



Citri-Fi 125 Innovation Challenge
Scope, Rules & Guidelines
Natural, Highly Functional Citrus Fiber





Introduction and Overview

Fiberstar, Inc. (www.fiberstar.net) is an innovative food ingredient company located in River Falls, WI that has an extensive relationship with the university and research community. Fiberstar licenses technology from the University of Minnesota, where the company has its roots, and has grown into a global functional ingredient supplier that sells products in more than 60 countries around the world. This exclusively patented technology is used to manufacture Citri-Fi, a natural, highly functional fiber produced from the orange juicing process in Clewiston, Florida. Citri-Fi is offered in a number of particle sizes and co-processed variations that improve food quality, nutrition and cost savings.

At Fiberstar, we understand the value of fostering and supporting strong relationship with food industry researchers and students because of the mutually beneficial results and learning activities. In order to further promote these ties we have developed a Fiberstar Food Science Innovation Challenge. This contest has a total prize pool of \$25,000 and we would like to invite you and your students to participate.

Our goals with this Innovation Challenge are to promote stronger relationships with academia, increase our knowledge base of a new type of Citri-Fi that was recently launched called Citri-Fi 125, and give students a chance to work on real world issues in the food sciences. The new Citri-Fi 125 product, made from citrus peel, has a clean label declaration and also has an extremely high water holding capacity and emulsification properties. The properties of the product are such that it is effective at increasing yields in meat products, emulsification and water binding in sauces, moisture retention in baked goods and emulsification in beverages. What makes the 125 version unique compared to the previously developed Citri-Fi products is it: 1) is derived from citrus peel, 2) has a different rate of hydration in aqueous solutions, 3) is from a sustainable raw material source, 4) has higher soluble and insoluble fiber content, and 5) has flavor enhancement properties for darker applications with umami notes. For instance, the Citri-Fi 125 has been found to be suitable for partial monosodium replacement to enhance flavor in multiple applications, especially in ground meats and sauces. Once we hear back from interested parties, a sample kit will be sent out, which will include: 1) Reference Guide, 2) User's Guide, 3) one pound samples of Citri-Fi 125FG and 125M40, 4) a demo kit, and 5) poster bulletin to help spread the word. There are likely other applications as well where Citri-Fi 125's flavor enhancement properties can be developed. The competition's objective is to create a new and novel use for Citri-Fi 125 within food and beverage products.

The purpose and other objectives of the Fiberstar Innovation Challenge is as follows:

- To promote innovative thinking in food science to sustainably solve real world issues including improving food quality, cost effectiveness, incorporation of all natural ingredients, extended shelf life and improved organoleptic properties, possible replacement of chemically modified ingredients and allergens.
- To increase the application knowledge of Citri-Fi 125 and its various particle sizes, i.e. Citri-Fi 125FG (minus 100 mesh) and Citri-Fi 125M40 (minus 200 mesh).
- To provide students with a platform to collaborate with other students and food science professionals to work on industries toughest challenges



- To leverage an opportunity for students to demonstrate an understanding of food science and articulate scientific solutions in an easy and understandable manner

The Innovation Challenge will be based on the following:

- Competition for the most innovative food application of Citri-Fi 125 in any category.
- The Innovation Challenge is open to students who have completed one year in a Food Science, Meat & Animal Science, Nutrition, Culinary, or Engineering Program
- The competition could be part of a class or independent study project.
- Contest submissions are due no later than December 15th 2016 at 11:59 PM CST.
- 1st Place will be in the amount of \$10,000
- 2nd place: the runner up award will be in the amount of \$5000
- 3rd to 6th place award designations will be \$2500 each.

In order to participate, students will leverage their food science and technology knowledge to design a novel food application using Citri-Fi. These food concepts should be designed for scale up and global commercial distribution, taking into account market need, cost and ingredient quality. A detailed description of the rules and regulations can be found on the following pages.

Detailed Description of Food Science Innovation Challenge

The Food Science Innovation Challenge is a competition for the most innovative application of Citri-Fi 125. Students will be given access to scientific literature describing technical aspects of all Citri-Fi products. Free samples of Citri-Fi will be shipped to students for use in designing and performing experiments. Proposals with strong market need and thorough justification in scientific literature will be given preference. Fiberstar will be available to answer questions pertaining to clarification of rules/guidelines. No questions will be answered pertaining to specific application but general guidance on product use will be available.

General Competition Rules

- Entries must consist of a proposal for a food product innovation or solving an industry problem based on the use of Citri-Fi 125. Demonstration that a prototype was tested isn't required but is preferred and adds credibility to the entry.
- Solving an industry problem or identifying a market need that includes an explanation as to why Citri-Fi 125 is needed as part of the solution a plus.
- Proposals should consider the combination of different raw materials for improved texture, mouthfeel, sweetness, stability, health & wellness, sensory properties, etc.
- The judges will be evaluating the rationale behind the scientific value, the technical problem solving skills, and the commercial feasibility of the ingredient combination.
- Teams may participate in the same project and rewards will be split.
- Multiple students from the same university may submit proposals.

Limitations



- Final submissions should be submitted electronically no later than **December 15th 2016, 11:59 PM CST** in Word, PDF, or PowerPoint format to b.lundberg@fiberstar.net
- The competition will be conducted in English.
- All applicants agree not to claim any intellectual property rights (including patent rights) as to any material created in connection with the competition. Such intellectual property rights are transferred to the competition sponsor, Fiberstar, Inc. Fiberstar currently licenses its technology along with many uses from the University of Minnesota and also has its own range of patents in broad range of applications.

Eligibility Requirements

- Students must have completed at least one year of a food sciences, nutrition, culinary, or engineering program at a technical college or four-year University.
- Industry support such as donation of ingredients or use of equipment outside from Fiberstar is allowed and should be outlined in a separate document

Final Submissions:

1. Teams must upload a copy of their final report as in Word, PDF and/or Power Point format to Fiberstar (b.lundberg@fiberstar.net) no later than **December 15th 2016, 11:59 PM CST**
2. The submission must contain photographs of a prototype and respective formulations and procedures.
3. Written submissions are limited to ten (10) pages. This number DOES NOT include the title page, references, and optional 1-page appendix.
4. Written submissions must be typed, double-spaced, in 12-point font, Times New Roman font with 1" margins. All text and figures must fit on 8.5" × 11" paper.
5. There is no specific required format for the title page, though it should include the title of report, authors, and date.
6. Include the following information in proposal submission.
 - a) Participant name, school name, name of faculty advisor (If any) and report name. Reports will be tracked using the report name.
 - b) Sponsor companies, donors of goods, services, or money (if applicable)
 - c) The name, mailing address, phone number and e-mail address of the student competitor should be included for correspondence.
7. References: All scientific references cited within the proposal will be referred using the Harvard Referencing style or similar.
8. Finalists will be notified no later than five (5) weeks after the report submission deadline.



Evaluation of Proposals:

1. Scoring will be determined by a judging panel from Fiberstar to include R&D, Marketing, Sales, and Production.
2. Each entry will be scored on a basis of 100 points, with the points to be distributed as shown below:

Proposal Evaluations 100 points total:

- Originality of Concept (25)
 - Justification/Market Need (15)
 - Ingredient Commercial Feasibility/Market Potential (25)
 - Technical Feasibility (25)
 - Quality of Report (10)
4. Areas to be covered, but not limited to, in the proposal are:
 - a) Abstract/Executive Summary:
 - a. Short description of major points in proposal.
 - b) Rationale:
 - a. Detailed description of the application and how it is unique to the marketplace.
 - b. Overview of the benefits to the given market.
 - c) Literature Justification:
 - a. Literature support for how and why the ingredient selection would improve the final product.
 - d) Technical Problem Solving:
 - a. What are potential challenges and how did you solve them?
 - e) Product Application description:
 - a. Basis for selection of application
 - b. Citri-Fi 125's functionality/interaction in finished product
 - c. Product formulation
 - d. Price/cost evaluation
 - f) Commercialization Potential:
 - a. Economic Benefit to firm and customer
 - b. Readiness of application