



NYSP21 Supports RISE Products, Inc. with Alternative Use Opportunities and Nutritional Assessment for Spent Grain Flour

RISE Products, Inc. (RISE) is a company based in Brooklyn, New York that creates nutritious ingredients out of upcycled organic byproducts, which would have otherwise gone to waste. Specifically, they produce a line of 'super flours', made out of whole spent grain sourced from local breweries around New York City. They aim to offer a path for their partners to become zero waste businesses as well as reduce their operational costs and contribute to more circular production models.



CHALLENGE

Today, about 40% of the food produced in the United States is wasted throughout the food supply chain. RISE has sought to take what is traditionally thought of as waste (spent grain) and turn it into a new product (flour). RISE has met initial success with their first several lines of flour and is now interested in understanding the alternative use opportunities for their flour products as they expand their business.

SOLUTION

The New York State Pollution Prevention Institute (NYSP21) assisted RISE with better understanding the alternative use opportunities for RISE's flour products based on results from third party lab testing as well as published research. RISE provided NYSP21 with a variety of flour and grain samples, which were analyzed for 40 different characteristics covering food safety, allergen content, dough quality, and nutritional content. Additionally, NYSP21 researched current uses of spent grain as well as trends in consumer demands around food product purchases to reveal which markets and applications show the highest potential for RISE products.



Dark Flour made from stout spent grain



Light Flour made from IPA spent grain

CHALLENGE

- RISE wanted to understand the alternative use opportunities for their flour products as they expand their business

SOLUTION

- RISE flours were analyzed for 40 different parameters at third-party labs
- NYSP21 analyzed lab results and researched current uses of spent grain and trends in consumer demands

RESULTS

- The functional flour, pet food, and plant-based protein markets are the most prominent opportunities identified for RISE flours
- Compared to all-purpose wheat flour, RISE flour contains higher levels of protein and fiber
- RISE flours are well suited for partial wheat flour replacement in the functional flour market
- The nutritional and quality characteristics of RISE flour vary significantly depending on the type of beer the spent grain was used to brew
- Cosmetics is an emerging market for spent grain, but further research and testing would need to be done to better understand the suitability of this market



TESTIMONIAL

RESULTS

In comparison to all-purpose flours, RISE flours are high in protein and fiber, and lower in carbohydrates, while staying whole grain. Due to the processing techniques, RISE also can be touted as locally produced if sold in the New York City area, and environmentally friendly as they are turning what would be a waste stream into a valuable product. The characteristics identified from the testing and research align with many of the trends observed in the food, pet food, and consumer product purchasing sectors, such as clean labeling, sustainability minded purchasing, plant-based protein, whole-grain consumption, buying local, and higher fiber foods.

The work performed by NYSP2I led to key findings that could potentially expand RISE's business.

- The functional flour market, pet food market, and plant-based protein market are the most prominent opportunities identified for RISE flours
- RISE flours are well suited for partial flour replacement in the functional flour market
 - > RISE flours are not able to be used as a complete replacement for wheat flour in most products, without altering the product characteristics
 - > When mixed with 75% wheat flour, RISE flour can make a dough of average strength, good for bread, pizza, pasta, and other similar products
 - > RISE grain has very high enzyme activity, making it more difficult to substitute as a functional flour if ground
- The nutritional and quality characteristics of RISE flours vary significantly depending on the type of beer the spent grain was used to brew
- Compared to all-purpose wheat flour, RISE flour contains higher levels of protein and fiber
 - > RISE flours may be well suited as ingredients in the plant-based protein supplement and health food product market
- RISE flours may be well suited as an additive ingredient in the pet food market
 - > Several requirements of premium pet food align with tested nutritional in RISE flours

"It was a pleasure working with NYSP2I team, especially with Ava Labuzetta. The report they produced for us was comprehensive and helped us to understand our current and upcoming market strategy. We had bi-weekly updates, in which we were able to identify important key points for our business strategy. I absolutely recommend the NYSP2I team for marketing and product research."

- Bertha Jimenez, CEO
RISE Products, Inc.

NYSP2I PARTNERS



New York Manufacturing Extension Partnership

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