



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE



California Department of Food and Agriculture **FERTILIZER RESEARCH AND EDUCATION PROGRAM**

2015 REQUEST FOR CONCEPT PROPOSALS

The Fertilizer Research and Education Program (FREP) within the California Department of Food and Agriculture's (CDFA) Division of Inspection Services is currently accepting concept proposals. Proposals may focus on research and/or education projects (see priority research areas listed below) to provide growers and industry with cost-effective practices to improve the efficient use of fertilizer and minimize environmental impacts. FREP does not support proprietary product development projects. Grant funding of \$75,000 per year for up to three years is typical for projects, but projects over \$75,000 and over three years will be considered on a case by case basis. Multiple concept proposals will be accepted. Concept proposals leveraging other sources of funding are strongly encouraged and are welcomed. Concept proposals may originate from outside California, but proposals must be relevant to California growing conditions.

Concept proposals are due by 5:00 p.m., January 16, 2015. NO EXCEPTIONS GRANTED.

WHO MAY APPLY

Any individual or group may submit a concept proposal.

PRIORITY RESEARCH AREAS

- **Developing Integrated Water and Nutrient Management Tools**
As concern rises over the shortage of fresh water and environmental effects of agriculture in California, a major challenge facing the agriculture industry is to optimize the use of fertilizers and water. This needs to be done in such a fashion that sustainable crop yield and soil productivity is maximized while the leaching of nitrate to groundwater, gaseous N losses, runoff, and salt accumulation are minimized. Overcoming this challenge requires integration of various aspects of agriculture, including crop development, soil fertility, soil and water monitoring technologies, irrigation, and fertigation management practices into decision support tools for growers and decision makers. Such management tools should provide a platform for customizing management practices to local conditions on farms, as well as cope with droughts.
- **Education and Outreach**
Development of educational materials and methods to increase awareness and implementation of agronomically sound use of fertilizing materials is encouraged. Extension efforts to disseminate effective best management practices and to develop and help implement nutrient management plans on grower's fields are of high priority.
- **Developing New Best Management Practices (BMPs)**
Innovative management practices need to be developed that are compatible with sustainable agriculture and provide solutions to agricultural challenges in California. These include:
 - Evaluating strategies to increase crop N use efficiency
 - Minimizing nitrate movement below the root zone
 - Minimizing nitrous oxide emissions related to fertilizer use
- **Field-Scale Demonstration of Recommended Best Management Practices (BMPs) Related to Fertilizing Materials**
Demonstration projects are a key strategy to ensure results from basic experimental research trials are implemented and adopted by growers at the farm level. Demonstration projects should involve scientific experts from the University system, agriculture industry experts, actual field plots, already completed FREP and

non-FREP research findings. All demonstration projects are encouraged to include grower participation in management and decision making. Demonstration projects at multiple locations across the state are encouraged. Management practices that have already shown to be effective, are simple, and have multiple benefits have a good chance of adoption by growers. Potential treatments include, but are not limited to:

- Strategies in timing of fertilizer applications
 - Leaf sampling to guide fertilizer recommendations
 - Fertilizer sources and additives that enhance nutrient use efficiency
 - Advanced irrigation management to improve nutrient use efficiency
 - Comparison of irrigation technologies as related to nutrient use efficiency
 - Nitrogen recovery and fixation with cover crops
 - Soil organic matter effects on nutrient use efficiency
- **Filling Knowledge Gaps for Nitrogen Management in Specific Crops in the San Joaquin Valley**
 - **Corn:** Very little California information is available for corn.
 - **Pima cotton:** Anecdotal evidence indicates that Pima nutrient requirements differ from that of Acala types.
 - **Processing tomatoes:** Most research has been done on furrow irrigated tomatoes before the adoption of buried drip.
 - **Walnuts:** Determine temporal soil N status (quantity of additions and losses), validate leaf nutrient CV's for the most popular walnut cultivars, improve leaf sampling protocols, develop a monthly nutrient demand model for walnut and develop BMP's to share the findings.
 - **Citrus:** Determine temporal soil N status (quantity of additions and losses), validate leaf nutrient CV's for citrus, improve leaf sampling protocols, develop a monthly nutrient demand model for citrus and develop BMP's to share the findings.
 - **Root crops:** Carrot is an example of a root crop often grown on sandy soils using sprinkler irrigation. While carrot can scavenge nitrogen at depths, there is little information concerning nitrogen management.

HOW TO APPLY

Applicants first submit a concept proposal to FREP. Concept proposals may not exceed two pages. Please include the following information:

- Project title, location, duration, and project leader(s) contact information (name, title, affiliation, mailing address, telephone number, and e-mail address).
- A simple and concise summary of the problem to be addressed.
- Description of the target audience.
- Region or County location where concept work would be performed.
- Objectives of the proposed project, and a description of the general approach to be used.
(Note: A budget is not required for concept proposals.)

Concept proposals are due by 5:00 p.m., January 16, 2015. NO EXCEPTIONS GRANTED.

Proposals that are incomplete, late, or exceed two pages will be returned and eliminated from consideration. Concept proposals must be submitted via e-mail; mailed and faxed copies will not be accepted. Examples of successful concept proposals from previous years are available on the FREP website. FREP staff is available to answer questions about the proposal process; however, to ensure fair competition, we do not provide guidance on the development of proposals.

SEND CONCEPT PROPOSALS TO

Submit an electronic version of your proposal to: FREP@cdfa.ca.gov

FREP staff will reply with a confirmation e-mail when concept proposals are received; contact us by calling (916) 900-5022 if you have not received a confirmation e-mail within two business days of your submission. FREP is not responsible for incomplete e-mail transmissions.

EVALUATION PROCESS

FREP has a Technical Advisory Subcommittee (TASC) consisting of subject matter experts who review submitted concept proposals. The TASC selects concept proposals to be developed into full proposals based on project concept, impact, methodology, feasibility, and alignment with the program's priority research areas. FREP staff notifies applicants of the TASC decision and provides a deadline for submission of full proposals. Full proposals go through a peer review process and are then evaluated by the TASC. The TASC then sends their recommendations to the Fertilizer Inspection Advisory Board (FIAB). The FIAB deliberates and discusses the TASC recommendations and decides in an up/down vote whether to accept the TASC recommendations of full proposals. The FIAB recommendations are forwarded to the Secretary for approval and award of FREP grant. FREP staff initiates the grant agreement for the project.

TIMELINE

Request for concept proposals announced	December 2, 2014
Concept proposals due	January 16, 2015
Advancement of concepts to full proposals announced	March 6, 2015
Full proposals due	May 1, 2015
Award notification	September 1, 2015
Project start date	January 1, 2016

ADDITIONAL INFORMATION

FREP funds and facilitates research to advance the environmentally safe and agronomically sound use and handling of fertilizer materials. FREP serves growers, agricultural supply and service professionals, extension personnel, public agencies, consultants, and other interested parties. This solicitation as well as other information about FREP activities and sponsored projects is available by contacting FREP staff at FREP@cdfa.ca.gov or (916) 900-5022, and by visiting the FREP website at <http://www.cdfa.ca.gov/is/ffldrs/frep.html>.