*Please submit this completed application and any relevant supporting documentation by the deadline listed on the SSC website to* *Sustainability-Committee@Illinois.edu**.The Working Group Chairs will be in contact with you regarding any questions about the application. If you have any questions about the application process, please contact the SSC at* *Sustainability-Committee@Illinois.edu**.*

# General Information

**Project Name:** Irrigation to improve the performance of Agroforestry for Food

**Total Amount Requested from SSC:** $53,547

**Project Topic Area(s):** [ ] Energy [ ] Education [x] Food & Waste

 [x] Land [ ] Water [ ] Transportation

# Contact Information

Applicant Name: Dr. Sarah Taylor Lovell

Unit/Department: Department of Crop Sciences

Email Address: stlovell@illinois.edu

Phone Number: 217-419-5337

**Project Team**

|  |  |  |
| --- | --- | --- |
| **Name** | **Department** | **Email** |
| Michael Douglass | Department of Crop Sciences | msdougl@illinois.edu |
| Name | Department/Organization | Email Address |
| Name | Department/Organization | Email Address |
| Name | Department/Organization | Email Address |

# Project Information

Please provide a brief background of the project, the goals, and the desired outcomes:

BACKGROUND: The Midwest landscape remains heavily dominated by annual row crops such as corn and soybeans, despite growing evidence of their contribution to a host of unintended consequences for the health of the environment. These systems rely on high inputs of fertilizers, pesticides, and energy, while offering very little in terms of habitat value or ecosystem services.

In response, our research team has established a large-scale, long-term research trial to study an alternative production system, called “Agroforestry for Food”. The system contains a diverse set of woody plant species that supply fruits and nuts for consumption, integrated together to provide a culturally and environmentally sustainable solution for farmers. The structure of the system is designed to mimic a Midwest oak savanna, with multiple layers including nut trees (e.g., chestnuts and hazelnuts) as the canopy, berry shrubs (e.g., black currants) as understory, and hay as a ground layer. The field site was established using funds provided by the Institute for Sustainability, Energy & Environment (iSEE). More information on the project can be found at the dedicated website: <http://www.agroforestry4food.com/>.

GOAL: While the funding from iSEE was extremely valuable in establishing the “Agroforestry for Food” trial and initiating research projects, we were unable to cover the cost of installing the permanent irrigation system that is necessary for optimal plant growth and consistent production of fruits and nuts. Now that we have a detailed, accurate quote for the installation of such a system, our goal is to obtain funding from SSC to make this a reality.

DESIRED OUTCOME: The installation of irrigation at this time will improve the health and growth rate of trees and shrubs. This approach will more accurately represent what growers would do to optimize commercial production, thus providing a real-world example for students, farmers, and policy-makers. In addition, the irrigation will reduce the number of years before the plants begin to provide fruit, so we can more quickly relay accurate information on profitability and environmental benefits to interested stakeholders.

Please provide a brief summary of how students will be involved in the project:

This project offers an invaluable opportunity for students to learn and experience innovative fruit and nut crop systems. In particular, since few faculty remain in the Crop Science department to focus on Horticultural Food Crops, the Agroforestry for Food site offers a novel opportunity for students to experience alternative perennial agricultural options no longer found at our University. Since the system is designed for commercial scale, students get the full understanding of farming in a mechanized manner. With cross-departmental involvement, along with future potential connections with Food Science, the project represents a true farm-to-table approach. Students have already been involved in the establishment and maintenance of the site, and this will increase substantially when the trees and shrubs begin fruiting. In addition, the fruits and nuts from the site are expected to be used by Dining Services, allowing students to experience locally grown, sustainable food in the dining halls.

Please provide a brief summary of the project timeline:

The site has been assessed for irrigation, and a detailed quote of labor and materials is available from Indiana Irrigation Co., Inc. We have everything in place to be able to install the system this summer (2018), if we obtain funding.

Additional comments

The total budgetary request for this project is $53,546.38, which includes $20,865.78 in materials, $17,680.60 for labor, and an estimated $15,000 for F&S to hook up to water line. Copies of the quotes are available upon request.