

RESEARCH PROJECT PROPOSAL GUIDE FOR PRINCIPAL INVESTIGATORS

Florida Department of Agriculture and Consumer Services
Office of Agricultural Water Policy

Research will be utilized to support and provide the scientific and technical justification for the Florida Department of Agriculture and Consumer Services (FDACS) Office of Agricultural Water Policy (OAWP) Best Management Practices regulatory program and to investigate the development of new, innovative practices and nutrient rates for agriculture.

GENERAL INFORMATION

The purpose of a research project proposal is to present a study concept to the FDACS OAWP for funding consideration. OAWP research priorities include:

- **Controlled release fertilizer (CRF)** – Perform literature review, conduct research, conduct demonstration projects with producers, and prepare a Florida specific guidebook. Evaluate CRF use efficiency related to seasonality, rainfall, and heat units in Florida for various commodities.
- **Fertilizer rates (agronomic rates)** – UF recommendations are old and not compatible with new technology. Need to identify opportunities to improve rate recommendations.
- **Demonstrations of water quality improvements** – Conduct demonstration projects that provide information on BMP benefits to water resources.
- **Multiple cropping systems cover crops** (in coordination with Southern Sustainable Agriculture Research and Education), **or alternative crops** – Evaluate use to reduce nitrogen leaching in high-recharge and excessively drained springs recharge areas.
- **Legacy phosphorus** – Evaluate impacts of legacy phosphorus on water quality. Evaluate opportunities to address legacy phosphorus impacts.
- **Evaluate Mehlich-3 (M-3) soil test requirement** – M-3 may indicate that there is plenty of P in the soil, but tissue analyses show plant P deficiency. P may be in a form that is not available to the plant.
- **Organic production** – Identify use and impacts on irrigated lands
- **On-farm water treatment technologies** – Evaluate and pilot nutrient reduction technologies and practices for on-farm or edge-of-farm application.

Research priorities may change based on the needs of FDACS and funding availability.

PROCESS

Principal investigators (P.I.'s) submit draft research project proposals for review by OAWP using the format below. OAWP will review the proposal and may return it to the P.I. for clarification or revision. If the proposal is accepted, both parties will collaborate to refine the proposal, budget, and deliverables for inclusion into a contract as a research project scope of work.

PROJECT PROPOSAL FORMAT

Proposed Project Title – (short and descriptive)

Principal Investigator

Name:

Organization:

Address:

City, State

Zip:

Email:

Phone:

Co-Investigators (list names)

BACKGROUND

Describe statutory authority for study and why research funding should be allocated; describe the issue or problem, related previous work, and previous findings.

(Suggested boilerplate for university research contracts: Pursuant to sections 373.4595, 373.813, 403.067(7)(c)3., F.S., OAWP develops, adopts, and assists with the implementation of agricultural best management practices (BMPs) to protect and conserve water resources. Funding for BMP projects that complement the OAWPs mission and research priorities is consistent with FWRA objectives. In this regard, the (name of entity submitting proposal) plays an important role in assisting the industry with implementing BMPs. This research supports the OAWP responsibilities under the law to develop and implement these BMPs).

JUSTIFICATION

Describe how the study will address the OAWP research priorities and demonstrate how this study will build upon previous work, if any has been done. Alternatively, distinguish the study from previous work which may share similarities with the new proposal but has different methods and/or objectives.

PROJECT OBJECTIVES

Clearly state objectives or anticipated outcomes. Bulleted lists are helpful.

METHODS

Describe scientific methodology and materials as they relate to the research objectives and discuss experimental design, monitoring, data collection, applicable statistical analyses, etc. Except for “proof of concept” trials, methods should aim to provide data containing mean, standard deviation, and sample size of both control and experimental treatment groups to facilitate later meta-analysis of OAWP research data.

FOR RESEARCH PROJECTS WHERE WATER QUALITY MONITORING WILL BE CONDUCTED, INCLUDE THE FOLLOWING SECTION. “MONITORING PLAN AND DATA INTEGRITY”, IN YOUR PROPOSAL:

Monitoring Plan and Data Integrity

1. *Monitoring Objectives* – monitoring plan objectives should focus on collecting water quality data that will demonstrate the impact that BMPs or nutrient management tool(s) have on nutrient use efficiency, agricultural productivity, nutrient inputs to surface or groundwater, pollutants on site, water use efficiency, or a combination of each. Include information about how the data will be used, how much data are needed to address the monitoring objectives, the level of accuracy for analysis, and the timeline for monitoring.
2. *Sampling location and selection* – Identify sampling sites (stations) for the project and why the sites were selected. Include latitude/longitudes and a site map showing each sampling station.
3. *Water Quality Indicators* – Identify field measurements, parameters of interest, and any other indicators that will be used to evaluate the BMP or tool. Provide the name of the laboratory conducting analyses, the National Environmental Laboratory Accreditation Program (NELAP) accreditation status, certified analytical methods, and lab reporting limits for each indicator.
4. *Sampling Methods and Frequency* - Describe the methods for collecting and handling samples, sample containers and preservation, and frequencies required to demonstrate trends, BMP effectiveness, or impacts to agricultural productivity. Include any special circumstances that may trigger a sampling event, such as a major storm event.
5. *Quality Assurance/Quality Control Protocol* – Describe the system of management activities and quality assurance procedures that will produce reliable data that can be used to meet the monitoring objectives. Identify quality control measures that will reduce or eliminate sampling and analysis errors in the field and lab, including sample identification, identification of equipment or instruments to be used, and their calibration and maintenance requirements. List any quality control samples (e.g., duplicates, field blanks) that will be collected.
6. *Data Management* - Describe the data management plan for maintaining and distributing data, and for documenting site conditions and changes over time. Include how data will be tracked and stored and how data will be checked for errors. Describe types of data that will be used or collected that are not obtained *through traditional sampling* (e.g., weather station data).
7. *Data Analysis and Assessment* – Describe how the data will be analyzed, i.e., what relationships between different environmental parameters will be analyzed, the type of statistical analyses to be used for assessing objectives, and the levels of change that determine significance. For example, nonparametric statistical test, such as the Seasonal Kendall test, may be preferred to determine if statistically significant changes have occurred for each indicator. If sufficient data are present, test for trends on the “before” data and on the “after” data.

8. *Reporting* - Identify the intended reporting frequency, content, and format of monitoring progress reports, and expected completion and submission dates of a final monitoring report. Indicate if the monitoring reports will be submitted as separate reports for the research project deliverables, or if they will be included with associated project deliverables.

BUDGET

Pursuant to Chapter 215.97, F.S., when determining a budget for a project funded by state financial assistance, it must be fiscally responsible, each cost considered must be allocated in proportion to its benefit to the project, and documentation demonstrating that the allocated costs are proportionally beneficial to the project must be provided. Therefore, a cost cannot be allowable, reasonable, and necessary unless it is allocated proportionally. The budget must be broken down for each of the categories bulleted below for each fiscal year (FY) (July 1 – June 30) of the proposed project. Add columns for additional FYs as needed. Consider the following when preparing the budget:

- *Personnel Costs:*
Provide the following information for each person identified, and why the person(s) was selected and should be compensated for work under this research project:
 - Name (if known),
 - Employee category (faculty professor (9, 10 or 12 month), post docs, OPS, exempt/non-exempt TEAMS, Biological Scientists, and graduate students, etc.),
 - **Note:** When the request for a graduate student is made, the university must:
 - Provide justification including supporting documentation as to why a post doc cannot be utilized for the project; and
 - Identify those activities to be undertaken by the graduate student, anticipated weekly workload to undertake the activities, and quality assurance and oversight that demonstrates the viability of final work product produced by the graduate student.
 - Title,
 - Hourly/base salary rate,
 - Benefit rate,
 - Percentage of time each person or position will work on this research, and
 - Responsibilities of the person or position to the project.
- *Equipment costs:* List expected purchases of non-expendable property/equipment with an acquisition cost of \$1,000 or more and life expectancy of 1 year or more; include description, unit cost, and quantity needed to conduct this research.

Any equipment purchased with state funds in excess of \$1,000 for field, lab or office shall be:

- Maintained, insured with the proper insurance in the amounts required by the State of Florida, and proof of such insurance must be provided upon request of a representative of FDACS.
- Marked with an identification tag that will indicate the agreement between the RECIPIENT and FDACS, tracked by the university and be available for inspection upon request.
- Used for the purpose of FDACS projects. The university will be responsible for the pro rata share of usage for purposes other than that of FDACS to the total equipment costs.

Note: Personal use of equipment solicited for this project is prohibited, violates the law, and requires violators to immediately return equipment to FDACS.

- Returned unless otherwise approved by FDACS to be used in other research projects for FDACS that are similar in nature and have the same overall goal.

Exception: If the university wishes to forego the constraints stipulated above and obtain ownership, the university will have the opportunity to purchase the equipment at current fair market value at the end of the contract.

- *Travel costs:* When requesting travel for the project, explain why travel will be needed and its benefit to the project's outcome. Each trip must list its purpose and/or destination, the number of days for each trip and calculated travel expenses broken down in accordance with Section 112.061, Florida Statutes.

- *Miscellaneous Expenses:* List miscellaneous expenses not included in any of the above categories. Include description, unit costs and quantity. Include only expenses directly related to the project, not expenses of a general nature.

Examples may include but limited to:

- Materials, supplies, printing, copying, postage, communications, signage, educational and instructional materials, maintenance and actual fuel costs relating to university vehicles used for this project, etc.)

Note: When an agency vehicle is used for other projects as well as this one, the university may request reimbursement based on usage percentage.

Example: Total fuel cost for the university vehicle used during the reimbursable period is \$200. Twenty percent of the reimbursable period was devoted to this project. The university may request \$40 ($\$200 \times .20 = \40) in reimbursement. This same formulation applies to vehicle maintenance costs incurred during that reimbursable.

- Non-expendable equipment valued at less than \$1,000 may be listed here.
- Continuing expenses (e.g., sampling, equipment rentals, contracted labor, seasonal supplies like seeds or herbicides).
- The *Indirect Cost Rate* shall not exceed the de minimis rate of 10% of modified total direct costs (MTDC), s. 2 CFR part 200.414(f).
- *Other Operating Expense:* List each auxiliary fixed rate cost (rates established for university contracted labor rates, land/property rental fees, planting rates, etc.), and if applicable, reimbursable tuition based on the percentage of time a student works on the project above the actual reimbursable costs that will be necessary to conduct this research.

Note: This category will not be included with the direct cost total to determine the indirect costs.

Description	% Effort/Usage	Amount/Rate (hourly, monthly, yearly)	Duration in Months	TOTAL
Salaries: Andy Watershed, Project Manager Sally Hybrid, Field technician Bobby Floater, OPS part-time				
Fringe benefits: Andy Watershed, Project Manager Sally Hybrid, Field technician Bobby Floater, OPS part-time				
Equipment (List) Spreader Soil moisture probes				
Travel (List) Industry Conference on Cover Crops				
Miscellaneous Expenses (List) Educational Material Maintenance/Fuel Plant Tissue Sampling (external) Cellular Service for probes				
SUBTOTAL				
Indirect Cost (10%)				
Other Operating Expense (List) Auxiliary fixed rates (no IDC): University contracted labor rates University land/property rental fee University lab testing University planting rates Reimbursable Tuition (% to work)				
TOTAL				

DELIVERABLES

Provide a brief summary of each task and related outcome, and a concise description of the products associated with each task. Include a minimum performance standard for each deliverable and the due date.

CONTRACT DEVELOPMENT

OAWP uses the State Financial Assistance Recipient Agreement (contract) approved by FDACS legal and administrative staff. Contracts expending state financial assistance special category funding are constructed on a “cost-reimbursement” basis, meaning that recipients are reimbursed for expenses after the deliverables, appropriate documentation to support costs, and a valid invoice are received. The approved project proposal is incorporated into the contract as the scope of work and is enforceable as part of the contract.

Each approved contract is assigned an OAWP project manager and OAWP contract manager. The project manager is responsible for working with the principle investigator(s) to ensure that the project objectives are met within the proposed timeline, deliverables comply with the scope of work, and proposed costs are necessary to the project. The contract manager is responsible for enforcing the contractual agreement, to include managing the receipt of the commodities/research services, monitoring and evaluating the recipient performance, conducting cost reconciliation, providing written certification that the research services were performed and completed in accordance with the terms of the contract, making changes to the contract when necessary, and certifying each contract closeout as described in section 287.057(14), F.S. The contract manager will provide a final draft (in electronic format) of the entire contract to the P.I. and sponsored research for review before the contract is executed.