

2021 RESEARCH FELLOWSHIP

In 2021, the Upcycled Food Foundation (UFF) launched the Research Fellowship program with the goal of supporting the upcycled food industry. The program supported 5 experts from around the world in producing 11 research studies.

The Research Fellowship program expands our understanding of the legalities, environmental impact, market, consumer perceptions, technical opportunities and potential of upcycled food.

Francesca Goodman-Smith



1. *Retail Category Managers Advice to Upcycled Food Manufacturers - PUBLISHED (find in Resource Hub)*
2. *Upcycled craft beer case study**

Upcycled food is a new way of communicating to consumers the age-old process of creating new foods from by-products or unmarketable produce. Consumers are open to the idea of purchasing upcycled foods yet the availability of these products in supermarkets is limited. Securing shelf space will help to ensure the growth of this trend. Therefore, this research identified the enabling attributes of upcycled products that category managers approve for retail. Seven semi-structured, qualitative interviews were conducted with retail category managers using the Delphi technique.

Category managers assess new products through two lenses, a customer focused lens where they seek evidence that a new product can meet an identified customer demand, and a vendor-focused lens through which they seek confidence in the manufacturer's marketing plan, pricing structure, and product placement within the relevant category architecture. This research delivers guidance for food industry stakeholders and serves as a call to action for upcycled food manufacturers.

**Research is not yet published - under review*

Dr. Topher McNeil



1. *Upcycled Food Business Case Studies**
2. *Upcycled Food Supply Chain Challenges survey**

Through a case study and subsequent survey of UFA members, we have examined the advantages and disadvantages of various supply chain and partnership structures used by upcycled food companies to source ingredients and materials. Exploratory in nature, this survey highlights common sourcing challenges and concerns within the upcycled food industry and strategies used by upcycled food companies to drive growth.

"As a fellow, I had the opportunity to work with a prestigious cohort of colleagues from around the world. In my interactions, I have come across truly ground-breaking research ideas on making upcycled foods an industry in its own right. This novel solution to the problem of food waste is one of the biggest sustainability trends of the century."

— Dr. Siddharth Bhatt

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The fellows selected to participate in the 2021 inaugural cohort represent diverse research backgrounds and are spread out across the world. Their research spanned topics of importance to the upcycled food industry and received both financial support from UFF and connections to the membership network of upcycled food companies.

We extend a special thanks to Dr. Jonathan Deutsch, Professor and Director, Drexel Food Lab, for his generous support of this program!

Dr. Siddharth Bhatt



Potential of upcycled foods in the pet food industry
PUBLISHED (find in Resource Hub)

Globally, many attempts are being made to reduce food waste. A remarkable new solution is upcycling. Upcycled food uses food ingredients that are safe for consumption but are generally discarded. An emerging body of literature suggests that human consumers may be willing to buy and consume such foods for their own consumption. However, humans are not the only consumers in the food chain. One of the fastest growing segments in the food industry is pet food. Will pet owners be willing to purchase upcycled pet foods for their pets to consume? We provide the first assessment of acceptance of upcycled pet foods. We find that pet owners perceive upcycled pet foods to be superior in quality and sustainability than comparable conventional pet foods at an inexpensive price point, but not at an expensive price point. Findings from this research provide actionable insights for practitioners wanting to venture in upcycled pet foods.

**Research is not yet published - under review*

Dr. Simona Grasso



Consumer attitudes to upcycled foods in US and China *

This study is the first to compare a Western (United States (US)) and Eastern (China) country in terms of consumer attitudes to upcycled foods and consumer preferences on new upcycled food combinations. T-tests were performed to calculate differences between the two countries relating to willingness to try, willingness to buy, liking, familiarity, attractiveness, purchase likelihood and previous knowledge of upcycled foods.

Results indicate that more participants in China had heard previously of upcycled foods than in the US, however familiarity was low in both countries. Overall, liking towards upcycled foods was higher in the USA than in China. In the US, the top combinations were snack foods with upcycled spent grains and upcycled vegetables included in soups, followed by upcycled fruit in snacks. In China the top combinations were fruit in snacks, breakfast foods and drinks. The preferred by-products in both countries were plant-based, but dairy was the third preferred choice in China. Chinese participants characterised upcycled foods in terms of quality and health, while 'reducing food waste' and being 'good for the environment' were equally associated with upcycled foods in both countries.

Dr. Hongjun Ye



Consumer Awareness Study 2021 - 2022 *

This study used a consumer survey to assess awareness of upcycled foods and was conducted in January 2021 and February 2022. The survey found that awareness of upcycled foods remained similar from 2021 to 2022. A key takeaway is that mass communication or collaboration with leading brands may be the key to enhance awareness for upcycled food.