or email to:**

Oregon Department of Agriculture  
Fertilizer Program  
ATTN: Toby Primbs  
635 Capitol Street NE  
Salem, OR 97301

Phone: 503-986-4648  
Email: tprimbs@oda.state.or.us

## **PROJECT REPORTING**

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Semi-annual progress reports must be provided after issuance of grant project approval. Reports must follow the format of the grant application outline above and should be concise. A final report will be required in both electronic and hard copy formats. In addition to the final report, grantees will be required to present project findings at a Department coordinated conference to allow the public to benefit from the research accomplished. Failure to provide the Department with any required product in a timely manner will result in forfeiture of project payments.

## **PROJECT AWARD TIMETABLE**

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April 6, 2018	Request for proposals circulated.
May 31, 2018	Grant application period closes.
June 25, 2018	Grant applications reviewed by Fertilizer Research Committee.
July 9, 2018	Letter sent to successful grantee(s).
August 1, 2018	Initial payments initiated.