



## Upside Food Co. Case Study

**Company Name:** Upside Food Co.  
**Location:** Durham, North Carolina  
**Industry:** Upcycled Food Products

### Product Offerings

Upcycled flour, pancake mix, muffin mix, and cookie dough

### Target Market

Eco-conscious consumers, local bakeries, and commercial customers (restaurants, cafes)

### Sales Channels

E-commerce, local delivery, subscription services

### Mission

Upside Food Co. is a sustainable food company that transforms Brewer's Spent Grain (BSG) from local breweries into high-quality, nutritious flour and baking products. Our mission is to reduce food waste while providing eco-conscious consumers and businesses with health-focused, upcycled alternatives to traditional baking products.

## Business Overview

Upside Food Co. BSG sourced from Durham's breweries into sustainable baking products. Our core offerings include:

- **Upcycled Flour:** A versatile, nutrient-dense flour substitute made from BSG.
- **Pancake Mix:** A ready-to-use, high-fiber pancake mix.
- **Muffin Mix:** A wholesome, nutrient-rich baking mix for quick and easy muffins.
- **Cookie Dough:** Pre-made cookie dough featuring upcycled flour for a healthier, eco-friendly treat.

Our products are sold directly to consumers through our online store, where we offer one-time purchases and subscription options. We also maintain commercial contracts with local bakeries and cafes, supplying them with upcycled flour for their operations.

### Market Opportunity

Breweries in Durham generate substantial quantities of Brewer's Spent Grain as a byproduct of the brewing process, much of which has historically been underutilized or sent to landfills. Upside Food Co. addresses this inefficiency by transforming this nutrient-rich material into valuable, sustainable food products.

### Solution

We collect BSG from local breweries, dry and mill it into flour, and use it to produce our range of baking products. By converting this waste into food, we provide a sustainable alternative that supports local businesses, promotes environmental sustainability, and satisfies growing consumer demand for eco-friendly products.

### Market Trends

As part of a rapidly growing market, Upside Food Co. benefits from the increasing global focus on sustainability and the reduction of food waste. The Brewer's Spent Grain market, currently valued at \$1.60 billion, is projected to grow at a compound annual growth rate (CAGR) of 9.6%. Additionally, consumer demand for sustainable and plant-based products continues to rise, placing Upside Food Co. at the forefront of an expanding market.

## Target Market

### Eco-conscious Consumers:

Individuals seeking sustainable, health-conscious food options. Many of our direct-to-consumer customers order through our online store and participate in our subscription services.

### Local Bakeries and Restaurants:

Upside Food Co. supplies upcycled flour to several local bakeries and restaurants, helping them integrate sustainable ingredients into their menus.

### Online Shoppers:

Through our website, we sell pancake mix, muffin mix, and cookie dough to consumers who value convenience and sustainability.

### Subscription Services:

Customers subscribe to regular deliveries of our baking products, ensuring a consistent stream of revenue for the business.

## Products & Services

### Upcycled Flour:

A sustainable, high-protein flour substitute made from BSG.

### Pancake Mix:

A healthy, eco-friendly pancake mix made with BSG flour, popular for quick and nutritious breakfasts.

### Muffin Mix:

Our wholesome muffin mix is a favorite among customers who want a fast and easy baking option that's both nutritious and sustainable.

### Cookie Dough:

Pre-made cookie dough using BSG flour, providing a healthier yet indulgent alternative to traditional cookie dough.

## Sourcing

We have established strong partnerships with local breweries. These breweries provide us with fresh BSG weekly, allowing us to maintain a consistent production schedule.

## Production Process: Inside @ Upside

A Quick Look at the BSG-to-Baked Good process. This is process how Upside Food Co. turns a waste product into a valuable, sustainable ingredient that can be used in a wide variety of delicious recipes.



### 1. Inside the Brewery

The process begins inside one of our partner breweries. After the brewing process is complete, the Brewer's Spent Grain (BSG)—the grain leftover after wort extraction—remains in the mash tun. This grain is rich in nutrients like fiber and protein but is typically treated as waste if not upcycled. Upside Food Co. collaborates closely with the breweries to ensure that BSG is collected efficiently, with minimal disruption to their regular operations.

### 2. Dumping BSG from Still

Once the brewing process is finished, the still is cleaned, and the wet BSG is dumped into large containers. Breweries typically use 55-gallon drums or intermediate bulk containers (IBCs) to store the BSG temporarily. These containers are large enough to accommodate several days' worth of grain production. During this stage, the BSG is typically wet and heavy, with high moisture content—usually around 70-80%.

### 3. Loading the BSG for Transport

Upside Food Co. coordinates with the brewery staff to collect the spent grain directly from the brewery floor. The BSG is loaded from the brewery's storage containers into our transport vehicles, which are equipped to handle wet and heavy loads. The collection process is scheduled regularly, typically 2-3 times a week, depending on brewery production schedules. Our trucks are designed to minimize handling and ensure quick and efficient collection, reducing the chance of spoilage.

# Production Process: Inside @ Upside



## 4. Processing the BSG

After transport, the BSG arrives at our processing facility, where it undergoes several important steps to convert it from a wet, heavy byproduct into a dry, usable ingredient. First, we use energy-efficient drying equipment to lower the moisture content of the BSG from around 80% to 20%. This drying process is crucial because wet BSG has a short shelf life and is prone to microbial spoilage. During drying, the grain is spread thinly and heated in controlled environments to preserve its nutritional integrity.



## 5. Milling BSG into Flour

Once the BSG has been sufficiently dried, it is milled into fine flour using industrial-grade milling machines. The milling process transforms the dried BSG into a fine, consistent flour that can be used in various recipes. The flour retains all the beneficial nutrients of the BSG—high in protein, fiber, and essential minerals. This process is essential for creating a product that functions similarly to traditional flour but with enhanced nutritional benefits and sustainability credentials.



## 6. Packaging for Distribution

After milling, the upcycled flour is ready for packaging. We use eco-friendly, compostable packaging materials that align with our sustainability mission. The flour is packaged in various sizes to meet the needs of both individual consumers and commercial customers. For direct-to-consumer sales, we package the flour in 2-lb and 5-lb bags. For commercial customers, such as bakeries and restaurants, we offer bulk options. We also prepare our pancake mix, muffin mix, and cookie dough in pre-measured packages, ensuring ease of use for our customers.



## 7. Use Upside Flour in Lots of Recipes!

Upside Food Co.'s upcycled flour is versatile and can be used in a variety of recipes. From pancakes and muffins to cookies and bread, our flour substitutes seamlessly into traditional recipes while adding nutritional value. Customers are encouraged to experiment with the flour in their own kitchens or use our provided recipes for inspiration. We regularly share new recipes through our website, social media channels, and subscription service, helping customers make the most of this eco-friendly, healthy alternative to traditional flour.

## Logistics

Our logistics team coordinates the collection of BSG from breweries and ensures timely delivery of finished products to customers. For local deliveries, we use electric vehicles to minimize our carbon footprint. National orders are shipped via eco-friendly couriers.





## Marketing & Sales Strategy

- **E-commerce & Subscriptions**  
The majority of our sales come through our online platform, where customers can purchase products individually or sign up for subscription services. We offer discounts to subscription customers, encouraging repeat business and loyalty.
- **Social Media & Content Marketing**  
We actively engage with customers on social media, sharing the story of our upcycled products and how our customers are helping to reduce food waste. We also collaborate with local influencers and sustainability advocates to broaden our reach.
- **Collaborations with Local Businesses**  
We continue to build strong relationships with local bakeries, restaurants, and cafes by offering co-branded products and promoting their commitment to sustainability. These collaborations have helped raise brand awareness and drive sales.
- **Sustainability & Social Responsibility**  
Sustainability is central to everything we do. By upcycling BSG into high-quality baking products, we prevent waste and contribute to the development of a circular economy. Our packaging is 100% compostable, and we use energy-efficient processes to minimize our environmental impact. Upside Food Co. also donates a portion of our products to local food banks, ensuring that those in need benefit from our mission to reduce waste and promote sustainability.

## Conclusion

Upside Food Co. is thriving as an innovative leader in the upcycled food market. By turning brewery waste into valuable food products, we have built a sustainable, scalable business that meets the growing demand for eco-friendly and health-conscious products. With continued growth in our online sales, subscription services, and commercial contracts, Upside Food Co. is well-positioned to expand its footprint in both local and regional markets.