



THE INSTITUTE FOR
**WATER AND ENVIRONMENTAL
RESILIENCE**
STETSON UNIVERSITY

Sustainable Farming Fund 2020 Invitation for Proposals

Funding Amount and Rolling Due Dates

The total amount of grant funds to be awarded through this invitation will be up to \$500,000.

Deadline for review of proposals: January 31, 2020

Pending availability of funds, additional proposal rounds may also be solicited. If funds are available, deadlines will be:

March 13, 2020 (second round)

May 1, 2020 (final round)

Proposals should be submitted by email to: sff@stetson.edu

For more information on the Sustainable Farming Fund: www.stetson.edu/sff

Background and General Information

The Stetson Institute for Water and Environmental Resilience (“the Institute”) has been named as Fund Administrator for a Sustainable Farming Fund (“Fund”) established by a Consent Decree issued through the Federal District Court for the Middle District of Florida. Pursuant to the Decree, the Institute is to “solicit applications from, and disburse grants to, independent farmers located in the Suwannee River Basin . . . for on-farm projects designed primarily to improve surface water quality, groundwater quality, and soil quality so as to reduce the farm’s environmental impact.”

One of the largest threats facing the Suwannee River Basin is nutrient loading, which contributes to impairment of groundwater and springs within the basin. Florida Department of Environmental Protection estimates that 60% of this nutrient loading is from farm fertilizer and that another 21.5% is from livestock waste. To address this issue, FDEP recently adopted the Suwannee River Basin Management Action Plan (“BMAP”) pursuant to the Florida Springs and Aquifer Protection Act. The BMAP became effective on July 1, 2018, and it defines a geographical area of springsheds that contribute to the Suwannee River. The BMAP identifies a number of strategies to reduce nutrient impacts to the aquifer, springs, and Suwannee River, and

it also requires all agricultural producers in the basin to use Best Management Practices (“BMPs”). The BMAP also encourages sustainable agricultural techniques that exceed BMPs. More information can be found at this link: <https://floridadep.gov/dear/water-quality-restoration/documents/suwannee-river-lower-suwannee-river-middle-suwannee-river>

The Sustainable Farming Fund seeks to prioritize projects that are tailored either towards reducing the input of Nitrogen fertilizers while maintaining crop yields, or towards reducing the leaching of nitrogen from livestock waste into the groundwater. To build upon existing and proposed strategies as set forth in the Suwannee River BMAP, we will prioritize farms that lie within the BMAP area, and specifically farms within the designated springshed boundaries. (See Appendix A for map).

The Fund recognizes the important role that independent private farms play in the region’s economy and in the development of solutions to agricultural challenges. The fund will only review applications from independent farmers, defined as those whose beneficial ownership is primarily with individuals or families who reside within the basin and for whom agricultural production is their primary source of income. The fund encourages grants from small farmers whose gross value of sales last fiscal year were under \$500,000, and whose farm size is less than 500 acres. The fund also seeks proposals from larger independent farms for projects that have the potential to significantly reduce nutrients. The fund also seeks proposals from cooperators for projects that would take place on independent farms. Cooperators are various entities that work closely with agricultural producers, such as non-profit organizations, universities, researchers, institutes, and government agencies.

Eligibility and Technical Requirements

Producers must meet the following criteria to be eligible for grants OR must qualify as a demonstration or youth project as described on page 4 of this document:

1. Applicants must be independent farms or cooperators as defined above.
2. Applicants must use grants on independent farms within the Suwannee River Basin, but priority will be given to farms within the Suwannee River BMAP area, especially within the designated springshed boundaries.
3. Applicants must have applied for or be currently enrolled in Florida Department of Agriculture and Consumer Services BMPs and actively tracking application of supplemental fertilization. Recipients must have completed BMP enrollment.
4. Proposals may include designated cooperators, such as other farmers, researchers, non-profit organizations, institutes, government agencies, or universities, who may assist with planning, data collection, or monitoring.
5. Recipients must apply proposal to at least 40 acres of their farmland.
6. Recipients must report progress relating to reduction of nutrients or other accepted metric on a quarterly basis, but will not be required to report proprietary information.
7. Recipients should be aware that the Institute may use information provided in the quarterly report in publications to demonstrate success of the Fund’s program, but will not publish proprietary information
8. Funds may not be used for new personnel or indirect costs.

Project & Proposal Priorities

The Institute intends to fund proposals that are tailored towards reducing Nitrogen (“N”) leaching from both fertilizer inputs and livestock waste. Because enrollment in BMPs is mandatory as of the Suwannee River BMAP’s adoption in July 2018, and because a number of cost-share programs already exist to assist farmers in implementing BMPs, the Institute will **NOT** provide funds that merely implement these existing, legally required practices. Below is a list of types of additional agricultural projects and practices that go beyond BMPs in attempting to reduce nutrient pollution. The list is not exhaustive, and the Institute will certainly consider proposals that combine multiple initiatives or include initiatives outside of those listed. The list is merely intended to be representative of types of projects that are specifically tailored towards reducing N fertilizer inputs and N leaching.

At the time of this solicitation, the Suwannee River Water Management District (SRWMD) has funding from the Florida Springs Initiative to fund precision agriculture practices. Presently, SRWMD offers 75% funding with a 25% producer match. The Sustainable Farming Fund encourages proposals for assistance with the required 25% match, including for those farmers who have already been granted funding from SRWMD. More information on the SRWMD Precision Agriculture Cost Share Program can be found at:
<http://www.srwmd.state.fl.us/index.aspx?NID=366>

Table F-5. Beyond BMP implementation

| Category | Name | Description |
|-----------|---|---|
| Practices | Soil Moisture Probes | Deployment, training, technical support, and use of soil moisture probes to manage irrigation systems. |
| Practices | Precision Fertilization | Deployment of equipment, procedures, and training to improve formulations, delivery methods, and timing to match fertilization more precisely to crop needs. |
| Practices | Precision Irrigation | Deployment of equipment, procedures, and training to improve location, volume, and timing of irrigation to match crop needs more precisely. |
| Practices | Controlled Release Fertilizer | Application of new and developing fertilizer products that become available to crops via dissolution over longer periods in growing season. |
| Practices | Cover Crops | Planting of cover crops between production cycles to increase soil organic content, improve nutrient retention, and reduce erosion. |
| Projects | Lined Dairy Waste Storage Ponds | Installation of high-density polyethylene (HDPE) liners and ancillary equipment (such as solids separation systems) for liquid waste storage ponds. |
| Projects | Bioreactors/Denitrification Walls and Onsite Capture and Reuse of High-Nutrient Water | Installation and operation of surface (bioreactor) and subsurface (denitrification walls) systems to remove nitrate by contact with carbon source. Installation and operation of network of capture wells and reuse of water onsite in irrigation system. |
| Research | Rotational Production | Conversion of conventional production operations to planned rotational production incorporating grass and cover crops. May include cattle. |
| Research | Soil Moisture Sensor Deployment and Calibration | Research into potential use of soil moisture sensors to assist in nutrient management. |
| Research | Effectiveness of Controlled-Release Fertilizer | Focused research on use of controlled-release fertilizer for other crop types. |
| Research | Regional Capture and Reuse of High-Nutrient Water | Study of potential regional capture/reuse systems, including sources of high nutrient value water, potential beneficial reuse sites, legal and regulatory obstacles, and costs. |

Based on our communications with agencies, cooperators, and researchers, the Fund believes the following types of projects are most effective at reducing nutrient loading:

- 1) **Precision Fertilizing & Side-Dressing Equipment:** Applying the right rate of Nitrogen for the soil and crop type with precision fertilizer and side-dressing equipment, such as GPS, rate control spreaders, no till planters, and strip till rigs, can reduce the amount of fertilizer required. This reduces nutrient loading and also saves producers' money. In addition to side-dressing equipment, the Fund will consider all proposals that aim to use technology (such as map- or sensor- based Variable Rate Application) to optimize fertilizer application to plant needs.

- 2) **Cover Crops:** Certain cover crops add nitrogen to the soil, thus reducing the need for synthetic fertilizers. Relevant considerations to maximize cover crops' benefits include proper timing of both cover crop termination (to maximize N returned to soil) and cash-crop planting (to maximize N available to plants and avoid leaching during rain events). We encourage projects that are aimed at using cover crops to reduce inputs of synthetic N fertilizer and that can track this data accordingly.

- 3) **Re-use of N-rich waste as fertilizer:** Projects in this category seek to more efficiently re-use waste such as high-nutrient groundwater or manure to substitute for fertilizer applications.

Examples of projects could include shallow wells to allow for or improve groundwater re-use, or improvements to litter storage barns for poultry. Funds could be used for monitoring equipment in addition to project implementation.

4) Lined Dairy Waste Storage Ponds: Installation of High-Density Polyethylene (“HDPE”) liners and ancillary equipment, such as biosolid separation systems for liquid waste storage ponds, on dairy farms. This practice can achieve 100% Nitrogen reduction.

5) Poultry: Installation of litter storage barns (or retrofit of old barns) and nutrient management tools such as GIS and rate control spreaders.

In addition, the Fund will consider the following:

6) Demonstration Projects: Cooperator projects intended to demonstrate a new technology or practice on a private farm that has the potential to significantly reduce use of nutrients in production.

7) Innovative Youth Farming Projects and Practices: The Institute specifically solicits a project proposal to cooperate with farming youth groups, such as 4-H or Future Farmers of America, to conduct a nitrogen reduction demonstration project on a private farm within the Suwannee River BMAP area. The amount of the grant will be up to \$50,000.

For more information on these practices, please visit: www.stetson.edu/sff

Award of Grants

The Institute intends to announce the first round of 2020 grant awards by February 28, 2020. The Institute staff, together with an advisory committee of faculty and other technical experts, will review and rank the proposals. Decisions on funding shall be in the sole discretion of the Institute. Proposals that are ranked high enough to receive funding will be asked to sign a grant award agreement which will spell out how funds will be disbursed and what will be required of the recipient.

Future Grant Cycles

Per the Consent Decree, the Sustainable Farming Fund has three years to award grants. There may be a third year cycle for proposals which could provide the opportunity for multiple-year awards for a successful proposal through this solicitation.

Proposal Contents

Please submit your proposal via email to sff@stetson.edu by the deadline. Proposals should be no more than three typed pages in length and should address the questions listed. In addition, you may attach to the proposal any research documentation on the proposed project or practice, or any materials on the equipment you desire to purchase or lease.

Producer Information:

1. Contact information:
 - a. Name of applicant
 - b. Name of Operation (farm, school, non-profit, etc.)
 - b. Address
 - c. Phone
 - d. Email
2. In what county is your farm located?
3. Is it within the Suwannee BMAP area?
4. Please describe your farm's practices and production.
 - a. How many acres do you actively farm?
 - b. What kind of crops or livestock do you produce?
 - c. What are your current methods for irrigation and fertilization?
5. Is your farm less than 500 acres?
6. Are your total farm sales less than \$500,000?
7. Is your farm enrolled in BMPs? As of what date? If you are not enrolled, when did you apply for enrollment in BMPs?
8. What kind of BMPs have you implemented, or are you currently implementing?

Proposal Narrative:

Proposed Projects/Solutions: What innovative project(s) do you intend to implement on your farm? How will the project reduce N use or leaching on your farm? How many acres do you plan to deploy your project on?

Measure of Success: How do you propose to measure the success of your project at reducing N loading? What kinds of documentation will you keep to measure your reduced N loading? What cooperators (e.g. Suwannee River Conservation District staff) do you expect to call on for assistance in determining good ways to measure your success?

Estimated Nitrogen Reduction: How do you intend to estimate reduction of N on your farm?

Designated Cooperators: Do you intend to engage a cooperator to assist you in developing your project or practice and ascertaining results? If so, who do you intend to engage as a cooperator? Please provide the proposed cooperator's contact information.

Budget: What funds do you request, and how do you plan to use them? Do you plan to use this as a match toward a specific cost-share program? Do you plan on purchasing or leasing specific equipment? If so, what equipment do you intend to acquire?



Figure ES-1. Suwannee River BMAP and PFA boundaries