

UPCYCLED INGREDIENTS

INGREDIENT HOT LIST

Waste not, want not. While that adage may seem quaint, it rings ever true in today's sustainability-focused food and beverage marketplace. As part of broader efforts to reduce food waste, food developers are putting ingredients that might otherwise be discarded to good, practical, and ultimately flavorful use. Read on to learn how more brands and consumers are down with upcycling and explore the plethora of possible applications and flavors in the food and beverage space.

40% OF FOOD PRODUCED GLOBALLY IS LOST OR WASTED

Innovative Ingredients:

Spent Grain Flour • Fruit & Veggie Pulp • Pea Starch • Nut Milk Byproducts



“Transforming ‘waste’ into a new ingredient can show consumers that manufacturers are dedicated to creating a sustainable, secure food supply. But brands need to first prove that upcycled ingredients are appetizing.”

- MINTEL

RESCUE MISSION- Food and Beverage as the Next Focus of R&D

Using ingredients that are likely bound for landfills in new ways – or just re-thinking how materials are sourced, processed and used – has gone from an unusual practice to a more commonly-discussed approach to food and beverage formulations.



In fact, launches of food and beverage products containing upcycled ingredients experienced a 122% compound annual growth rate in the five years ending during the third quarter 2021.

With the amount and cost of food waste remaining remarkably high, the issue is getting more attention throughout the supply chain, leading to innovation among food and beverage makers and growing interest from consumers

KEEPING CONSUMERS INFORMED

Information is pivotal when it comes to acceptance of products made with upcycled ingredients. In addition to providing details on packaging and as part of marketing campaigns, food developers can explore a third-party certification program from the Upcycled Food Association that help boost awareness and trust.

Every bit counts!

95% OF CONSUMERS
*feel it is important to do their part to
reduce food waste*

21% GROWTH
*in sales of Upcycled Certified
products in 2022*

SNACKS & JUICE DRINKS
*are leading subcategories of
upcycled food and drink products*

NEARLY 122 BILLION POUNDS
*In the U.S., the amount of food
waste adds up to nearly 122 billion
pounds and \$161 billion worth of
food*

118% GROWTH
*in the number of Upcycled Certified
products and ingredients in 2022
compared to the previous year*

SPENT GRAIN FLOUR

One example of diverting ingredients from landfills is turning spent brewing grain into usable ingredients. As beers, including ever-popular craft brews, remain popular among consumers, some companies are taking the byproducts from spent grains like barley and turning them into fiber-rich, plant-based flour. That flour can be incorporated into a variety of applications, such as nutrition bars, pancake mixes and cookies, among other items. This type of flour offers a nutty flavor that complements other flavor additions.

MARKET AND CONSUMER SENTIMENT

- According to a report in World Grain, 20 billion pounds of grain byproducts from U.S. breweries and distilleries are wasted every year.
- Demand for dried spent grain is forecast to reach \$14.8 billion by the end of 2023 and to grow at a CAGR of 4.9% within the next ten years, according to a report in Future Market Insights.



PRODUCTS OF NOTE



UPCYCLED GRAIN PROJECT PARMESAN CRACKERS from Rutherford & Meyer are made with upcycled grain from the brewing process and other 100% natural ingredients and contain no artificial colors, flavors or preservatives.

62% of consumers said they would likely or definitely buy the product.



SIMPLE TRUTH FREE FROM UPCYCLED SEEDED MULTIGRAIN BREAD is made with 10% upcycled grains including barley, wheat and rye, along with sunflower, flax, black sesame and pumpkin seeds. The bread is non-GMO and comes in a recyclable pack.

FRUIT & VEGGIE PULP

Compared to other parts of fruits and veggies, like stems, seeds and certain peels, fruit and vegetable pulp is edible and easier to work with from a formulation standpoint. Whether food developers are repurposing fruit and vegetable pulp from other products they are already making or procuring it from a supplier, they can use it for finished products ranging from ice cream to ready-to-drink beverages to jam. Each fruit and vegetable has its own inherent flavor, but in general, pulps are versatile and work well with flavor partners for a bright or savory taste.

MARKET AND CONSUMER SENTIMENT

- The market for fruit pulp is expected to expand at a 5.4% CAGR to top \$2.93 billion, according to Persistent Market Research.
- In addition to startups, major brands are looking into utilizing more parts of fruits and vegetables in production: Dole Specialty Ingredients, for example, now upcycles pineapple pulp and other fruit byproducts.



PRODUCTS OF NOTE



CAPAO ALMOND ORANGE QUINOA SQUARES are made with certified upcycled cacao fruit pulp and other simple ingredients. The product is free from artificial flavors, colors and gluten, and retails in a 4.2-oz. recyclable pack.

23% of consumers said they would likely or definitely buy the product.



PULP PANTRY offers fiber-rich chips made with leftover pulp from juicing vegetables and fruits. The company works with juice brands such as Project Juice and JuiceFarm to source its pulp and was featured on "Shark Tank." Varieties include Jalapeño Lime Real Crunchy Vegetable Chips.

28% of consumers said they would likely or definitely buy the product.

PEA STARCH

Pea processing begets pea starch, which is increasingly used as an alternative ingredient that reduces waste in the food chain. Pea starch can be swapped for other ingredients in batters, coatings and sauces and can serve as a replacement for pectin and gelatin. Although pea starch can be considered a carbohydrate instead of a protein, there may be applications in which other flavors help mask any processing-related off notes or enhance the sensory experience of the final product.

MARKET AND CONSUMER SENTIMENT

- The market for pea starch is predicted to reach \$211 million by 2027 with a 6.2% CAGR over the next four years, according to MarketsandMarkets.
- Mordor Intelligence reported that pea starch has gained “immense popularity” in the food and starch industries across a variety of applications.



PRODUCTS OF NOTE



RENEWAL MILL UPCYCLED SUGAR COOKIE MIX is made with organic pea starch and organic okara flour, among other ingredients. The mix is free from gluten and GMOs and is touted for reducing global food waste.



TATTOOED CHEF RAINBOW STATE PLANT BASED PIZZA is made with pea starch as part of the crust, which is topped with plant-based bacon, mozzarella-style shreds, pineapple and jalapenos. The product is soy free and vegan.

33% of consumers said they would likely or definitely buy the product.

NUT MILK BYPRODUCTS

If nut milks have disrupted the traditional dairy milk category, they are also spurring product development in other foods. Ingredient companies are finding ways to use byproducts of nut milk that would go to waste if not repurposed in a more circular food economy. Examples include oat milk proteins that be incorporated into other foods and beverages and pulp from almond milk production that gets new purpose in upcycled nut butters and flours.

MARKET AND CONSUMER SENTIMENT

- Whole Foods Market called out “Pulp with Purpose” as its second top food trend for 2023. In its annual trend report, the grocer predicted an increase in the use of oat, soy and almond pulp in applications such as flours, mixes and confections.



PRODUCTS OF NOTE



LOVE + CHEW is a plant-based cookie brand that features Renewal Mill’s upcycled oat milk flour. The Peanut Butter Chip variety has 10 grams of fiber and 10 grams of vegan protein per cookie.



SECONDS SNACKS are made with upcycled carrots as well as upcycled oat milk flour and are available on Original Crunch, Everything Crunch and Chipotle Ranch Crunch flavors.

THE TAKEAWAYS

The food and beverage sector is the next frontier of upcycling. Although recent reports say that 72% of global product launches with the term “upcycled” in a free text search were found in the beauty and personal category, there has been growing development in the consumables market. Developers incorporating upcycled ingredients into their products can appeal to consumers by touting the sustainability benefits as well as nutrition and taste. In fact, more than a third of consumers feel that upcycled ingredients are more appealing than regular products when it comes to sustainability, health and taste.

Not sure where to start? We can help you keep flavor top of mind. Let us help you find your “what’s next?” Reach out for more information.



SOURCES

- Mintel
- Mintel GNPD
- Innova Market Insights
- Mattson
- Upcycled Food Association
- U.S. Food and Drug Administration
- World Grain
- Future Market Insights
- Persistent Market Research
- MarketsandMarkets
- Mordor Intelligence
- Whole Foods Market

YOU DESERVE MORE. LET'S GET STARTED.

What does true partnership look like? You deserve a flavor partner ready to turn these trends into the tangible.

Let McCormick Flavor Solutions' market insight and research experts get to work for you. Translate these trends into bold new ideas for your brand. Increase market share and get to your “what’s next.” Our technical flavor, seasoning and product development experts are also at your service to help meet the labeling and flavor profile needs for your products to capitalize on this consumer trend.

From concept to manufacturing, we're here for you — every step of the way. Contact your sales representative or [chat us up at www.mccormickflavor.com/en-us/contact-us](http://www.mccormickflavor.com/en-us/contact-us)



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