*Please submit this completed application, the supplemental budget spreadsheet, and any relevant supporting documentation by the deadline indicated in your Step 1 notification letter to* [*Sustainability-Committee@Illinois.edu*](mailto: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*](mailto:Sustainability-Committee@Illinois.edu)*.*

# General Information

**Project Name:** Illinois Sustainable Food Project – Extrusion Expansion

**Total Amount Requested from SSC:** $248,000

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

Land Water Transportation

# Contact Information

### Project Lead

Applicant Name: Brian Jacobson

Unit/Department: Food Science & Human Nutrition

Email Address: bjacobs3@illinois.edu

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### Financial Contact *(Must be Full-time University of Illinois Staff Member)*

Contact Name: Janice Trudell

Unit/Department: Food Science & Human Nutrition

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Organization Code: 698010

### Facilities Management Contact *(If Applicable)*

Contact Name: Brian Jacobson

Email Address: bjacobs3@illinois.edu

**Primary Project Team**

|  |  |  |
| --- | --- | --- |
| **Name** | **Department** | **Email** |
| Youngsoo Lee | FSHN | Email Address |
| Jedi Brown | FSHN/UIUC Dining Services | Email Address |
| Dawn Aubrey | UIUC Dining Services | Email Address |
| Name | Department/Organization | Email Address |

# Project Description

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

This exciting expansion to the Illinois Sustainable Food Project (ISFP) proposes adding equipment to an existing extrusion production line at the Food Science & Human Nutrition Pilot Processing Plant (FSHN-PPP). The FSHN-PPP has recently received an extrusion line with fluidized bed dryer that is intended for use in classes and research. With some additional ancillary equipment and money for installation, it can be used to create pasta, cereals and puffed snacks for use by Dining Services and others across campus.

The complete extrusion line is valued at ~$3.5M and was received through a combination of a large gift by the manufacturer and a partner company, along with some support from the Food Science department. This large addition to the facility is setup well to teach students the extrusion process and perform critical research for the department. With some additional support from the SSC, this equipment line can be setup to make human consumble pasta, cereals & puffed snacks to be served on campus.

Examples of the products that can be made by this equipment include pastas, breakfast cereals similar to the common names you see in the grocery store, puffed snacks such as Cheetos or snack sticks, and many other products that require a puffed texture. One of our stretch goals is to develop an “Illinois Block I” breakfast cereal and pasta developed in conjuction with our nutrition and product development students and faculty. This could be served across campus as a grab and go product, in the Dining Halls for breakfast, and possibly within the athletics program. The possibilities are endless with this extrusion equipment, this is just one product idea we would like to develop. The raw ingredients for any product would be comprised heavily of items from our other projects (flour, vegetables, pumpkin puree, and more). Major materials for this project are underutilized grains grown in the research programs across campus.

Our overall goal is to provide locally-sourced, healthy, and nutritious product for UIUC Dining to serve to the campus population, while providing an educational experience to the student body. For those most interested, there will be opportunities to work with the project producing finished product; and for the rest of the campus (and off-campus) community, presentations, videos, articles, and tours will be made available. Possibly most importantly, this project will reach every student who eats in the Dining Halls or other locations where this could be served.

**How will the project improve the sustainability of the Illinois campus and how will the project go above and beyond campus standards?**

This project will increase the percentage of local, healthy foods that will be served to students on campus, while providing an educational experience to those involved in processing or eating the product. iCAP has established a goal that 30% of all food served on campus be locally (within 100 miles) grown and/or processed. This project will be both locally grown and processed, all within a 5 mile radius of the Dining Hall where it will be served. To my knowledge, no peer institution has a program like this.

**Where will the project be located? Will special permissions be required to enact the project on this site? If so, please explain and submit any relevant letters of support with the application.**

The equipment for the project will be located and utilized in the FSHN Pilot Plant in the Agricultural Engineering Sciences Building. This space is managed by Brian Jacobson, so no special permission is required. Many pieces of beneficial equipment, and a support infrastructure already in place will be beneficial to the success of this project.  
  
This lab currently houses the entirety of the ISFP umbrella of projects, and has just completed a $3M renovation.

**Other than the project team, who will have a stake in the project? Please list other individuals, groups, or departments affiliated directly or indirectly by the project. This includes any entity providing funding (immediate, future, ongoing, matching, in-kind, etc.) and any entities that will be benefitting from this project. Please attach letters of commitment or support at the end of the application.**

The 3 stakeholders in this project are the Department of FSHN, Department of Crop Sciences, and UIUC Dining Services. Each entity has an active member(s) on the team, and has worked together on many other projects, including several funded by the SSC (tomato, flour, juice, and hot sauce processing).

**Please indicate how this project will involve or impact students. What role will students play in the project?**

Student interns will be responsible for the actual operation of the project, from planting, through harvesting and processing. Student employees in Dining will even have the opportunity to create dishes for their peers using our product, while working side by side with trained chefs.

The completed product will be consumed by any student who eats in the campus Dining Halls. This extremely local source of food will be well-documented and advertised with the finished product. Additionally, any student who has a class in the FSHN Pilot Plant, or tours it through events like EOH/ExplorACES will have the opportunity to learn the hands-on process.

# Financial Information

*In addition to the below questions, please submit the supplemental budget spreadsheet available on the Student Sustainability Committee website. Submission of both documents by the submission deadline is required for consideration of your project.*

**Have you applied for funding from SSC before? If so, for what project?**

I have applied for several projects, all under the Illinois Sustainable Food Project umbrella. Each has been for capital expenses related to equipment expansion, but no operational or recurring funds.

**If this project is implemented, will there be any ongoing funding required? What is the strategy for supporting the project in order to cover replacement, operation, or renewal costs?   
  
Please note that SSC provides funding on a case by case basis annually and should not be considered as an ongoing source of funding.**

All ongoing funding will be provided by UIUC Dining Services and FSHN. Dining pays a fee for the processing time on the equipment, and this money is used to pay for student internships and equipment maintenance.

**Please include any other sources of funding that have been obtained or applied for. Please attach any relevant letters of support as needed in a separate document.**

The total extrusion line necessary to make these products is ~$3.5M. FSHN has received the vast majority of this equipment through donations and department investment, setting it up well for teaching and research. The portion requested from the SSC ($248,000) is required to allow it to produce human consumable food with finished coatings and seasonings.

# Environmental, Economic, and Awareness Impacts

*In addition to the below questions, please indicate specific measurable impacts as applicable on the supplemental budget spreadsheet.*

**Which aspects of sustainability does your project address, and how? Does the project fit within any of the iCAP goals? If so, how does the project go beyond the university status quo standards and policies.**

The project most specifically addresses the procurement and waste section of the iCAP goals, directly assisting campus in its goal of procuring >30% of its food served on campus from local sources. This has indirect effects of reducing carbon emissions from trucking goods to campus, and also educating students who are eating this product at point of consumption through Dining local food labeling, and events/tours held in the FSHN Pilot Processing Plant. As I mentioned above, I am not aware of any other peer institution who has a program such as this in place.

**How will the environmental impacts of your project be measured in the near and long term? What specific monitoring and evaluation processes will you be using to track outcomes and progress?**

We will track the amount of product processed for Dining Services, and then calculate a percentage purchased locally vs. their traditional vendors. Additional products that we make using this equipment will be tracked as well.

**What is the plan for publicizing the project on campus? In addition to SSC, where will information about this project be reported?**

This project will be publicized in three main ways.

The greatest impact will be had by the marketing program Dining Services will put in place at point of consumption. Locally grown and processed food is specifically called out in all Dining Halls where it is served, and every student who passes through will be exposed. As we continue to grow the number of products processed on campus, we hope to expand this “at consumption” marketing, as well as publicize the program outside of campus, and at peer institutions. This year, we added 7’ banners to the entryway of each dining hall and the pilot plant. It features pictures from the program, as well as the individuals who have grown and processed the products, and the chef at the particular hall that did final prep for the food.

The second method of publication will be through marketing materials and outreach provided through existing campus channels. Organizations such as iSEE, Extension, and the Crop Science and FSHN departments publish stories, host events, and create marketing materials both on and off campus. These collaborations have been very successful in publicizing the existing ISFP projects, and we expect the addition of another project will simply add to the critical mass. Some examples include prime positioning in the College of ACES Alumni Magazine, Department of FSHN Annual Publication, and an iSEE Youtube video. We also featured the ISFP projects at the Farm Progress Show in Decatur, with mentions on the radio, and to local and national politicians.

The final method will touch the smallest group of people, but will hopefully leave the most profound impact. As the project is student run (with staff guidance), the ongoing internships provided to these students will provide an immersive experience not likely to be found elsewhere. From planting and harvesting to safely processing and consuming, the students will see the entire method of creating locally processed products. Our hope is they will take that experience and use it to make sustainable choices within their future careers.

**What are your specific, measurable outreach goals? How will these be measured?**

We do not have any specific plans in place to survey students on their awareness or knowledge of the project, but do expect to ensure proper marketing is displayed at point of consumption at Dining Services, and that several wide-market publications are produced. Additionally, we will be able to gauge some measure of success by tracking the students who had internships with this project, and where their future employment leads them. Our hope is down a sustainable path.

**Do you have any additional comments or relevant information to aid in evaluation of this application?**

The Illinois Sustainable Food Project (ISFP) is a partnership between several groups in the Department of Crop Sciences, the Department of Food Science & Human Nutrition, and University Housing Dining Services that began in 2013. The project processes items grown on campus into finished products for the University Dining Halls. Since inception, over 100,000 lbs of fruit, vegetables, grains, and other items have been processed into finished products for the University Dining Halls. Some of the projects include pizza sauce, several varieties of flour, diced vegetables, hot sauce, juices, pesto, and more.

The project continues to grow, and has received significant recognition for its work. A permanent FT staff person has now been put in place to manage the project, and dozens of students have been employed working on the project and learning the value of local foods. After the capital infusion necessary to buy the processing equipment, the projects are completely self-supporting, all staff and maintenance is paid through redirected dollars from traditional, non-local food vendors. The project has received many mentions in both social and traditional news coverage, along with winning an Innovation Credit to assist UIUC in becoming a “Gold-Ranked” institution from STARS.

In addition, the project has a growing impact external to campus as those affiliated with the project have begun to work with outside agencies in support of our mission. One such example is the Artisan Grain Collaborative, a group working tirelessly to restore local grains to the Chicago area and greater Midwest food economy. Through outside grants, the collaborative and UIUC grad students are now working to use the ISFP model and resources to improve the food economy across the region. It is a first step, but the group has received a significant grant from the USDA Local Foods Promotional Program to help connect farmers to local buyers of their grains. These projects are separate from the ISFP and any SSC funds, but show the huge impact of the start-up capital provided by the SSC. None of this would have been possible without our ISFP campus model, data that is being gathered, and learning provided to the students.