

May 2023

PREMIUM
REPORT

Global Flavors & Ingredient Supply Chains

Premium Report Featuring 10 Exemplary Startups

Foodbytes
Powered by Rabobank

Global Flavors & Ingredient Supply Chains

Foodbytes aims to make connections within the F&A industry to drive meaningful improvement in the food value chain. To inspire and cultivate valuable collaborations, we are exploring 10 critical themes throughout the year that we believe are positioned to drive sustainable impact.

In April, our team explored **Global Flavors and Ingredient Supply Chains**. We examined how food producers and manufacturers are working to meet evolving consumer demand within current market and social realities, including consumer **backlash against highly processed foods, adoption challenges of plant-based 1.0 and growing emphasis on biodiverse diets and ecosystems**.

We scouted and reviewed more than 150 aligned startups, directing our focus on key trends driving growth. On the ground at Natural Products Expo West in Anaheim, CA, the Foodbytes team experienced first-hand the influences shaping global flavors and ingredients. In addition, we convened a small group of global Rabobank consumer foods specialists, who lent their expertise in selecting 10 leading startups innovating in the space.



Back to basics: The critical characteristics for flavor and ingredient supply chain innovators

1 Putting the “Plant” in Plant-based

Consumers opting to change their eating habits and adopt plant-based alternatives are looking for products they can relate to. Food companies that **embrace minimal processing** to highlight the hero ingredients – plants – will gain more market share as the alternatives space matures.

See: The Plant-Based Equalizers (pg 5-6)

2 Satiating Consumer Curiosity

While high inflation has driven consumers to cut back on certain foods, **a curiosity for new flavors persists**. Apparent especially during the Pandemic, the interconnectedness of our online culture brings visibility to many more cuisines, dishes and ingredients. As demographics shift and global cuisines become more accessible, consumers are on the hunt for diversified flavors.

See: The Planet Positive Pioneers (pg 7)

3 Backing up “Better-for-you”

With more consumers looking to food to promote their own health and mental wellness, companies that successfully **defend their claims through clinical trials** will emerge on top.

See: The Novel Nutritionists (pg 8)

4 Placing the grower at the center

Food companies that create fully traceable supply chains will be able to **report on sustainable impact and ensure the safety and quality** of their products, consequently commanding a price premium that conscious consumers are ready to embrace.

See: The Planet Positive Pioneers (pg 7)

5 Convenience is Key

Consumers cutting back on one-click foodservice channels desire meal solutions that elevate their in-home dining experience at a lower price. Companies innovating in accessible formats like **ready-to-cook meals, new flavors in the frozen aisle and shelf-stable foods** will see heightened demand.

See: The Plant-Based Equalizers (pg 5-6)

Sustainable CPG Startup Investment Holds Steady

From 2021 to 2022, the agrifood investment space was certainly not immune to macroeconomic downturn and a poor exit environment, seeing a [44% drop](#) in startup investment. Across sectors, investors are putting the brakes on later-stage deals, as confidence in high-valuation startups is faltering. **The “unicorn birth rate” is at its lowest level in 6 years**, with [just 13 unicorns emerging in Q1'23](#). One silver lining for F&A is that within the pool of late-stage deals, the food and beverage sector “dominated” the VC (Venture Capital) market, led by clean label alternative protein brands and B2B plant-based ingredient suppliers, according to [Forbes](#).

The outlook is more encouraging when we turn our gaze to early and mid-stage deals in F&A. Despite year over year decline in overall deal value, **the total number of deals still represents a 20% increase from 2020 volume**, according to Pitchbook data.

10 Exemplary Startups Delivering Global Flavors & Innovating Supply Chains

Over the last several years, the plant-based market has seen a meteoric rise of meat and dairy analogues that rely on additives (texturizers, dyes, emulsifiers, etc.). These alternatives require greater degrees of processing to mimic the taste, look and feel that consumers crave. **If consumers begin to evaluate their food by the “extent of manufacturing that goes into making processed foods,” many products, “even across on-trend health and wellness categories, risk being labeled ‘ultra-processed,’... while new food trends demand fewer ingredients, ‘clean labels,’ and ‘clean-eating’ diets,”** according to **RaboResearch’s Senior Consumer Foods Analyst Nick Fereday.**

The key to meeting these evolving demands is focusing on the simplicity of the plant as the main product feature. Refocusing from food processing to reformulation to develop a cleaner set of plant-forward ingredients – like plant sugars, fibers and fats – can in turn deliver on aspects of taste and texture.

“Plant-based fat is a highly untapped opportunity,” remarks **RaboResearch Consumer Foods Analyst Tom Bailey.** **“There are research-based claims that**

certain fat profiles can be good for health. Looking at the popularity of diets like keto, there is a ton of upside in the market for the consumption and replacement of traditional fats. It is critical for taste and texture, and now there is an added health claim too.” There is massive opportunity to disrupt the current plant-based ingredient market, the murky health profiles and sustainability of which leave a lot to be desired.

How are startups addressing these drivers in unique ways? What type of traction are they seeing? How can you learn more and collaborate with them? We’re glad you asked! **Click on their names in the next pages to follow the links to their Foodbytes profiles.** Once you are there, you can add them to your watchlist, read about their milestones and collaboration needs, and even get in touch.

75% of the world’s food comes from just 12 plants and 5 animal species



12x  **75%**  **5x**

Source: United Nations Food and Agricultural Organization

The Plant-Based Equalizers



- **Pa'lais (Future Foods):** Organic and vegan certified dairy alternatives, in the form of spreads and ready-to-cook creamy culinary sauces.



- **Iconic Drinks GmbH:** Direct-to-consumer milk alternatives utilizing fermented oats to create a dehydrated oat milk base that becomes fresh oat milk at any time.



- **Ambrosia Bio:** Enzyme-based technological platform that cost-effectively converts everyday sugars into low- to no-calorie rare sugars and dietary fibers.



- **Lypid:** Novel formulation and microencapsulation technology developing vegan fats with animal-like textures, melting behaviors, extended flavor delivery and improved nutritional profiles.

The Planet-Positive Pioneers

In [a study published by the Journal of Nutrition](#), consumers with vegan, vegetarian and pescatarian diets were **found to eat more ultra-processed plant-based foods than their meat-eater counterparts**. “This highlights the heterogeneity in vegetarian diets and that those consuming a higher intake of the processed form of plant-based foods may not reap the health benefits often attributed to plant-based diets,” according to the report.

Innovators that are **building supply chains for more diversified crops** can achieve a plethora of improvements to the food system, including:

1. Improving the nutritional profiles of plant-based options
2. Delivering differentiated options and flavors to curious consumers
3. Enabling traceability to communicate safety and quality of product ingredients
4. Promoting biodiversity on land used to produce those ingredients
5. Creating equitable farmer livelihoods by incentivizing that production.



Environmental impact is still on consumers’ minds. Despite inflationary pressures, [nearly 50%](#) of global consumers say they changed their diets in the last 2 years to lead a more environmentally friendly lifestyle. Companies that can **tie their products to environmentally and socially responsible practices**, while also delivering nutritious and novel foods, create holistic value in the consumer’s mind.



- **Perennial Foods Group**: Regeneratively-grown produce and teas powered by an end-to-end supply chain that provides small-scale African farmers with the market access, technical support, and financing needed to transition to planet-positive growing.



- **Amazonika Mundi**: Meat alternative utilizing Brazilian-grown cashew fiber that would have otherwise been food waste to restore Amazonian biodiversity and generate income for local communities.



- **Organic Ocean Seafood Inc**: One-stop seafood marketplace incentivizing the adoption of environmentally and socially responsible production and harvest practices.

The Novel Nutritionists

When considering where consumers place value, 65% of them seek functional benefits from their food and drink. The increasingly overlapping food and supplement category best targets their **growing preference for personalized nutrition** that proactively manages individual health over time, in focus areas like hydration, immunity, and energy. Successful companies will need to **back their products with research**, as more entrants add functional claims – scientifically proven or not – to their labels.

That said, most consumers are not able to prioritize wellness in their food purchasing decisions. As venture fund Supply Change Capital notes, the current food system has “**failed to serve many communities across the world – healthy diets are out of reach for nearly 3 billion people.**” **Increasing the bioavailability of ingredients through nutrient delivery systems** can improve access to foods with positive health impacts, creating more value from the same inputs.



- **IGH Naturals:** Clinically backed functional foods that use electrolyte blends, targeting hydration and nutrition for athletes and patients with chronic diseases.



- **Psigryph:** Sour cherry-derived nanotechnology delivery system used to efficiently provide nutrients, pharmaceuticals, nucleic acids and other molecules of biological interest.



- **Tastermonial:** Nutrition claim testing platform powered by real-world biofeedback data, crowdsourced from consumers wearing biosensors paired with a smartphone.

A window to the future of Global Flavors and Ingredient Supply Chains

Beyond the current challenges and opportunities for food companies – meeting consumer demand for taste, texture and cost, prioritizing health and sustainability, focusing on more resilient supply chains from the farm to the plate – we see **two major innovation whitespaces for the future of global flavors and ingredient supply chains:**



1

Biodiversity at the center of the story

Foodbytes sees biodiversity as the next step on the sustainability frontier. First came organic, then sustainability as a catch-all, followed by decarbonization, and now **biodiversity sits at the top of the triple-bottom-line agenda**. Companies across the F&A value chain are being confronted with the impacts their practices have on natural ecosystem biodiversity.

In reaction to this confrontation comes an uptick in demand for startups that can **demonstrate proven biodiversity impact via their supply chain innovations**. According to a new factbook from Bloomberg, while \$3.3b has been invested into climate impact tech by governments globally since 2016, only \$58b has been invested into biodiversity. The space is nascent, but the upside could be significant. According to the report, restoring biodiversity is one-seventh as costly as building a net-zero emissions energy system.

2

The proliferation of consumer wearables and tracking

According to a 2022 study by [Deloitte](#), 57% of consumers have a smartwatch or fitness tracker in their household, and 42% of consumers are willing to share their health data with grocers for personalized food recommendations. We expect the winners in the personal nutrition space to **leverage the increasing availability and consumer willingness to share health data** to anticipate needs and develop products and systems that interoperate with clinicians and dietitians.

Foodbytes is an online connection hub for the food and agriculture industry, powered by Rabobank's unmatched knowledge and network.

Startups

Set up a free profile to efficiently increase your exposure to potential partners and funders, all in one place.



Corporates and investors

Explore your Premium access to Foodbytes. Browse for startups with vetting badges, view exclusive pitch decks and videos and access more premium insights, all in the hub.

Create your profile or subscribe at www.foodbytesworld.com
Questions? Email us at foodbytes@rabobank.com

NEVER MISS A BEAT - FOLLOW US ON SOCIAL:



www.foodbytesworld.com