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JUNE 2021

THE OFFICIAL MAGAZINE OF THE RESEARCH CHEFS ASSOCIATION



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**protein**  
may not be plants

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## Pull up a chair — There's room at our table

A sense of renewal was in the air as we closed RCA+, the Research Chefs Association's virtual event held this past March. Nearly three months later, I am still buzzing from the wonderful exchanges and new friends gained. I hope everyone who attended learned something from our exciting lineup of speakers.

I will admit that before attending the spotlight session with Hervé This, the father of molecular gastronomy, I had never encountered a more-than-100-slide PowerPoint, let alone made it to slide 287 with such excitement. He took us on a ride I will never forget. Meeting with RCA partners at the Expo allowed me to start new projects and continue learning about products I am unfamiliar with.

RCA+ was a hit, and the opportunity to further the mission of Culinology, while expanding our global reach as one organization, brought us to the next level. Meeting virtually, we were able to unite members across the world and share our passion for blending culinary arts and food sciences. Our table has gotten bigger, and all are welcome.

I'm honored to serve as the next RCA president. I look to the future with optimism as we continue to provide more value to you with engaging content and meaningful experiences. We put a lot on hold due to the pandemic, but things are starting up again.

So, what's next for RCA? With the continued mantra of "own the solve," coupled with support from our Legacy Partners, we will be more connected than ever. Membership and engagement are slated to grow through aggressive student and global initiatives.

Fostering new relationships and our Diversity, Equity and Inclusion Committee will help us lead the charge to ensure every member, current or new, knows they are welcome. We are emphasizing support systems and opportunities for all members, and this is just the beginning. I can't wait to see how this year unfolds.

I encourage you to get involved and stay connected. Check in with your regional group to see what events are taking place each month. As our table grows, we will need to add more place settings and make room for new content to feast on.

Guests are always welcome, so bring those friends who will benefit from all RCA has to offer. Tell them what RCA means to you and its continued impact on you. Show them they are appreciated for who they are and what they contribute, no matter how big or small.



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# Datassential's 10 ingredients to watch



Successful food and beverage innovators need to know what emerging ingredients are capturing the consumer's attention. Mike Kostyo, senior managing editor and trendologist for the market researcher Datassential, Chicago, identified 10 ingredients product developers should consider during a virtual presentation at the Research Chefs Association's RCA+ conference in March.

Mr. Kostyo called 2021 the year "innovation roars back." Citing Datassential data, he said 65% of consumers say they are tired of cooking at home, 58% are bored with comfort food, and 79% are craving something new overall.

"This supports the idea this will be the year of innovation," he said.

Some innovation efforts have focused on creating comfort foods with a twist. The restaurant chain Shake Shack's Korean-style Fried Chick'n Sandwich, which features a spicy-sweet gochujang-glazed crispy chicken breast on a bed of kimchi slaw, was cited as an example.

Looking ahead, Mr. Kostyo identified 10 ingredients product developers may want to consider as they seek new ideas for innovation.

Fermented honey was one such ingredient. It sits at the intersection of two prominent trends — the consumer's affinity for honey as a sweetener and the perception of fermented products as having a health halo, Mr. Kostyo said. As an example, he referenced the Butcher & Bee restaurant in Charleston, SC, which offers a whipped feta dip made with

fermented honey and black pepper.

Next-level produce like Del Monte's Pinkglow pineapple and the Blue Java banana also are ingredients sparking interest among consumers. Such items offer consumers a twist in a familiar format, which has been at the heart of food and beverage innovation for several years.

Kheer, a Southern Asian pudding made by boiling milk, sugar and rice, tapioca or bulgar wheat, also made Mr. Kostyo's list. At the restaurant Rook, Palo Alto, Calif., diners may find a wild rice kheer with dates and cashews on the menu.

In the 1980s, carob was thought to be an ingredient to challenge the dominance of chocolate. While that never happened, Mr. Kostyo said in 2019 and 2020 the ingredient grew 10% on menus.

"Chefs are realizing it has potential," he said.

At Byblos, Miami, patrons may order an appetizer of lamb ribs with dukkah, buttermilk sauce, carob molasses and red chili schug.

Consumers also have taken an interest in curry, Mr. Kostyo said.

"Consumers have gotten savvy about it," he said. "They understand there are different types of curries, and they want to understand them. The different types on retail shelves really showcases the trend."

Sudachi citrus, a small, green citrus fruit from Japan, has the potential to be a next-level alternative to yuzu, Mr. Kostyo said.

"It's a great option when looking to add acid," he said. "You see it in cocktails."

Another ingredient showing up in alcoholic beverages is honeysuckle. The Cathead



# 10 emerging ingredients

- Fermented honey
- Next-level produce
- Kheer
- Carob
- Next-level curry
- Sudachi citrus
- Honeysuckle
- Carne guisada
- Nigella seeds
- Chicory root

Distillery in Jackson, Miss., serves a honeysuckle vodka variety that offers soft floral and herbaceous aromas, according to the company.

Product developers looking for a next-generation meat flavor may want to consider carne guisada. It is a Latin beef stew often made with pieces of beef simmered with beer, scallions, garlic tomatoes, cumin and cilantro that has grown 23% on menus during the past year, Mr. Kostyo said.

While seeds have been trending for several years, nigella seeds are gaining in popularity. The seeds have a slightly bitter taste that can

add crunch to a variety of applications.

“It’s a great option that has grown 87% on menus in the past year,” Mr. Kostyo said.

Finally, chicory root was identified as an ingredient to watch.

“We’ve seen chicory root growing for a number of reasons, particularly because the coffee industry needs innovation,” Mr. Kostyo said.

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*Left: Chicory root is viewed as a source of innovation in the coffee category.*

*Right: Carob’s presence on menus grew 10% in 2019 and 2020, according to Datassential.*







# Predicting the pandemic's impact on retail

Consumer adoption of digital platforms accelerated during the pandemic. A panel of executives discussed the implications on packaged food brands, retailers and restaurants during a discussion this past March at the virtual Future Food-Tech seminar.

“We are looking at a new era in grocery retail that’s going to be digital-forward with multiple formats and multiple channels,” said Walter Robb, former co-chief executive officer of Whole Foods Market and executive-in-residence at S2G Ventures, a venture fund that invests in food and agriculture.

Chipotle Mexican Grill began responding to a consumer transition to online transactions several years ago. Early investments in digital capabilities positioned the fast-casual chain to pivot successfully as in-store traffic evaporated, said Scott Boatwright, chief restaurant officer.

“Brands that fail to innovate and move their business to more of an omnichannel version will fall behind,” Mr. Boatwright said.

People will once again gather for meals in restaurants, he said, noting the traditional brick-and-mortar model will retain relevance for years to come. However, he said, the shift to digital was already underway prior to the pandemic.

The past few years saw an emergence in new ways to procure food. Represented on the panel were the

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*Chipotle Digital Kitchen is a new store format from Chipotle Mexican Grill, Inc. The restaurant opened in Highland, NY, and has no dining room or customer-facing service line, and guests order in advance.*



founders behind two options gaining traction over the past year. Tovola offers a meal service that is paired with a countertop smart oven. Misfits Market is a direct-to-consumer grocery platform tackling food waste by offering imperfect or surplus produce and pantry staples at lower costs. Both businesses tracked strong growth following the onset of the pandemic, and the leaders of the companies said they expect continued momentum as recent consumer habits stick.

“In general, I think the trend was alternative e-grocery platforms like ours — we were alternative before — we got thrust to the main stage from the backstage,” said Abhi Ramesh, founder and CEO of Misfits Market.

His business partnered with suppliers to repackage and sell products such as bulk popcorn kernels directly to consumers. Additionally, emerging packaged food brands began tapping into alternative distribution channels such as Misfits Market as the pandemic thwarted opportunities to gain shelf space at conventional grocery retailers.

“Building their own direct-to-consumer experience isn’t necessarily an option for all of these brands, so they’re looking for the marketplace or distribution channel, ours being one of them,” Mr. Ramesh said.

Data and analytics will play a key role in building an online shopping experience that benefits the retailers, manufacturers and consumers. Mr. Ramesh noted the possibilities and limitations of the virtual shelf model.

“How we think about it is ... there’s infinite shelf space, but we can’t have infinite products on a giant scrolling page,” he said. “We have to be data-driven about what we put in front of a customer, when and why. I think data and machine learning is probably the way to do that.”

There are elements of the physical retail experience that must be replicated in the digital world, Mr. Robb said. For example, a significant portion of purchase decisions at brick-and-mortar grocery stores is driven by discovery or impulse. Digital retail should provide similar opportunities to explore and engage with new innovation.

“Don’t be under any illusion physical retail is going away,” Mr. Robb said. “People still love and miss the spontaneity that happens when you come to a physical store. I really believe folks will come back to the physical store and spend more time. The trips won’t come back in the way they have historically, but they will come back.”



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# Restaurant chefs take aim at retail shelves



High-end eateries are entering the consumer packaged goods market. New York City's Levain Bakery launched its cookies in the freezer aisle of select grocery stores. Carbone, an upscale Italian restaurant in New York, Miami, Las Vegas and Hong Kong, is introducing pasta sauces online and in East Coast outlets. The chef behind Chicago-based Girl and the Goat, Little Goat and Duck Duck Goat restaurants introduced a line of condiments for home cooks.

"A lot of businesses are trying to figure out how to expand beyond the four walls," said Alison Cayne, founder and chief executive officer of Haven's Kitchen, based in New York. "There's a lot of movement in the hospitality world to figure out the product side of things."

The activity extends beyond traditional licensing deals between national restaurant chains and packaged food manufacturers. As the pandemic broadly halted indoor dining, several independent restaurant owners began seeking ways to package and sell products online or in grocery stores, Ms. Cayne said.

Her business, Haven's Kitchen, offers a range of refrigerated sauces sold nationwide at retailers including Target and Whole Foods Market. The recipes were inspired by popular classes at the cooking school, cafe and private event venue of the same name, which she opened and operated for eight years.

She closed the space last summer due to the pandemic and is focusing full-time on the consumer products business. Among factors to consider when expanding onto retail shelves are packaging, pricing and production, Ms. Cayne said.

"I get so many calls from people who have, say, a pesto and have to figure out how to ship and get it on grocery store shelves," Ms. Cayne said. "If you're looking to do something quick and dirty

and get some cash, a fresh pesto is not the solution there. You need something shelf-stable, something with good margins, something that doesn't require fresh ingredients."

A restaurant in Manhattan's West Village, Gotham Bar & Grill launched a line of gourmet chocolates last year on Faire.com, an online wholesale marketplace connecting over 150,000 retailers with emerging and established brands. The company said its packaged chocolate operation "brought our kitchen back to life while waiting for our great city to reopen."

Such platforms are providing opportunities for restaurant owners to generate revenue during the pandemic. However, operators may not understand the complexity of pivoting or expanding into packaged foods, said Ayeshah Abuelhiga, founder and CEO of Mason Dixie Biscuit Co., Baltimore.

She hadn't initially planned to launch a grocery brand, but a year after opening her Southern comfort food concept, customers began asking for her biscuit dough to bake at home. Demand heated up quickly.

Five years later, Mason Dixie frozen biscuits, scones, rolls and handhelds are sold at more than 6,000 retailers nationwide. The restaurant closed last year.

For Ms. Abuelhiga, a key to a successful entry into the retail market was identifying a business partner to supplement her strengths.

"It's very hard to launch from a restaurant to a consumer brand without having some level of business development and marketing experience," Ms. Abuelhiga said. "Don't launch into this alone; find a partner who has the assets you don't... You need to have expertise, and don't go into it thinking you can do everything because one of the businesses will suffer."

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# The pandemic's impact on the meat department



Market researchers that track the food manufacturing industry are trying to identify which consumer behaviors will persist as states and municipalities begin to ease pandemic-related restrictions. Larry Levin and Chris DuBois of market research firm IRI explained the major themes emerging from their research that will drive growth in the meat department and the CPG segment in a post-pandemic world. The presentation was part of the 2021 Meat Conference, hosted by FMI – the Food Industry Association and the North American Meat Institute.

A higher comfort level among consumers in the kitchen drove 44% of gains in the meat segment, according to IRI. Mr. Levin said the confident cooks and cooking enthusiasts are slightly more affluent with larger households, and older children. The shoppers also are ethnically diverse. These high-meat-IQ shoppers also tend to prepare more dinners with meat and poultry.

A second theme uncovered by IRI research is the evolution of premiumization. Mr. DuBois said significant growth in sales of premium and super-premium food items occurred throughout the store. The trend toward premiumization cuts across income levels, so it's not solely driven by "...rich people buying more stuff."

"It's not about expensive products; it's about making my life better," Mr. DuBois said. "It's about simplifying packaging to make my meal easier to cook. It's making it easier, more flavorful, more accessible."

Consumers were willing to pay more for premium-level proteins, IRI found. Prime beef was an example.

"That explosion in growth and volume was tremendous all the way through; we

saw a 4x change," Mr. DuBois said.

The work-from-home and school-at-home state-of-affairs spurred by pandemic-related lockdowns has led to new eating occasions or more emphasis on the breakfast and lunch dayparts.

Three-quarters of meat shoppers who increased meat purchases since the start of the pandemic point to more at-home dinners as a reason, according to *The Power of Meat*, an annual study conducted by the market research company 210 Analytics.

Additionally, 56% of meat shoppers bought more meat and poultry because of preparing more lunches at home. This figure was even higher among those working from home, at 65%, and those working a mix of at home and at the place of business (67%).

The federal government conservatively estimates that 20% to 25% of the working population (roughly 155 million people) will be working from home, up from just 7% of the working population working from home in 2017.

"That's a displacement; that's a big change from not going to the cafeteria at the office," Mr. DuBois said. "That's a big change from not going to a downtown business location commuting." This new dynamic represents a significant opportunity for food manufacturers and grocers to innovate and offer products that help consumers plan for meals.

"If you think of Egg McMuffins and going to McDonald's, maybe that Egg McMuffin looks a little different at home. Do you bring some of the foodservice items over? What about lunch? Does Uber Eats win that? Does McDonald's win that? Or does the supermarket and the manufacturers behind it find solutions that make a difference?"





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# The future of protein may not be plants

by Donna Berry  
editor@sosland.com

Animal-free whey smoothie, vegan frittata and cell-cultured blue fin tuna — these foods will all be part of future protein innovation in a world challenged with feeding nearly 10 billion people by 2050. The effort will require complete protein — all the essential amino acids in the amounts required by the body — from non-traditional sources produced without putting additional strains on global land and water supplies, or further fueling climate change.

The COVID-19 pandemic accelerated efforts by technology-driven food companies to produce proteins that will make a noteworthy contribution to nutritious, balanced diets around the world. Chefs and food scientists are learning how to work with the proteins, some of which come in raw ingredient formats and others that are ready for cooking.

As of December 2020, Singaporeans have been able to dine on cell-cultured chicken developed by Eat Just Inc., San Francisco, following the city-state's first-in-the-world regulatory approval in November for the

animal-free chicken product. It is real chicken without the bird. It is the culmination of what Winston Churchill wrote in a 1931 essay: “We shall escape the absurdity of growing a whole chicken in order to eat the breast or wing, by growing these parts separately under a suitable medium.”

The concept was pursued for decades by Dutch researcher and entrepreneur Willem van Eelen, often referred to as the “godfather of cultured meat.” Eat Just acquired Mr. van Eelen’s patents after his passing and is now growing chicken on nutrient-dense media using chicken cells. The process takes about 14 days and yields a raw minced meat that Just Eat is currently forming into nuggets but has the potential for use in other formats.

BlueNalu, San Diego, is doing something similar in the seafood space. The company is focusing on growing fish cells — muscle, fat and connective tissue — on nutrient-rich medium and then using proprietary technology, including cold extrusion to produce a range of fish fillets with the same textural properties of those obtained from







## Fermentation innovations are spurring the creation of unique proteins

Credit: Eat Just Inc

once-living fish. Additional benefits of cell-cultured protein is there is more control over the consistency of product with no waste, according to the manufacturers.

“There’s 100% yield,” said Lou Cooperhouse, president and chief executive officer of BlueNalu. “And with seafood, which can be a very seasonal protein, cell-culturing allows for year-round availability.”

BlueNalu plans to introduce products in 2022, starting with the launch of mahi mahi for the foodservice channel, followed by blue fin tuna. All the seafood will be manufactured at the nearly 40,000-square-foot pilot production facility in San Diego upon regulatory approval by the US Food and Drug Administration.

“Our products perform the same way as conventional fish fillets in all cooking applications,” Mr. Cooperhouse said. “Our medallions of yellowtail, for example, can be cooked via direct heat, steamed or even fried in oil; can be marinated in an acidified solution for applications like poke, ceviche and kimchi, or can be prepared in the raw state.”

Gerard Viverito, corporate chef, said, “I feel great about cooking with seafood that I know supports ocean health and species biodiversity. In addition, I don’t have to worry about bones, fish scales, filleting or having to throw away any unused fish parts.”

Berkeley, Calif.-based Perfect Day is reimaging dairy proteins without the cow. Unlike cell-cultured meat and seafood, the dairy proteins are dry ingredients used in applications similar to cow-sourced proteins.

“We produce animal-free milk proteins — casein and whey — using safe and proven fermentation techniques similar to how many common food components, like vitamins, probiotics, enzymes and natural flavors are made,” said Christine Bunting, senior director of food applications. “We use microorganisms such as bacteria, yeast or fungi, to make our proteins. They have a long history of safe use making ingredients in many foods you eat today. The microflora are good at producing animal proteins.

“We guide our microflora to act like a cow by giving it a special ‘blueprint’ from an open-





*BlueNalu is growing fish cells on nutrient-rich medium and then using technology, including extrusion and lamination, to produce a range of fish fillets with the same textural properties as conventional fish.*

*The Brave Robot brand of ice cream features Perfect Day's animal-free dairy protein.*

source digital DNA library that allows these tiny organisms to ferment sugar and create animal-identical dairy proteins. It then gets filtered out, leaving pure animal-free dairy protein."

The animal-free milk proteins are nutritionally and molecularly identical to those found in cow's milk. They perform similarly in food and beverage applications.

"We create a proprietary blend that fits seamlessly into existing manufacturing processes used by our partners," Ms. Bunting said. "Our ingredient is ideal for providing a rich, creamy, smooth and indulgent eating experience and excels in product applications requiring solubility, gelation, water-binding, foaming, heat stability and emulsification."

Ice cream is the first application in the marketplace. Perfect Day currently supplies Brave Robot, Graeter's and Nick's with its ingredient.

"Additional applications that our food team has created include, cream cheese, cheese curds, yogurt and more," Ms. Bunting said.

"Our protein is nutritionally and functionally identical to milk proteins. Therefore, products made with Perfect Day are required to list our animal-free protein on their ingredient labels as 'non-animal whey protein.'"

Clara Foods, San Francisco, has created an animal-free egg white and a range of other functional protein products for sports nutrition, baking and industrial uses. Pepsin,

for example, is a digestive enzyme used to modify the texture and performance of commercially prepared foods, everything from whipping cream to creamy sauces. It is found in humans and some animals, with most commercial pepsin extracted from the glandular layer of hog stomachs.

"Pepsin is used as an ingredient in the manufacturing of digestive health supplements among other products and has been an important proof point for our technology," said Arturo Elizondo, co-founder and CEO. "Our main focus is to produce egg proteins that match the taste, texture and unique culinary functionality of real eggs. Our egg proteins are being readied for launch later this year."

Clara Food's animal-free proteins are produced using fermentation technology. They come in powder and liquid form.

"Our protein technology platform replaces the process, not the product," Mr. Elizondo said. "Our protein platform uses a fraction of the water, land, energy and greenhouse gas footprint, when compared to current factory farming models. And unlike plant-based protein alternatives, our proteins do not have taste or texture trade-offs. Our proteins have the same culinary functionality as their animal-derived counterparts, but with the added benefits of safe and consistent sourcing, quality control, price stability and enhanced sustainability."

The animal-free egg proteins work across a range of applications, from foods and beverages, such as protein drinks, to desserts, such as angel food cakes and meringues. Prototype development shows the vegan protein matches the sensory impact of their animal-derived counterparts, Mr. Elizondo said.

"Our biggest challenge is driving awareness and education for the safety and efficacy of the precision fermentation process, as well as the availability of the product," Mr. Elizondo said. "We are working with Ingredient to educate and inform companies on the process and its benefits and we will look to doing the same with consumers."

"We believe this is the future. The factory farming model is destructive to the planet, our health and billions of animals worldwide. Animal proteins have been made via fermentation for decades, and it's time we





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## provides a complete protein

Most plant proteins are missing one or more of the nine essential amino acids, making them incomplete proteins. Exceptions include soy, quinoa, chia seed and hemp, the latter being a relatively new ingredient option in the plant protein space.

“The main challenge faced by hemp protein has historically been its flavor profile,” said Chad Rosen, founder and chief operating officer, Victory Hemp Foods, Carrollton, Ky. “Traditional hemp protein includes the shells of the hemp seed, which contain tannins and chlorophyll, contributing to its green color and bitter notes. We solved this by developing novel processing that gives us protein from the heart of the seed, resulting in a more than 70% protein powdered ingredient with a very mild flavor profile and almost white color.”

Hemp seeds do not naturally contain cannabidiol (CBD) or tetrahydrocannabinol (THC), which are compounds found in other parts of the cannabis plant. The seeds are about one-third protein and are also high in omega-3 fatty acids. Recognizing hemp as a source of nutrients, as well as a cash crop, federal regulators relaxed policy governing the production and use of hemp in 2018. Today, many hemp grain products are “generally recognized as safe” (GRAS) and exempt from food additive tolerance requirements.

“In other words, the GRAS designation allows hemp seeds to be used in formulation of all food and beverage,” said Ben Raymond, director of research and development. “The two major proteins in hemp hearts — edestin and albumin — are easily digested and offer compelling functional characteristics, including holding oil and water well in meat analogs.”

Hemp heart proteins coagulate as they are cooked and firm similar to meat, helping to create a juicy bite when formed into a patty. The proteins also develop similar savory and umami flavors associated with animal protein.

The company offers other hemp ingredients, including shelled hemp seeds (hearts). They may be used in a similar fashion to nuts or seeds, in particular grain-based baked goods and cereals.

“Hemp hearts may substitute for pine nuts in pesto,” Mr. Raymond said. “They can be seasoned for a vegetable topper or sweetened and used in chocolate brickle.”

leverage this technology to solve one of the world’s most pressing problems.”

There’s also a new approach to sourcing animal protein that involves krill, the small, shrimp-like planktonic crustacean found in the open seas and consumed by a number of larger animals, including whales. A new ingredient from Aker BioMarine, Oslo, Norway, was formulated for use in a range of applications to promote healthier eating while also being a sustainable protein source.

“It is a highly concentrated protein isolate with an average protein purity above 90%,” said Lalen Dogan, vice president of Aker BioMarine. “Containing all the essential amino acids at proportions in line with the body’s need and (it) has a complete amino acid profile. It has been enzymatically hydrolyzed into predigested peptides, which promotes rapid uptake into the body and better mixability into beverages. Further, it is heat-stable, which allows for high-temperature processing and minimal end-product precipitation.

“With high solubility, it is ideal for incorporation into powder and ready-to-drink beverages, as well as broader food and beverage applications for brands looking to grow their product portfolio with a novel, high-quality and sustainable protein source.”

In addition, its high water-binding capacity can give a smoother texture and moistness to provide maximum functionality in a variety of end-applications, from clear protein concentrates to bars.

The krill-based protein also is a natural source of minerals, such as calcium and magnesium, which is why the company initially is targeting the sports and active nutrition category. It has a neutral taste and smell profile, allowing its use in delicately flavored foods.

“The ingredient is sustainable, and that is something that consumers are looking for in a protein product,” Mr. Dogan said. “In fact, from clean labels to sustainably sourced ingredients, consumers are investing in brands that align with their beliefs and values. And as consumers continue to look at reducing their meat and dairy intake based on concerns over planetary and human health, marine-derived sources will become a great alternative to conventional protein sources.” •





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# Building sustainable packaging applications

A growing segment of consumers expect product and packaging formats to feature sustainable attributes

Consumer demand is driving food and beverage manufacturer interest in labels promoting a product's environmentally sustainable attributes and for packaging options that enhance such attributes. Research by the consultancy Accenture indicates the pandemic has intensified interest in "conscious consumption," which is defined as those consumers who consider the environmental and societal impacts of their shopping choices. Meeting the needs of this group will challenge manufacturers and retailers to fundamentally rethink how they will cater to the pandemic-adapted consumer.

"The pandemic is making consumers think more about the impact their purchasing decisions are having on the environment and society at large," said Oliver Wright, senior managing director and global lead of Accenture's consumer goods industry group. "Consumers' focus on areas like the provenance of ingredients and raw materials, working practices, the environmental impact of finished products and packaging, calls for companies to ensure the agility and capability to be relevant to consumers and customers — with a portfolio of products and services that match shifting purchasing patterns — and to better collaborate with industry peers, just as they proved they could during the pandemic."

A consumer survey undertaken by Accenture highlights the opportunities and challenges companies face as they wade further into meeting the needs of conscious consumers. For example:

- Half do not have a good understanding of which brands are sustainable/ethical, and which are not.
- To help more easily understand how sustainable a product is, seven in 10 consumers would support a mandatory but simple labelling standard for products such as a traffic light indicator.
- Two-thirds of consumers believe the government should introduce legislation to promote "conscious consumption", e.g. charging for plastic bags.
- Sixty-nine percent of consumers believe consumer brands should do more to make it easier to consume more consciously.
- A third of consumers admit they do not have a good understanding on what items they can and can't recycle.

"People's values are increasingly becoming infused in their shopping habits as consumers think more about balancing what they buy, and how they spend their time, with global issues of sustainability," said Jill Standish, senior managing director and head of Accenture's global retail industry group. "This calls for retailers to be authentic and to pay attention to what each community they serve really cares about. It is no longer enough for brands to just talk about responsibility, they need to adopt environmental, social and governance practices, harnessing technology to drive outcomes across their entire operations, from building more sustainable supply chains to equipping the workforce for a new environment."

Supporting Accenture's results were survey findings from the London-based market researcher GlobalData that said sustainability and reducing environmental impact are becoming ever more critical to consumers' perceptions of brands. In research released in December 2020, GlobalData said 41% of European consumers consider a reduced environmental footprint to be more important now than before the pandemic. In addition, 42% of European consumers said the COVID-19 pandemic has made ethical or sustainable production methods more important to them.

"Brands shouldn't dismiss the issue of CO<sub>2</sub> emissions," said Ryan Whittaker, consumer analyst at GlobalData. "While Gen Xers and millennials worldwide reported the most interest in products that lower environmental footprints in the wake of the pandemic, it has grown as a priority for all age groups."

To illustrate his point, Mr. Whittaker used NoCoe, a snack product manufactured and marketed in France by Mondelez International's SnackFutures unit, as an example. The cracker brand is clean label and carbon neutral. Manufactured with more than 80% local ingredients and production, it has a shorter, more sustainable supply chain, according to the company.

"SnackFutures has designed this product to translate climate change into something with a real physical presence, something that empowers consumers to be able to proactively contribute toward environmental protection: by choosing products with sustainable, shorter supply

by Keith Nunes  
knunes@sosland.com



## “Our vision is to create a paper bottle that can be recycled like any other type of paper.”

Stijn Franssen, The Coca-Cola Co.

chains and carbon neutrality credentials,” Mr. Whittaker said.

Companies are acting. Maple Leaf Foods, Inc., Toronto, said it achieved carbon neutrality in 2019 and labels its Maple Leaf, Greenfield Natural Meat Co., Lightlife and Field Roast Grain Meat Co. brands as “carbon zero.” The logo may be found on the front of all product packaging. Other food companies that have or are exploring the addition of carbon labels to products include Unilever, Upfield Group, Mondelez International, Quorn Foods and Oatly.

### The search for alternatives

A survey of more than 15,000 consumers in Europe, North America and South America by Trivium Packaging and the Boston Consulting Group also identified a steady climb in younger consumers’ dedication to sustainable living. Eighty-three percent of those age 44 and under were willing to pay more for sustainable packaging. The study showed younger consumers were 23% more inclined to pay for sustainable packaging than older generations, with no significant difference in income bracket or between millennials and Generation Zers.

The survey findings concluded that overall consumer demand for sustainable packaging remains high despite the impact COVID-19 had globally. Sixty-seven percent of consumers identified as environmentally aware. Additionally, 67% identified packaging that is recyclable as important, 64% identified packaging that contains recycled content as a priority in their buying decisions, and fewer than one in three consumers deprioritized sustainable packaging due to COVID-19.

“No event in recent memory has had as much impact on consumer behavior as COVID-19 yet the majority of consumers did not de-prioritize sustainability in the face of the pandemic, a true testament to the unwavering sustainability movement led by

young consumers” said Michael Mapes, chief executive officer of Trivium Packaging.

Consumers were aligned across all regions on identifying plastic as the most unsustainable packaging material on the market. Survey respondents consistently associated plastic with undesirable attributes such as ocean pollution, harmful and wasteful.

The concern about plastic is translating into action, according to AMC Global, a market research company. A survey conducted by the company earlier this year showed people are trying to reduce their consumption of plastics. They are looking for alternatives to plastics that are recyclable, reasonably priced and reusable. And there is an expectation brands and packaging companies will share the expense of providing alternatives to plastic packaging.

Food and beverage companies are responding. This past February, The Coca-Cola Co. announced a limited trial this summer in Hungary of the company’s paper bottle prototype. The new bottle consists of a paper shell with a recyclable plastic lining and cap. The technology is designed to create 100% recyclable bottles made of sustainably sourced wood with a bio-based material barrier capable of resisting liquids, CO<sub>2</sub> and oxygen, and suitable for beverages, beauty products and other liquid goods. The ultimate goal is a bottle that can be recycled as paper.

“Our vision is to create a paper bottle that can be recycled like any other type of paper,” said Stijn Franssen, research and development packaging innovation manager for the Coca-Cola Co. “A paper bottle opens up a whole new world of packaging possibilities, and we are convinced that paper packaging has a role to play in the future.

The trial will measure the package’s performance and shopper response to the format, according to the company.

The market researcher GlobalData said Coca-Cola’s paper bottle will attract the 43% of global consumers that stated how ethical or environmentally friendly a product is influences their product purchasing decisions. The move also is seen encouraging other companies to launch plastic packaging alternatives, and, in the long term, consumers should expect to see paper-based bottles appearing for other liquid products in the hospitality, restaurant and café segment and

*The Coca-Cola Co. is testing a bottle with a paper shell and recyclable plastic lining and cap.*



in other retail stores, ranging from beers to soft drinks, juices and ready-to-drink items.

“Coca-Cola’s paper bottle will open up a whole new world of possibilities for beverage companies,” said Arvind Kaila, head of consumer beverages for GlobalData. “With growing pressure from consumers and government bodies alike on sustainability initiatives, it is no surprise that there has been a surge in research and development into paper bottles.”

GlobalData’s survey also found 22% of global consumers now view recyclable or reusable packaging as significantly more important since the pandemic began, while 12% claimed it was their top priority.

“Consumers worldwide are increasingly expecting brands to develop and bring to market new and sustainable packaging innovations,” Mr. Kaila said. “Sustainability and reducing environmental impact have become increasingly critical to consumers’ brand perception in the pandemic because



*Half of consumers say they do not have a good understanding of which brands are sustainable/ethical, and which are not.*



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Sacred Serve, a plant-based gelato brand, has transitioned to plastic-free, fully recyclable ice cream cartons.

It has given consumers time to gain a new perspective on their environmental and social footprint.”

Another company shifting away from plastic is Boxed Water is Better LLC. In 2020, Boxed Water became the most sustainable brand on the market, at 92% plant-based with its packaging and new plant-based, according to the company. All of the paper is sourced from trees in well-managed forests, where new trees continuously are planted to replace the ones harvested. They are shipped flat to reduce the number of trucks required for transportation. The company fills water close to the source and the consumer to reduce its carbon footprint.

Beyond beverages, Sacred Serve, a plant-based gelato brand, has transitioned to plastic-free, fully recyclable ice cream cartons.

“It has been my goal since day one to find a sustainable solution for Sacred Serve’s packaging,” said Kailey Donewald, founder. “As a young brand, it can be incredibly challenging to find a partner willing to work with you on an initiative such as this. Our mission has always been to change the landscape of food being offered to consumers. We’re so excited to be able to do this from a nutritional as well as a sustainability standpoint. Packaging has been a major problem for the frozen set as a whole, and we’re thrilled to introduce a solution that will help push the entire category forward.”

Historically, to protect from moisture and withstand freezer temperatures, there’s a plastic liner that lines the paperboard of every ice cream container. That liner limited the recyclability of the cartons. •



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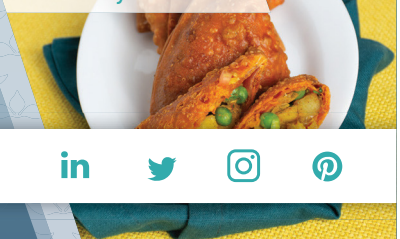
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# Born to be a COOK

For Corporate Executive Chef Sandy Cook, developing flavors for customers of Firmenich Inc. gives birth to a whole new culinary universe

by Susan **Malovany**  
editor@sosland.com

**W**hat's in a name? For Sandy Cook, corporate executive chef for Geneva-based Firmenich Inc., the answer to William Shakespeare's famous question is his destiny and a career that he described as the perfect fit.

"Every positive memory I have from the past has food in it — it's a food universe to me," Mr. Cook said. "From my earliest memory of baking an oatmeal raisin chocolate chip cookie to my first job in the industry running a food concession stand on the beach, becoming a 'cook' was written in the stars."

In his case, it's Michelin stars, of course.

Mr. Cook, who has worked out of Firmenich's Plainsboro, NJ, Taste & Beyond division headquarters since joining the company in 2004, said his job responsibilities vary but they all challenge him creatively.

"Globally, Firmenich is the largest privately held fragrance and taste company with more than \$4 billion in annual sales and introduces thousands of new products every year," he said. "I work with a wide spectrum of foods and beverages for both retail and foodservice clients. We specialize and excel in alternative proteins and plant-based flavors — the market is still super-hot for these — and meat and chicken flavors, as well. Firmenich is both a custom and collection flavor house."

Mr. Cook spends most of his time developing savory flavors for soups, sauces, plant-based alternative proteins, ready meals, grain and vegetable bowls, chicken, beef and pork.

"Firmenich flavors the world one bite at a time by making it taste wonderful," he said.

"We also follow the trends and have amazing salt- and sugar-reduction tools and non-GMO flavors and a large collection of masking flavors. Clean label and all natural have also become a major initiatives in both North America and globally. Our culinary team is responsible for creating gold standards, executing culinary demos and pursuing creative culinary solutions."

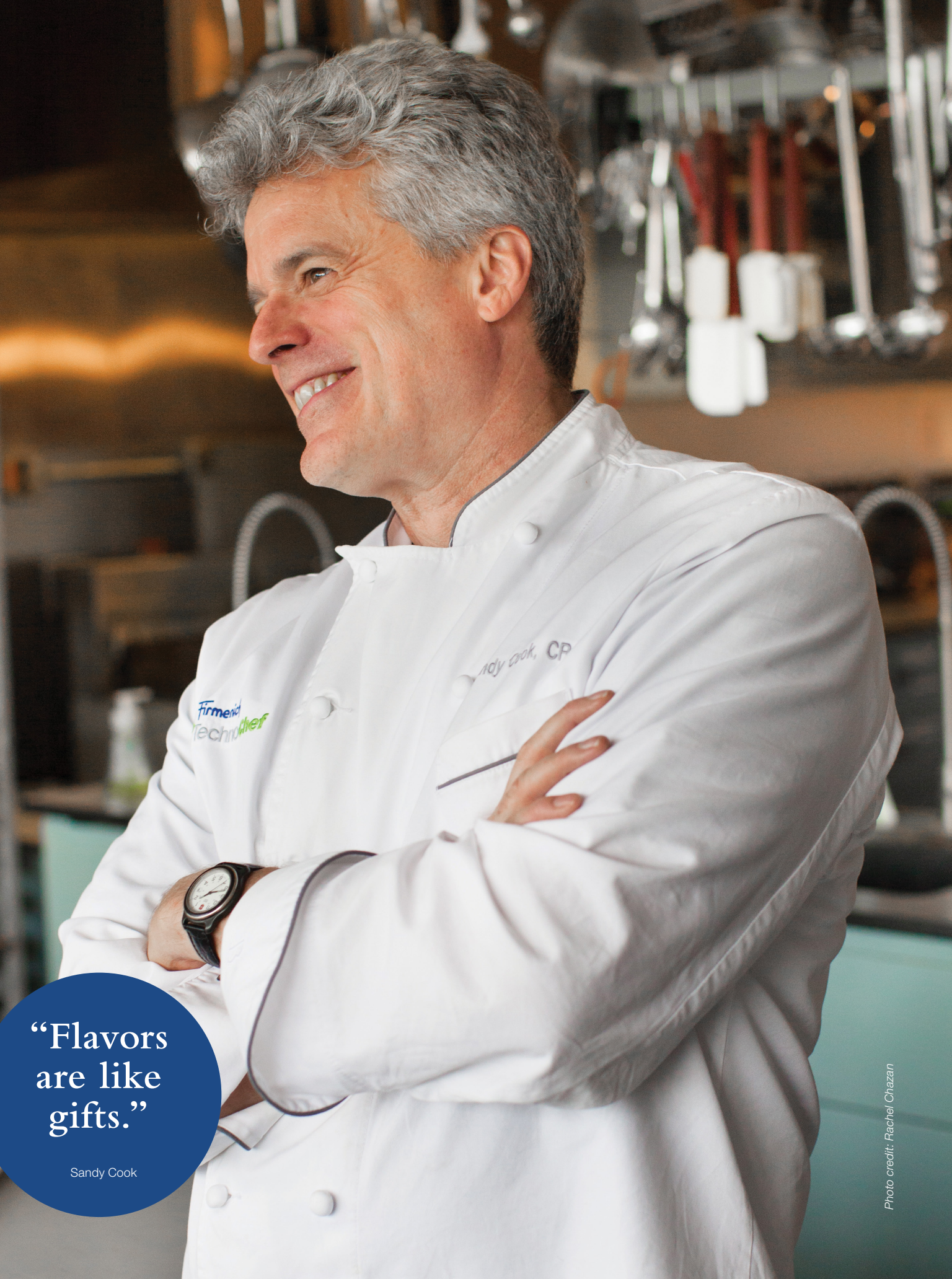
Mr. Cook employs "culinary anthropology" — a proprietary-design thinking tool that enables the company to creatively imagine a concept with the client and bring it to life.

"We often do ideations and bring concepts or prototypes to a large survey audience with consumers to determine purchase intent," he said. "We've done in-home consumer research for the flexitarian challenge in 2019, for example, where we invited our customers to eat dishes from other countries. Flexitarians are consumers who are trying to eat less meat in their diets — they may be omnivores, vegetarians or vegans but every so often eat chicken, for example, like myself."

For plant-based products, Mr. Cook regularly delves into the soy ingredient arena, and also with lentils and beans, to name just a few ingredients. He likewise develops plant-based burgers and sausages.

"We have a lot of different approaches with plant-based proteins, and we have also worked with algae," he said. "Sea bacon, a type of algae, is delicious when sautéed because it is smoky and crunchy but has a short shelf life. We also work with spirulina, a high-protein, blue-green algae filled with nutrients. New customers and startups





“Flavors  
are like  
gifts.”

Sandy Cook



## Creating a network in the culinary world

Sandy Cook is a proud certified research chef with the Research Chefs Association (RCA). “I’ve had my Certified Research Chef (CRC) certification for 17 years and have been recertified three times,” he said.

He’s recommended joining the RCA at college workshops and culinary science symposiums he has attended, and said his company, Firmenich, supports his work with the association.

“The networking opportunities are boundless through the RCA,” he said. “When I first joined in 2003, I was overwhelmed in my career and most happy being surrounded by like-minded folks in the RCA. The hardest part for research chefs is landing that first job in the industry. I recommend internships or externships to get that foot in the door, and also joining the RCA.”

Mr. Cook often networks with other famous chefs, such as David Burke, who specializes in modern American cuisine.

“Chef Burke and I together received *Time* magazine’s ‘Most Amazing Inventions of 2005 Award’ for a diet flavor spray — a water-based flavor spray in a bottle,” he said. “We used the flavors bacon and ranch, for example.”

Mr. Cook also has received several internal awards at Firmenich, and won the New Jersey People’s Choice Award for best chili in the state competition in 2005. And last, but not least, he is an Eagle Scout.

“I’m also really proud of this certification, the highest in the Boy Scouts of America,” he said.



sometimes come to us to request these cutting-edge products.”

Another trend Mr. Cook anticipates is in the beverage arena.

“As we progress, more consumers are open to trying new foods, and a lot of this has to do with placement in grocery stores,” he said. “Now that plant-based milks are next to lactate-based milks on the shelf, the plant-based milks have double-digit growth, while dairy milk’s sales are shrinking. This will likely be true of other categories as well.”

Mr. Cook has a master of science degree in food chemistry and a bachelor of science degree in wildlife biology from Rutgers University. After working as a ranger in the park service after college, he preferred the food industry. For 10 years before switching to research and development as an executive chef, he developed and refined his culinary skills as a chef in independent and chain restaurants throughout New Jersey and New York City, including the famous Quilted Giraffe.

“I left the restaurant industry because my future wife said ‘get out of the restaurant business or get out of the house,’” he joked, “because of the renowned long hours and

because you’re working when everyone else is off.”

Mr. Cook, who lives in Manhattan, spends his free time with his wife hiking and doing other outdoor activities. He also loves travel, music, trying new foods and fine wines. He enjoys collecting Washington state and Spanish red wines, and, to no surprise, cookbooks.

“My wife and I really love to cook and try new recipes, and we particularly enjoy Southwestern cuisine,” he said. “On weekends, we prepare a lot with seafood and chicken, and during the week we work with vegetables to create dishes such as lentil and farro casseroles and pasta with tomatoes and olives.”

True to his profession, he experiments with different flavors.

“Flavors are like gifts,” he said. “Meat-based flavors are great to cook with, as are fruit flavors. And some of the most amazing are those that can make a food or beverage taste like alcohol, without any real alcohol used.”

Spoken like a true flavor aficionado and, of course, a cook that he is, in more ways than one. •



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# INDUSTRY NEWS

FROM THE **rca**

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## Plugging in to

## four days of RCA+



Koetke

In late March, more than 630 chefs and food and beverage product development professionals plugged in to four days of virtual learning, networking and celebration through RCA+, presented by ADM, the virtual experience that replaced this year's RCA Annual Conference.

The week began with immersive pre-conference events, including a sold-out session from Chef Christopher Koetke and Joseph Formanek, Ph.D., who demystified cooking with kokumi compounds, or peptides that spike various flavor sensations like chili, onion, garlic, black pepper, and aged cheese and meat. In true Culinology form, Dr. Formanek walked participants through the science of the cuisine, while Mr. Koetke led a cooking demonstration that included ham, deviled eggs, and a lentil and chickpea curry.

### Spotlights that wowed

Not to be missed were the daily spotlight sessions, emceed by Kami Smith, director of culinary showcasing at Pecan Deluxe Candy Company. Mike Kostyo, senior managing editor and trendologist at Datassential, shared what's driving innovation in food and beverage, as we brace for innovation to "roar back." After a year of consumers being stuck at home, Mr. Kostyo shared research and data to support that they are ready to experience new and exciting concepts. Bombay chili cheese fries or chicory root coffee, anyone?

James Fripp, chief equity and inclusion officer at Yum! Brands, Inc., helped attendees understand the transformative power of diversity, equity and



**"Diversity is being asked to the dance. Inclusion is being asked to dance. As you're out there, please ask someone to dance."**

**James Fripp, chief equity and inclusion officer, Yum! Brands**

inclusion (DEI). Drawing on real-life examples, Mr. Fripp shared actionable steps companies and individuals may take to embrace the ART (authenticity, relationships and trust) of DEI.

"Diversity is being asked to the dance," Mr. Fripp said. "Inclusion is being asked to dance. As you're out there, please ask someone to dance."

After much anticipation, Mr. Hervé This, the father of molecular gastronomy, graced the RCA+ virtual stage and wowed the audience — to the point where a participant said the session's chat feature was notably quiet, as everyone was glued to their screens. Mr. This dove into the science behind molecular gastronomy, applications of molecular cooking (what he calls "the past") and what the future holds: note by note cooking, defined by cooking with pure compounds.



This



## Time for connection, celebration and professional growth

Through virtual happy hours, guided networking, the Culinology Expo and even session chat boxes — buzzing with questions, comments and notes of thanks to presenters — attendees made ample time for staying engaged with each other.

This year, RCA marked its 25th anniversary, proudly celebrated throughout the event but most notably during the kickoff happy hour. Hosted by RCA volunteers, the gathering included trivia, Zoom backgrounds customized to members' time with the association and photos submitted by members reminiscing on fond memories over the past quarter-century.

Breakout sessions during the week focused on leading through times of uncertainty, vital conversations to grow one's career and ways to make networking less anxiety-inducing. These were all part of the event's Professional Development track, new this year to help attendees get a leg up on their career path.



## SAVE the date...

The week ended with an eye on the future: industry professionals discussing advances in food technology and how they're altering the consumer experience.

But the session wasn't the only forward-looking moment of the week. RCA+ ended on a high note, sharing that we will meet in person for the **2022 RCA Conference, to be held March 23-25 in Atlanta, Ga.**

We can't wait to ignite your senses and reunite soon.

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# The award goes to ...

These forward-thinking members of our community were honored during RCA+ for their achievements in the industry and their commitment to RCA.

## 2021 LIFETIME ACHIEVEMENT AWARD



**Susanna Tolini, CRC**  
Executive Research Chef  
Kayem Foods, Inc.

**Susanna Tolini** has been the executive research chef at Kayem Foods for more than 13 years. After graduating with a degree in culinary arts from Johnson & Wales, she began working in product development. Later, Ms. Tolini and her husband owned a fine dining French restaurant, receiving numerous accolades from critics.

She is an active RCA volunteer and has been chair of the New England Regional Hub since 2012. She was instrumental in the region's charitable efforts with the Greater Boston Food Bank, which eventually blossomed into the RCA's Annual Month of Giving. Ms. Tolini has dedicated her time and talent as an RCA Student Culinology Competition judge for nine years, as well.

"Culinology has been part of my background for many years, whether it was when my husband and I owned a restaurant or in my role doing product development. When I learned about RCA in 2007, I knew this was the right place for me to be. I knew this was a place where I could learn a lot and flourish in the way I've always wanted my career to grow," Ms. Tolini shared in her acceptance speech at RCA+.

## 2021 PIONEER AWARD



**John Draz, CEC, CCE, CRC**  
Executive Research Chef  
Ed Miniat LLC

Since 2004, Chef **John Draz** has served as executive research chef for Ed Miniat, developing products and menu items for the frozen food industry and national restaurant chains. In a career spanning 40 years, Mr. Draz has worked at numerous restaurants and was a founding faculty member of the Kendall College School of Culinary Arts. He has earned certifications from the American Culinary Federation, including Certified Executive Chef and Certified Culinary Educator, and is recognized as a Certified Research Chef by the RCA.

"In receiving this award for professional accomplishments, I recognize the integral role RCA played in expanding my food career beyond culinary arts and higher education and into food product development," Mr. Draz said in an acceptance speech at RCA+. "In the spirit of collaboration that defines RCA, I'll continue to pay it forward by sharing what I've learned with others."

## 2021 PRESIDENT'S AWARD



**Jeffrey Block**, executive vice president at Darifair Foods, was honored for helping to create the Legacy Partner program during RCA's 25th Anniversary Campaign. Through the program, Mr. Block not only contributes to the

long-term success of RCA, but the assurance that the legacy of his late sister, Michele Block, will continue, too. In recalling how Mr. Block outlined a clear plan of action, Immediate Past President Justin Kanthak shared: "Those things don't happen without a sheer desire and passion to see the RCA move forward."



**Kyle Stuart**, CRC, CFS, food scientist at Chew and RCA board member, was honored for his commitment to student advancement within the RCA, as well as mentoring and coaching.

"Kyle has committed more to the RCA at 25 years of age than I ever did in my first 10 years as a member," Mr. Kanthak said when announcing the award at RCA+. "He has been stepping up, owning the future of the RCA and trying to make it better for his peers and the next generation."

## Celebrating competition and scholarship winners

### 2021 Student Culinology Competition

Sponsored by Ajinomoto, Florida Food Products and IFF, this competition encourages students to bring culinary creativity to the university campus.

**1st Place:** Team AIELO

**Team members:** Cathryn Choe Quer-Ern and Ang Ru Jun, Taylor's University, School of Food Studies and Gastronomy in Malaysia

**Product:** Bab.LA

**2nd Place:** Team Bright Vitality

**Team members:** Haley Lam and Jacqueline Thach, California State Polytechnic University, Pomona

**Product:** Blazin' Noodz

**3rd Place:** Team Foodie Microbes

**Team members:** Dianna Wilson and Lauryn Heidelberg, Mississippi State University

**Product:** Spicy Italian Plant-Based Sausage Pizza Pocket

### Evolution of Food Waste Competition, sponsored by



**1st Place:** Goh Chia Vi and Celine Chan Lin Hui, Taylor's University

**Faculty sponsor:** Dr. Benjamin Wong Tziak

**Product:** Hi 5 Chips (oven-baked palm peel moringa chips, flavored with tandoori herbs and spices)

### BlueNalu Essay Competition

In partnership with the Culinology Education Foundation, BlueNalu offered a scholarship to the best essay that answers, "What does it mean to you to Eat Blue™?"

**1st Place:** Clarissha Vallerie Widjaja, Taylor's University

**2nd Place:** Ayesha Arshad, Taylor's University

**3rd Place:** Sarah Caballero, California Polytechnic State University, Pomona

### Culinology Cocktail Competition & Happy Hour

The 2021 Culinology Cocktail Competition featured guest judge Dave Arnold, author of "Liquid Intelligence: The Art and Science of the Perfect Cocktail."

Congratulations to the winner **Lauren Martey**, CRC, senior research and development chef with Tastepoint by IFF.



### SCHOLARSHIPS

The Tyson Foods Scholarship was awarded to **Daelynn Coppinger**, Iowa State University

The Michele Block Memorial Scholarship was awarded to **Liew Heu Kei**, Taylor's University



## Join our table

RCA is defined by its members' passion to move the industry forward. As RCA President Jaime Mestan, CRC, said on page 4, the year ahead holds many opportunities and we are ready to add more "place settings" to our table. Here are a few members commenting on why they decided to pull up a chair and join the RCA.



"RCA has always fostered a community of highly educated professionals, a social network for sharing information and a multitude of motivated individuals who look to create better eating experiences for a vast array of consumers. The organization helps me stay informed of industry trends, as well as providing countless opportunities to connect with food industry professionals at a local and global level. Being part of this community has elevated my professional and personal lives in so many ways; it's my pleasure to be part of it."

—**Junnie Lai**, Principal, Global Cuisine Consulting, LLC

"Being an RCA student member while pursuing my master's degree has better prepared me for joining the industry. As a member, I have had the honor of competing in the Evolution of Food Waste and the Student Culinology competitions, and connected with members through networking at regional events. The knowledge, resources and connections I have gained through my time as a member thus far are priceless."

—**Dianna Wilson**, Master's Student and Graduate Assistant, Mississippi State University



"When I think about the positive impact I've gained by actively engaging with the RCA as a member, one of the biggest benefits I have found is in the fellowship and growth mindset that comes with building your know-how through networking and mentoring. I especially appreciate the opportunity to mentor as it allows me to learn about new people, processes and products — all of which I might not have experienced, had I not given myself the opportunity to engage with and learn from a diverse and active RCA member."

—**Chef Wiley Bates, III**, Director of Culinary/Chief Food Dude, Main Event



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Learn more at [adm.com/yourculinary](http://adm.com/yourculinary).



## We asked, you answered

How our community has navigated more than a year of COVID

We asked the community to share how they've managed the challenges of the past year and a half. From pain points to job changes, what will stick post-pandemic and more, here are a few responses. All have been kept anonymous and some were edited for length.

“Flexibility has been key in managing expectations of our sales team and our customers. Understanding what constitutes a ‘day of work’ looks very different in the last 12 months but is also a testament to creative thinking and resilience.”

“I started my own consulting business until the R&D hiring pause was over. I now have a great new job and have had three other offers — recruiters will not stop calling.”

“Innovation seems to be shifting toward safety, sanitation and technologies. Since people don't have the ability to travel or explore right now, it's difficult to be in a creative headspace.”

“I think curbside pick-up and online ordering will stick. I think restaurants that are able to will have different designs with pick-up windows and more outdoor dining.”

“It seems like someone pushed the pause button on our industry but, at the same time, new demands from consumers were abounding. It has been difficult to change rhythms very quickly and dance to a different beat.”

“We're trying to support each other the best we can and discovered that empathy truly goes a long way.”

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## Four trends stand out in McCormick's flavor forecast

Edible flower buds, crisped chilies and seaweed may factor into upcoming flavor innovation, according to McCormick & Co.'s 21st annual flavor forecast.

This year's four flavor trends invite comforting global flavors to the table, move plants further into the spotlight, dive into fresh coastal ingredients and promote wellness through mindful eating.

The humble nosh theme is inspired by "nashn," the Yiddish word for nibbling. It combines rising global flavors with the trend toward comfort foods. Key flavors include the Indian spice blend chaat masala, the Malaysian jam pandan kaya and crisped chilies.

Chaat masala offers a savory flair combined with a zing of lemon. It may add a unique twist to comforting foods like loaded fries or lemonade. Pandan kaya is made with pandan, coconut and eggs. It may add a creamy texture and vibrant green color to sweets like donuts and fruit tarts.

Chilies appeared in last year's flavor forecast as part of the spicy revolution theme, which focused on creative pairings of heat appearing in cocktails, baked foods and marinades. They also made the 2014 flavor forecast as part of the chilies obsession theme, which highlighted new techniques like grilling, smoking, pickling, fermenting and candying to tease out their flavor potential. This year may see fried and crisped chilies bring a spicy flavor and crunchy texture to comfort foods ranging from sauces and condiments to dumplings.

The theme of plants pushing boundaries highlights plant-based ingredients that deliver brilliant color and hearty texture. Vegetables such as hearts of palm, cactus

and lobster mushrooms may enhance plant-based meals, while charred vegetables may be used in sauces to give dishes a darker color and rich flavor profile. Botanical ingredients like juniper, pine, fir, sage, cactus rose and edible flower buds may elevate sensory experiences, while natural ingredients like ube (purple yam) and carrots add a vibrant color to a wide range of foods and beverages.

Less-explored ingredients from fresh and salt water also will play a role in culinary innovation, McCormick predicted. This trend uproots underwater botanicals like seaweeds and algae that infuse snacks, meals and beverages with an earthy flavor. Key flavors include dulse (red sea lettuce flakes), spirulina, (blue-green algae) and sea grapes (soft, green algae).

The last trend, physiological eating, taps into the reemergence of mindfulness and intention. Inspired by ancient practices and beliefs for mind-body balance, it includes flavors that promote a sense of harmony, growth and self-love. It also focuses on the Ayurvedic principles, which use six tastes (sweet, sour, salty, bitter, astringent and pungent) to achieve balance, and warming and cooling techniques to provide comfort to the body. Key flavors include coriander, lemon, sea salt, cumin, turmeric and ginger.

Ancient flavors also appeared in the 2016 flavor forecast, which highlighted ancestral ingredients like herbs and amaranth, an ancient grain of the Aztecs, showing up in modern dishes.

McCormick team members across five global regions connected with culinary experts to uncover the four flavor

trends. The research included a series of virtual, interactive at-home culinary experiences led by chefs exploring a wide range of flavors.

“The pandemic sizably shifted the way we have lived our lives over the past year, yet food continues to be a way to bring people together, even virtually,” said Kevan Vetter, executive chef and director of culinary development at McCormick & Co. “Despite global travel restrictions, lockdowns, and logging in from vastly different time zones, it was moving to see everyone committed to our mission to study emerging trends and identify the flavors that will undoubtedly spark inspiration for both the home cook and professional chef for years to come.”

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*Ingredients like carrots in this carrot cake ice cream sundae add a vibrant color in a range of foods and beverages.*



unveils  
certification mark

The Upcycled Food Association (UFA) introduced a new certification mark to provide consumers with clear guidance about the presence of upcycled food ingredients in a range of products, including food and beverages, pet food, dietary supplements and more.

The UFA enlisted the help of Drexel University and Mattson, a food and beverage design and development firm, to gather consumer research surrounding the creation of the seal, which was crafted by branding agency Modern Species. The research showed more than 50% of consumers had increased intent to buy Upcycled Certified food when the mark was on packaging.

“The upcycled certification seal is transformative for centralizing the messaging around upcycled food,” said Caroline Cotto, president of the UFA board. “We want consumers to see the mark and immediately understand not only what upcycled food is, but more importantly, the impact upcycled food has from a climate perspective. Purchasing upcycled food puts the power back into the hands of consumers to make a tangible reduction in global food loss.”

A study published in the journal *Food and Nutrition Sciences* found just 10% of consumers are familiar with upcycled food products. Once educated about upcycled foods, however, 80% said they would seek those products.

One goal of the seal is to expand awareness about upcycled food, including what it is and why its presence

in products matters for the environment and climate. With a broad consumer education campaign about the seal and food waste, the UFA is aiming to double the upcycled industry’s growth rate. Doing so could prevent more than 8.8 billion lbs of food waste and 28 billion lbs of CO<sub>2</sub> emissions by 2030, according to the UFA.

“Food waste accounts for 6% of all human-caused greenhouse gases,” said Turner Wyatt, co-founder and chief executive officer of the UFA. “Mitigating it counts as the single-most productive thing people can do to dial-back climate change. In addition, businesses around the world lose \$1 trillion a year to food waste. This seal and the certification program backing it will simultaneously help solve the food-waste problem while saving businesses money. It also nurtures the creation of new businesses revolving around upcycled foods. Everybody wins.”

The seal follows more than a year of collaboration between multiple stakeholders to develop the Upcycled Certification Standard, which offers a set of rules establishing definitions for upcycled ingredients and products, protocols for incorporating them into products and the ability for certified companies to use the new consumer-facing upcycled food seal on products.

The UFA in February launched a pilot program for its Upcycled Certification Program in partnership with Where Food Comes From, a food industry certification and verification services provider. Open enrollment to apply for certification is slated to begin in June 2021.





## Plant-based, low-sugar shaping breakfast trends

Consumers are interested in healthy, plant-based alternatives as well as unique flavors to start the day, according to data from Label Insight.

The company looked at consumer online searches to see what breakfast foods increased in popularity during the pandemic. Within the breakfast sandwiches and meals category, product characteristics like “gluten-free,” “veggie,” “ketogenic,” “low carb” and “healthy” increased in search volume, while searches for characteristics like “sugar free,” “high fiber,” “paleo” and “organic” increased within the cereal category.

“The pandemic has certainly urged and possibly forced some consumers to prioritize their health and wellness,” said Thea Bourianne, solutions consulting manager at Label Insight. “Older individuals as well as individuals with underlying medical conditions like diabetes, obesity and high blood pressure are more at risk of developing more serious complications from COVID-19. Consumers are looking for products that will help them combat COVID-19 and reduce their susceptibility, whether this is through dieting and weight loss or purchasing products with functional benefits to help build up immunity.”

The top plant-based searches were for protein powders and dairy alternatives like cheese and milk. Searches for dairy-free yogurt increased later in 2020, with coconut yogurt attracting the largest search volume, followed by oat milk yogurt. Traditional meat-based products led for consumers when it came to breakfast patties and links,

suggesting opportunities may exist for continued innovation around breakfast meats, according to Label Insight.

“Vegan shoppers and consumers looking for plant-based options are not sure what is available to them,” Ms. Bourianne said. “There is a lot of room for innovation and messaging to consumers, particularly in frozen.”

Searches for frozen breakfast sandwiches and meals surged during the pandemic, growing 311% in early 2020 and remaining elevated throughout the year, driven by the shift toward at-home consumption.

“This surge of frozen searches may be attributed to consumers seeking out quick and convenient breakfast options, or it could possibly be due to the stockpiling of frozen foods that was occurring at the beginning of the pandemic,” Ms. Bourianne said.

A similar story emerged within the cereal category, with searches for “instant” growing 201% during the first part of the year and searches for “quick” increasing 335%.

“Working from home eliminates the to-and-from commute time and gives individuals time to dedicate their morning to making breakfast,” Ms. Bourianne said. “Additionally, not commuting may take away the convenience of eating breakfast out, so consumers likely turned to their local retailer to seek out a convenient, make-at-home breakfast option.”

Trending ingredients within the cereal category include ancient grains, millet ingredients, sesame ingredients, spelt ingredients, cacao, flaxseed, chia seed, pumpkin



ingredients and sprouted. Specifically, searches for ancient grains skyrocketed late in 2020, growing 6,605% in the last quarter of the year.

Beyond plant-based, consumers are looking for breakfast foods that steer clear of added sugars and sweeteners. Within the cereal category, searches for “low sugar” increased 89% between October-December 2020, and searches for “reduced sugar” grew 16%. Within the yogurt category, searches for “unsweetened” grew 36% and searches for “sugar free” grew 24%.

Increased searches for no- and low-sugar options may have to do with FDA regulations around added sugar, Ms. Bourianne said.

“The regulation is increasing product transparency for consumers and for the first time they will be able to determine the amount of added sugar in a product by simply glancing at the nutrition fact panel,” she said. “This transparency may dissuade consumers from certain products with high levels of added sugar. In the past, cereal has been notorious for containing added sugars and sweeteners, however with new labeling regulations and the movement toward health and wellness, consumers are shifting their search habits and seeking out these better-for-you products.”



*More people working from home during the pandemic allowed for more experimentation during the breakfast daypart.*

Consumers also are turning to the yogurt category to find unique flavors, with searches for maple growing 272% between October-December 2020, followed by pineapple (214%), chocolate (193%), honey (163%) and lime (103%).

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TOTAL 2020 DAIRY, MEAT ALTERNATIVE RETAIL SALES

Dairy, meat alternative retail sales surpassed \$7 billion in 2020

Source: Plant Based Foods Association and The Good Food Institute

CATEGORY	SALES
Milk	\$2.5 billion
Meat	\$1.4 billion
Frozen Meals	\$520 million
Ice Cream + Frozen Novelty	\$435 million
Creamer	\$394 million
Yogurt	\$343 million
Protein Powders	\$292 million
Butter	\$275 million
Cheese	\$270 million
Tofu + Tempeh	\$175 million
Baked Goods + Cookies	\$152 million
Ready-To-Drink Beverages	\$137 million
Condiments, Dressings, Mayonnaise	\$81 million
Dairy Spreads, Dips, Sour Cream, Sauces	\$61 million
Eggs	\$27 million

Source: 52-week calendar ending Dec. 27, 2020  
Raw data commissioned from SPINS powered by IRI and coded by PBFA and GFI



Pandemic propelling interest in sustainability

The COVID-19 pandemic is fueling concerns around sustainability. Eighty percent of consumers internationally and 71% in the United States said they are more concerned about the environment, with 28% of American consumers saying those concerns are impacting their purchasing decisions.

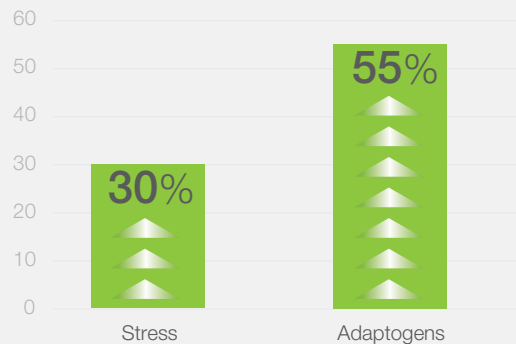
Source: AlixPartners

US consumers seeking stress relief

Consumers in 2020 reported a 30% spike in stress during the pandemic.

The increase in stress and anxiety is driving heightened awareness of adaptogens. Consumer interest in adaptogens grew 55% in 2020, with online conversations around adaptogens increasing eightfold.

Mushrooms also have broken out into the adaptogenic space and are being incorporated into stress-reducing foods and beverages. Popular varieties include reishi, chaga, maitake, shiitake and lion's mane.



Source: Spoonshot

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