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Trending Beverage Flavors:
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Disrupting the Space

Fragrance formulation is getting an upgrade.
See the latest market insights on page 36.

Genderless Fragrance Sector On The Rise



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Consumer Demands Shaking Up F&F



The fragranced portion of this issue digs into shifts in consumer trends and sustainability.

Feeling disruptive? Emerging consumer demands are offering opportunities for innovation across F&F. *Perfumer & Flavorist+* (*P&F+*) has called upon industry professionals to weigh in on the latest trends in both the flavor and fragrance realms.

The February issue tackles disruptors in the fine fragrance industry. From a focus on sustainable ingredients to functional products, this shift is due in part to the COVID-19 pandemic and the emergence of Gen-Z consumers. *P&F+* has tapped a Euromonitor consultant to discuss this shift, as well as the demand for scent personalization and leveraging neuroscience, all of which can be found on **page 36**. Headlines have also seen a surge in genderless scent launches. Flip to **page 44** to dig deeper into the trend and discover the recent collaborations that have emerged to meet the need.

For flavor enthusiasts, the beverage sector has been booming with innovative formulations. From better-for-you sips to low-to-no-alcohol creations, the market is a playground for flavorists looking to flex their creativity. This month's Industry Insights column (**page 8**) is overflowing with knowledge from experts around the world discussing trends, challenges and opportunities within the beverage market.

This issue is designed to inspire and motivate flavor and fragrance professionals alike to create their next project win. Happy reading, tastemakers.



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INDUSTRY INSIGHTS:
Beverage Technologies & Innovations

Explore what is new, now and next in beverage formulation.



FlavorSum research revealed that North Americans are interested in non-alcoholic versions of their favorite cocktails but are often flavor adventurers looking for a novel taste.

Featured Insiders:

- FFP
- FlavorSum
- Metarom France
- Sensient

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The beverage industry has become a breeding ground for opportunity for flavorists. This month's column is jam-packed with insights from beverage professionals looking to make the most out of the market. From low-to-no-alcohol products to boundary-pushing profiles, here's what these insiders believe to be new, now and next for beverage.

LISA JACKSON, marketing director, FlavorSum

***Perfumer & Flavorist* [*P&F+*]: What are consumers currently looking for in beverage products? What factors are driving these demands and how are they informing formulation?**



Lisa Jackson

Lisa Jackson [LJ]: In a recent FlavorSum study, 63% of Americans and 74% of Canadians are actively interested in, shopping for, or buying foods and drinks with functional benefits. Purposeful foods and beverages offer desired support for baseline systems like heart and mental wellness or health enhancements such as weight loss, alertness or relaxation. And interest isn't slowing. Mintel reported[a] that in 2022 and beyond, consumers will look to protect their health for the longer term through diet and nutrition. The versatile platforms in the beverage category provide an ideal format for functional benefits and flavor exploration.

Desire for beneficial beverages ignited hybridization within the category, such as traditional sodas supporting relaxation or gut health. Emerging ingredients like mushrooms, collagen, and less-caffeinated green teas enable people to achieve nutritional and wellness goals in familiar, enjoyable formats.

Functional drink formulators need to consider texture, nutrition, processing, and, most importantly, taste. Flavor direction in fortified drinks reflects brand guardrails, taste alignment with functional ingredients, and market trends. Some developers choose to completely mask active ingredients, while others will complement or enhance notes to cue healthfulness. Flavors decisions often align with specific benefits, like pairing citrus with immunity or lavender with sleep support.

***P&F+*: From your perspective, what are some of the emerging trends in the beverage market? How can flavorists best capitalize on these opportunities?**

LJ: One trend we've been watching this year is non-alcoholic (NA) adult beverages. The emerging beverage segment offers people a more complex and exciting taste experience than traditional sodas or juices and the health benefits associated with reduced alcohol consumption. The category, which includes RTD no-alcohol cocktails and spirits, is gaining traction in North America, with growth expected[b] to outpace the 10.6% CAGR of alcoholic beverages through 2025. And while abstainers are key purchasers of the category, the audience is expanding and growing. FlavorSum proprietary research shows NA consumers are adding alcohol-free offerings to their alcohol-full options. They are enjoying both, creating opportunities for brands to connect in multiple formats!

Brands within the NA category are actively exploring flavor innovation. Developers face a unique challenge: how to mimic or hint at the tastes of the avoided alcoholic ingredients while delivering the mouthfeel and multi-layered taste of a cocktail or spirit. Our research revealed that North Americans are interested in non-alcoholic versions of their favorite cocktails but are often flavor adventurers looking for a novel taste. Developers can have a little fun by infusing new flavors into familiar formats, such as a NA cucumber gin martini.

FFP BEVERAGE TASTE TEAM

***P&F+*: What are consumers currently looking for in beverage products?**

FFP: Citrus fruit flavors continue to show strong growth across many categories including dressings, sauces, beverages and dairy. The beverage space in particular continues to be a strong opportunity in utilizing citrus flavor profiles, as it aligns with consumer focus and interest in health.

***P&F+*: What factors are driving these demands and how are they informing formulation?**

FFP: The introduction of functionality in food and beverages has led to consumer awareness of products that serve as adjuncts to supplementing their daily nutrition intake. COVID-19 helped ignite interest in immune support. Consumers figure it better to consume healthy beverages that address their health concerns.

[a] *clients.mintel.com/download/brochure/the-future-of-nutrition-health-wellness-2022*

[b] *www.theiwsr.com/wp-content/uploads/IWSR-2022-No-and-Low-Alcohol-Press-Release.pdf*

***P&F+*: From your perspective, what are some of the emerging trends in the beverage market? How can flavorists best capitalize on these opportunities?**

FFP: Beverage trends have been skewing towards low sugar, functional beverages with multiple functionalities (think immune/digestive/nootropic support). Fermented beverages are also on trend, as it's estimated that probiotic beverages are expected to achieve over $77 billion in sales by 2025[c], almost double the revenue generated worldwide in 2018.

Water kefir, with its more diverse probiotic strains shown to help boost the immune system and aid digestion, is gaining momentum and creeping into the mainstream. As is the fermented Mexican soda Tepache—another healthy, flavorsome, sustainable alternative to kombucha[d]. Finally, low, no alcohol beverages have been producing a constant stream of spiked sodas, premium mocktails and a host of canned cocktails lower in alcohol. The FFP Taste division offers all natural, clean-label ingredients coupled with our in-house flavor and application expertise to help formulators create innovative, on-trend beverages, from concept to completion.

METAROM FRANCE TEAM

***P&F+*: What are consumers currently looking for in beverage products? What factors are driving these demands and how are they informing formulation?**

Metarom [M]: In beverages, we are observing different trends such as:

1. The continuation of product premiumization. The codes of high-range products include values such as heritage/tradition, the product's age, a specific production process, awards and prizes received, refined packaging but also, paradoxically, innovation and the overturning of traditions and codes. Naturalness and eco-friendly products are more recent values, however they now add value to a brand. Formulating with natural ingredients can thus signal a premium quality.

2. Energy drinks which support cognitive health as supporting mental wellness and concentration, as well as deliver a physical energy boost, are booming.

3. Last but not least, non-alcoholic beverages are growing more and more popular among consumers and mostly the young, who are driving this new trend. No-alcohol spirits, beers, wines and cocktails are progressively popular among individuals looking for moderation, quality and reasoned consumption, as well as novelty and pleasure.



Nathalie Claisse, R&D manager



Renaud Bouat, R&D director



Benedicte Chenuet, marketing director

***P&F+*: Can you talk about any recent technologies introduced to the market that aid in beverage innovation?**

M: The emerging consumer demands for naturalness, less sugar and functionality, have prompted Metarom's R&D team to develop tailor-made flavoring clean label solutions such as our range Acti'Sens: respectively Acti'Boost Sweet, Acti'Boost Fat and Acti'Mask, which are natural flavors designed for advancements in nutrition.

Acti'Sens is designed to support healthier foods without compromising on taste. It helps industrials support their nutritional reformulation process, fulfil the expectations of their consumers in terms of taste and are tailor-made solutions to bring customized sensory and technical support.

When our Metarom R&D team is formulating this type of beverages, we need to mask the off notes and to rework the aromatic signature by completing the flavor profile. We need also to restore the sweet taste to meet the demand of the final consumer who is looking for the best balance between indulgence and health.

***P&F+*: How can flavorist capitalize on emerging trends in the beverage market?**

M: Our flavorists have a number of pathways and suggestions of few combinations:

1. Utilizing a range of natural extracts and flavorings. This is an additional benefit for consumers looking for authenticity and transparency.

2. Adding finishing notes to convey typicality and personality. Depending on the alcohol range, Metarom will direct you towards woody, spicy, smoked, peaty, honey, floral or plant notes.

3. Differentiating notes to give a twist to a familiar flavor. For instance, tangor may replace an orange

[c] *www.forbes.com/sites/douglasyu/2020/10/12/booming-demand-for-probiotics-pushing-water-kefir-company-sunny-culture-onto-the-national-stage/?sh=445a065c6cd7*

[d] *hospitalityinsights.ehl.edu/drink-trends-2022*

note, tayberry may replace a red fruit note and bergamot may replace a lemon note.

4. Highly trendy floral and plant notes (eg. basil, rosemary, hibiscus, cherry blossom, yuzu, Japanese plum) to modernize a product.

JEN LYONS, marketing manager, Sensient Flavors & Extracts

***P&F+*: What are consumers currently looking for in beverage products?**



Jen Lyons

Jen Lyons [JL]: Consumers are increasingly seeking better-for-you beverages with simple ingredients and authentic, bold flavors. As a result, we're seeing continued growth in low/no alcohol beverages. Younger generations, especially millennials, want to be more in control of what they're consuming and are drawn to better-for-you claims and added product benefits. As they place more value on authenticity, transparency and product functionality, we expect to see a rise in gluten-free, vegan and reduced/low-sugar claims. Demand for bold flavors will also continue. Consumers want flavors that exemplify natural, refined, functional connotations and bold and unique combinations that incite a "have to try" mindset and instill a lasting impression. This will result in more fusion options, where we'll see exotic fruit flavors combined with functional herbs and spices and we may even start seeing more vegetal combinations.

***P&F+*: What factors are driving these demands and how are they informing formulation?**

JL: Food and beverage choices are becoming a reflection of consumers' lifestyles. Consumers are paying more attention to labels and seeking simpler ingredients to align their consumption with their overall health and wellness goals. At the same time, consumers still want to indulge and are looking to beverages for an escape. They want enticing flavors that convey a feeling, whether invigoration, relaxation or pleasure.

***P&F+*: From your perspective, what are some of the emerging trends in the beverage market? How can flavorists best capitalize on these opportunities?**

JL: The "Dry January" concept is no longer limited to New Year's resolutions. Today's consumers are interested in low/no alcohol consumption year-round. This presents a significant growth opportunity for the low/no alcohol market. Flavorists can capitalize by enticing consumers with better-for-you claims and offering new and exciting flavor combinations. Sustainability messaging will also be important as more consumers look to purchase products that positively impact the environment.

p&f+



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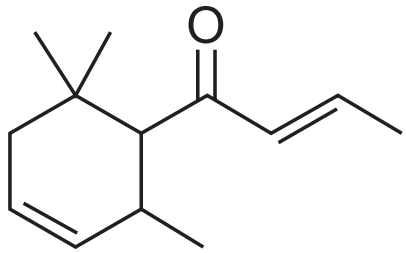
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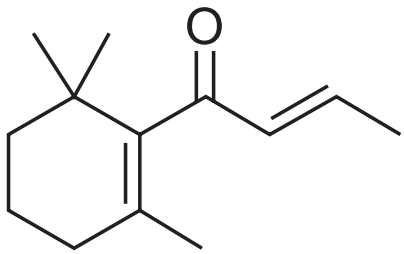
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δ-Damascone (FEMA# 3622, CAS# 71048-82-3/57378-68-4), also known as 1-(2, 6, 6-trimethyl-3-cyclohexen-1-yl)-2-buten-1-one, can used be fine fragrance, personal care, fabric care and home care.



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Givaudan Debuts First Integrated Fragrance Encapsulation Center in Singapore

On Tuesday, December 6, 2022, Givaudan inaugurated its first integrated fragrance encapsulation center in Singapore.

Givaudan invested CHF 30 million into the Green Mark Gold-certified encapsulation center. The center is designed to offer all of Givaudan's encapsulation capabilities including research, creation with dedicated perfumers on-site, production and industrialization capabilities with a scale-up lab.

Gilles Andrier, CEO, commented, "This encapsulation center based in Singapore underscores our commitment to the Asia-Pacific region, aligned with our high growth markets expansion objective. Having all our encapsulation facilities housed in the same location will significantly sustain our innovation, operational reliability and internal agility, to effectively support our customers' growth."



Gilles Andrier, CEO, commented, "Having all our encapsulation facilities housed in the same location will significantly sustain our innovation, operational reliability and internal agility, to effectively support our customers' growth."

Mintel Reveals Flavourscape AI Platform

While exploring the showroom floor at Food Ingredients Europe in December 2022, *Perfumer & Flavorist+* stumbled upon the Mintel booth. The company was showcasing its recently launched Flavourscape AI platform.

The subscription-based platform gives users access to a network that collects new products from 86 markets around the world. The data points are structured within the database to track product innovation. The Flavour Landscape Engine utilizes three algorithms said to pinpoint flavor trends relevant to each user's market.

The artificial intelligence platform is designed to be used as a tool to identify flavor trends, understand the prevalence and momentum of existing flavor trends and compare markets and categories.



Mintel's Flavour Landscape Engine utilizes three algorithms said to pinpoint flavor trends relevant to each user's market.

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Robertet Introduces Villa Blu Startup Accelerator



Each Villa Blu startup company will have access to process equipment, analysis and development laboratories as well as regulatory support.

Robertet has announced the launch of its startup accelerator, Villa Blu. The program is set to host 20 startups simultaneously. The startups will cater to natural sectors including ingredients, fragrances, food flavorings, as well as health and well-being active ingredients.

The website reads, "Welcoming those who want to make a difference, spotting talent, making necessary skills and networks available to them, hurting the most disruptive products, technologies and services are all goals that Villa Blue has set itself for facilitate[ing] the emergence of innovation and the construction of a sustainable future in its territory."

Beginning March 2023, the inaugural five companies will be selected to join the accelerator, then every six months, five new companies will be invited to join over the next two years (until 2025).

The Villa Blu facility resides in Grasse, with three levels of operations and one reception level. The program is set to entrepreneurial support. Each startup company will have access to process equipment, analysis and development laboratories as well as regulatory support.

More information can be found about the start-up accelerator at *www.villablu.io*.



Fragrance Creators Association Debuts Responsible Industry Stewardship Program



The pledge consists of principles concerned with environmental and social impacts, sustainability, employee growth and development, worker safety and good governance.

Fragrance Creators Association (Fragrance Creators) announced the creation of the Responsible Industry Stewardship Pledge. The pledge consists of 10 key principles centered around environmental and social impacts, sustainability, employee growth and development, worker safety and good governance.

The pledge principles were developed by a group of Fragrance Creators members and approved by the Fragrance Creators Board of Directors.

By taking the voluntary pledge, Fragrance Creators members commit to:

1. Participate as a good faith stakeholder to develop and advance fragrance policies designed to deliver positive impacts for people, perfume, and the planet.

2. Support olfactory culture through increased knowledge, appreciation, access, and use of fragrances created in a responsible and sustainable way.

3. Serve as a resource for information and education regarding fragrance and fragrance ingredient safety.

4. Promote the safe and proper use of fragrance and fragranced products.

5. Serve as a resource for quality information on the importance and benefits of fragrance.

6. Recognize our success is dependent on a healthy planet and to continue to pioneer green chemistry, upcycling, and ethical sourcing.

7. Prioritize consumer confidence by adhering to the spirit as well as the letter of all applicable laws and regulations.

8. Foster and safeguard a fair and responsible marketplace recognizing the importance of a diverse value chain to enhance competition.

9. Coordinate throughout the supply chain to ensure that comprehensive industry representation is housed within Fragrance Creators Association.

10. Encourage sound science through engaging in public policy and advancing the work of the Research Institute for Fragrance Materials (RIFM).

Farah K. Ahmed, president and CEO, Fragrance Creators, shared, "A society grows great when old people plant trees whose shade they shall never sit in—a beautiful Greek Proverb that captures the essence of how we view stewardship. Sustainable industry growth is dependent on a healthy planet and respecting the people and communities who inhabit it today and tomorrow. That's what this Pledge is designed to do, and we thank our members for their commitment to stewarding the fragrance value chain responsibly."

IFF Announces Savory Solutions Group Sale to PAI Partners

IFF announced plans to sell its Savory Solutions Group to private equity firm PAI Partners. The agreement values the business at approximately $900 million, with net cash proceeds less taxes and expenses being utilized to reduce any outstanding debts.

According to IFF CEO Frank Clyburn, the Savory Solutions Group sale is an "important milestone" that will allow IFF to return focus to its highest-return businesses while enhancing growth and improving its capital structure.

"We appreciate the contributions of our Savory Solutions colleagues who have, for years, demonstrated their commitment to innovation, service and quality," said Clyburn. "We will work closely with PAI Partners to have a successful transition and look forward to Savory Solutions' future under its ownership."

IFF's Savory Solutions Group's primary focus is ingredients for prepared foods and foodservice, including plant-based options and products for butchers. It's comprised of approximately 1,800 employees and has served over 11,000 customers, having generated around $475 million in revenue over the last 12 months. The group includes a variety of business locations operating out of countries from Germany to Thailand.

The transaction is expected to close in the second quarter of 2023.

p&f+



IFF's Savory Solutions Group's primary focus is ingredients for prepared foods and foodservice, including plant-based options and products for butchers.

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Jérôme Di Marino Joins Mane as Fine Fragrance Perfumer



Mehdi Lisi, president, Global Fine Fragrance, states, "[Jérôme] is one of the great talents of his generation, recognized in the industry for his strong and sophisticated signatures and his sensitive and generous personality."

Mane has announced the addition of Jérôme Di Marino to the company's fine fragrance perfumer team. The company released a brief history of the perfumer as well as his responsibilities in this role.

Di Marino was born in the French Alps, holds a degree in chemistry from the Côte d'Azur University and is a graduate of ISIPCA. He was mentored by Francis Kurkdjian and trained at Givaudan and Takasago, prior to designing prestigious fragrances. Mane shares that Di Marino likes to "observe and understand the present time without preconceived ideas, to grasp the expectations of an era in order to respond to them with (im)pertinence."

Passionate about travel, gastronomy, and drawing, he tastes the world around him through the lens of popular culture. He analyses contemporary societal signals and scrutinises the pop icons that the public devours. He draws inspiration from [pop culture] to compose unique and unexpected fragrances, with a never-ending quest for addiction in mind.

Now living and working between Paris and Barcelona, his responsibilities will include developing Mane's presence in Southern Europe, building on his new status as a perfume academician in Spain, while continuing to work with global fine fragrance clients.

Mehdi Lisi, president, Global Fine Fragrance, states, "[Jérôme] is one of the great talents of his generation, recognized in the industry for his strong and sophisticated signatures and his sensitive and generous personality. Jérôme will find an exceptional palette at MANE to further develop his vision, his passion for natural products and innovation. He joins a family-based company with a unique culture, where he will be able to fully express his creativity, his proximity to the brands, his exceptional team spirit and his hard work."

p&f+

IFF Names Dennis Maroney Master Perfumer

IFF has named Dennis Maroney as a master perfumer, an honor recognizing his career achievements, entrepreneurial contributions and record of commercial excellence in the global perfumery industry. Maroney is a 32-year industry veteran and IFF's ninth master perfumer, with the last induction being Dirk Lauven in 2021.

Maroney was born in Elmsford, New York, and as a child, was driven by a desire to solve problems. After earning a Bachelor of Science degree in Psychology from the University of Connecticut, he joined Kato, a fragrance house, as a laboratory assistant, where he was trained in the art of perfumery by senior perfumers.

Maroney joined IFF in 1998, formulating hair, beauty products and home consumer products on a global scale. Additionally, Maroney is a five-time winner of the American Society of Perfumers "Perfumer Choice Awards," and served as the organization's president and chairman of the board between 2010 and 2014.

Maroney, shared, "Perfumery is about transporting the consumer to a time and place where they are happy. It is about bringing a positive impact to someone's day with something I have created. It is about making them smile, making their life smell better, and making that experience last long enough that when they come back to real life, the sunshine is still there in the air, vibrant with peace and courage."

Frank Clyburn, CEO, IFF, stated, "[Maroney] has demonstrated a unique ability to bring together science and creativity, with a strong, undefeatable sense of purpose. He is a humble leader and an inspiring mentor who has created milestone scent signatures in the beauty and home care world. His unique contributions to the products we use every day in our beauty and home care routines are truly inspiring, and this master perfumer recognition is more than deserved."



Dennis Maroney is a five-time winner of the American Society of Perfumers "Perfumer Choice Awards," and served as the organization's president and chairman of the board between 2010 and 2014.

Christophe de Villeplée, president, Scent, IFF, said, "Dennis' innovation-driven mindset, leadership and creativity have helped develop groundbreaking scent solutions with breakthrough technologies, bridging A.I. and scientifically driven wellness research. Over the years, Dennis has created some of the most iconic fragrances and signatures across multiple categories. He has played an instrumental role in mentoring IFF junior perfumers and perfumery students, ensuring the next generation of perfumers have the creative, technical and innovation skills to create novel, memorable fragrances consumers desire."

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PROFILES:
GEZA SCHOEN and KETAN SHAH

Geza Schoen, perfumer and founder, Escentric Molecules

***Perfumer & Flavorist+* [*P&F+*]: What led you to the fragrance industry?**

Geza Schoen [GS]: I started collecting fragrance samples in the early '80s when I was around 13 years old. A fascination grew over the following years. At 16 years old I got in touch with Harmann and Reimer (nowadays known as Symrise).

I was mesmerized and fought extremely hard to grab one of the rare places in this highly sought-after perfumery school. I joined H&R in August 1990 and started my perfumery education in January 1992.

***P&F+*: Are there any recent projects/wins you're particularly proud of?**

GS: I recently worked on a fragrance for Oak, a German brand, called Ursprung, which translates to "origin/source." I am in the final stages of creating German-Persian designer, Boris Bidjan Saberi's, second fragrance. I recently finished a scent for Michael Sailstorfer, a German artist based in Berlin, called Tears on Asphalt. All the while, I am constantly working on ideas for my brand, Escentric Molecules.

***P&F+*: How has the job of perfumer changed during your career?**

GS: Adaptation is the name of the game. You constantly have to change due to new regulations which can make your life harder, so you have to modify existing formulas to the new guidelines set by IFRA. Several ingredients are struck off yearly, so you must find alternatives while maintaining the existing scent many users have come to love. In addition, my life is quite different from the everyday life of a perfumer, as I am also a consultant. Other than that, projects always start with an idea, a narrative. That will never change!

***P&F+*: What is the best part of your job?**

GS: The freedom. The ability to use years of solidly acquired knowledge to transform the industrial life of a perfumer into a niche perfume, to educate and encompass audiences around the globe. And, of course, I especially enjoy artist-based collaborations. On top of it, it is an absolute pleasure to work with IFF's raw material palette. That is top stuff!



Name: Geza Schoen

Title: Perfumer & Founder

Location: Berlin, Germany

***P&F+*: Advice for people coming into the perfume field?**

GS: The ISIPCA in Versailles still offers a strategic program for becoming a perfumer or flavorist. Other than that, you can order ingredients from a perfumer's apprentice. That's a start!

Ketan Shah, president and certified senior flavorist, Esha Flavor Solutions LLC

***P&F+*: What led you to the flavor industry?**

Ketan Shah [KS]: Getting into the flavor industry was a total accident; after coming over in mid-eighties from India to California, I was looking for a job and somehow was able to get my first job in the industry. During my undergrade studies in

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organic chemistry, I always wondered about the aromas in foods and beverage but never thought that one day I would be creating flavors for food and beverages. The love and passion of flavor creation and passing on the knowledge to the next generation made me stay in the industry for over 30 years and will continue until I can't.

***P&F+*: What is the best piece of advice you've been given?**

KS: Keep it simple, once you go over 20 ingredients in a formula, go back to the drawing board and start over. Be a sponge, never be afraid to pass on the knowledge to the peers and next generation.

***P&F+*: What applications do you primarily formulate for? Do you have a favorite?**

KS: My primary formulation expertise is in the field of beverage, sweet goods, taste modulations, oral care, etc. My favorites are flavors for beverages, taste modulation systems for the health and wellness areas, and ongoing evaluation of raw materials including essential oils and other botanicals.

***P&F+*: Advice for people coming into the flavor field?**

KS: Be kind, it won't hurt you but will help you bet better. You must be willing to learn a lot during the short times, be like a sponge, absorb as much as you can from your mentor(s), peers, and your own learning, be open minded about everything. Write notes about your evaluation of raw materials and all the learning you have had over the years; this will make you better as a creative flavorist and a mentor to pass your knowledge to the next generation. Follow and leverage biotechnology for much more cost effective and sustainable raw materials in your flavor creation.

***P&F+*: How has the job of flavorist changed during your career?**

KS: Over the last several years, flavor creations job has changed a lot with constantly changing regulatory requirements on the global level; raw material shortage, crop failures and other global situation has led the flavor creation to be very challenging when you have to replace raw materials in yours and or others' flavors without changing the original flavor profile and with least impact on the cost.

With the trends of health and wellness, where CPG companies are reducing sugar, masking bitterness and other off notes, etc. the taste modulation work has gone up tremendously where flavorist are required to come up with natural flavors "taste modulators" to provide the enhancement of sweetness, provide the mouthfeel of syrupy sugar notes, masking of bitterness and enhancement of saltiness with the reduced salt products, etc.



Name: Ketan Shah

Title: President & Certified Senior Flavorist

Location: Morris Plains, New Jersey



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Much higher levels of trans-2-nonenal, even up to 100 ppm, work well in roasted and fried potato flavors.



BY JOHN WRIGHT
johnwrightflavorist@gmail.com

Flavor Bites: trans-2-Nonenal

A chemical that is very effective but is considered one of the most difficult to dose correctly.

Many popular flavor chemicals may derive some of their popularity from the fact that they share the invaluable characteristic of a relatively flat relationship between concentration and perceived intensity. This allows flavorists considerable freedom of expression.

trans-2-Nonenal (FEMA# 3213, CAS# 18829-56-6), unfortunately, is an exception. It is very effective, but it has to be one of the most difficult chemicals to dose correctly. At one level it can carry the connotation of freshness but, stray too far above that level, and freshness can quickly morph into staleness. The value of trans-2-nonenal within the fried, fatty odor category lies in the fact that, in many instances, the alternatives are even more tricky to handle.

Note that the dose rates given throughout this article are the levels suggested for use in flavors intended to be dosed at 0.05% in ready-to-drink beverages or in a simple bouillon.

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Meat Flavors

Bacon: We jump in at the deep end with bacon flavors! We need to convey a strong cooked fat note without any hint of staleness. 2,4-Decadienal is often used. This chemical has a strong fried note but very easily tips into staleness. trans-2-Nonenal is less sensitive and helps convey a more attractive nuance at around a 150 ppm.

Chicken: The same considerations apply to roast and fried chicken flavors. One hundred ppm of trans-2-nonenal works well. In this case a combination with 2,4-decadienal is advisable.

Grill: Grill flavors focus heavily on the cooked fat profile but shift it distinctly in a burnt direction. trans-2-Nonenal needs to be used at a higher level, around 300 ppm, but the temptation to overdo it should be resisted.

Ham and pork: trans-2-Nonenal performs best at around 50 ppm in all ham and pork flavors, giving a cooked fat note that is evident but not obvious.

Lamb: Lamb flavors have a very noticeable fat element, but that is best conveyed by chemicals like 4-methyl nonanoic acid. trans-2-Nonenal should only make a moderate contribution at around 50 ppm.

Roast beef: One hundred and 50 ppm are also good levels of addition in roast beef flavors. As with bacon flavors, it can either be used alone or in combination with 2,4-decadienal.



One hundred ppm of trans-2-nonenal gives a freshly roasted character to hazelnut flavors.

Brown and Nut Flavors

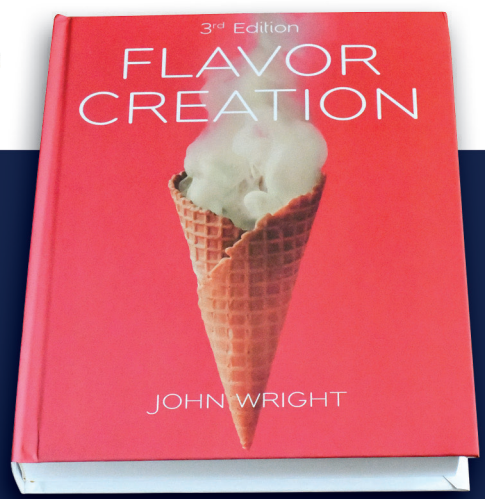
Almond and pistachio: This ingredient is more important in other nut flavors, but 20 ppm can, nevertheless, add an attractive lift to almond and pistachio flavors.

Chocolate and cocoa: At 20 ppm, this raw material can add a pleasant brightness to cocoa flavors. This can translate into levels of addition ranging from 10 to 20 ppm in different styles of chocolate flavors.

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Coffee: At moderate levels, around 20 ppm, trans-2-nonenal can add very attractive freshness to coffee flavors. Higher levels quickly run the risk of becoming unattractive.

Hazelnut and praline: One hundred ppm of trans-2-nonenal gives a freshly roasted character to hazelnut flavors. Praline flavors are better suited to slightly lower levels, around 40 ppm.

Tea: The list of ingredients that work in tea flavors is quite extensive. trans-2-Nonenal can play a role at moderate levels, around 50 ppm in black tea flavors and around 20 ppm in green tea flavors.

Walnut: trans-2-Nonenal is helpful in every type of nut flavor, but it is particularly compatible with walnut flavors, possibly because walnut oil is highly unsaturated. Two hundred ppm is a good starting point.

Other Savory Flavors

Cheddar cheese: The character of heated fat can be important in other savory flavors, but it is often at lower levels. Ten ppm of trans-2-nonenal adequately conveys heated Cheddar cheese fat notes.

Cooked mushroom: Forty ppm of trans-2-nonenal is a better level for cooked mushroom flavors, approaching the levels used in meat flavors.

Cooked rice: Rice flavors can be tricky to balance but a hint of fried character can be attractive. Ten ppm of trans-2-nonenal is ideal.

Fried potato: Much higher levels of trans-2-nonenal, even up to 100 ppm, work well in roasted and fried potato flavors.

Seafood: trans-2-Nonenal can be very helpful in the entire range of seafood profiles. The lowest level, around 50 ppm, is applicable to shrimp and other shellfish flavors. Fish flavors are all over the map, ranging up to 100 ppm in oily fish profiles. The highest levels, up to 200 ppm, are reserved for seaweed flavors.

Toasted onion: The ideal level of this ingredient in cooked onion flavors depends very much on the profile that is required. Two ppm is a very modest starting point.

Tomato: All types of tomato flavors can benefit from this chemical. At modest levels, around 5 ppm, it is equally effective in fresh and cooked profiles.

Other Flavors

Bread: Bread flavors cover a multitude of styles and trans-2-nonenal can be useful in pretty much all of them. Thirty ppm generally works well.

Carrot: How often are you going to get asked for a carrot flavor? Not often, but it does happen. When that long awaited day dawns, 100 ppm of trans-2-nonenal works wonders.

Pandan: Pandan flavors are attractive and of regional interest in Asia. They often benefit from added complexity which trans-2-nonenal can provide at 5 ppm.



Plum flavors have a number of aspects in common with cherry flavors and this includes the ideal level of trans-2-nonenal, 5 ppm.

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Consumers are increasingly interested in bitter flavor profiles, such as aperitifs, Negroni cocktails and herbaceous gins.

Trending Beverage Flavors: **Bitter, Sweet & Everything in Between**

Insight into how flavorists can help beverage brands take consumers on a journey and tantalize their taste buds.

BY MICAH GREENHILL, marketing director, Beverages & Meat Alternatives and JUSTIN SOLOMON, marketing director, Alcohol Beverages, ADM



Micah Greenhill



Justin Solomon

Canned and bottled beverages are ubiquitous these days, from energy drinks and teas to flavored waters and cocktails. And with so many beverages designed to fill niche consumer needs, people can easily transition from drink to drink throughout the day, satisfying their thirst for variety and supporting holistic well-being goals.

Notably, ready-to-drink (RTD) formats are on trend across the retail beverage sector. RTD coffees, sports drinks, cocktails and more are perceived to provide consumers with convenience, delicious taste and great value. So, what will it take to stand out from the pack? In 2023, beverages that are fierce, fun and flavorful are sure to be top shelf.

Bitter

Garden-fresh flavors are taking off in beverages, particularly in the alcohol space. Consumers are increasingly interested in bitter flavor profiles, such as aperitifs, Negroni cocktails and herbaceous gins. Florals, herbs, spices, fruits and other botanical bitters present complex, layered flavors to sip alone or balance out mixed drinks. Plus, vegetal flavors like celery, cucumber, bell pepper and beet put a savory twist on alcoholic beverages.

Coffee and tea are also known for their bitter notes that may be tempered by milk, creamer, honey or other sweeteners. Globally, 74% of consumers[a] say



Consumers associate the sour sensations of kombucha with the products' perceived association with digestive health, which may make the flavor profile more appealing to some.

[a] *fmcggurus.com/reports/fmcg-gurus-flavor-color-texture-global-report-2021*



Fierce, "in your face" flavors add a sugary buzz to energy drink formulas that fuel gamers for hours of play.

they like to see new and unusual flavors in coffee and tea products. Furthermore, 77% of global consumers say they find limited-edition flavors most appealing in the coffee category. Seasonal or experimental flavors can capture attention, spark an emotional reaction and prompt impulse buys. RTD cold brew and bottled lattes with peppermint or butterscotch syrup can bring food-service flair to retail offerings. Recently, there's also been a resurgence of the espresso martini as a sophisticated after-dinner drink, which may translate into ready-made cocktails found in store aisles.

Fruity

We're seeing rapid rehydration beverages and sports drinks grow in popularity, as consumers seek out ways to replenish fluids, electrolytes and energy after sweating and physical exertion. Some functional beverages might have a consumer perception of saltiness from a concentration of electrolytes, which could produce an undesirable flavor experience for some. As a counterbalance, popular sports drink flavors are intensely fruity and tropical, which also brings thirst-quenching taste attributes to these offerings. Some of the fastest-growing fruit-forward flavor trends include dragon fruit, passionfruit, green mango, coconut, pomegranate and watermelon.

Sour

When it comes to tart flavors, citrus reigns supreme. Emerging and refreshing taste profiles of finger lime, yuzu, mandarin, bergamot, tangerine and pink grapefruit offer a sense of the exotic with regional varietals from around the world. There's also a health halo with citrus that can benefit a variety of beverages, including functional waters, energy drinks and RTD cocktails. Similarly, consumers associate the sour sensations of kombucha and apple cider vinegar with the products' perceived association with digestive health, which may make the flavor profile more appealing to some.

Sweet

Sweet beverages are a frequent indulgence for many, from candy-inspired energy drinks to digestifs in traditional dessert flavors. Fierce, "in your face" flavors like sour raspberry, bubble gum and cotton

candy add a sugary buzz to energy drink formulas that fuel gamers for hours of play. On the other hand, people may choose to unwind with a luxurious liqueur featuring toffee, peanut butter or cookies-and-cream flavors. Additionally, carbonated drinks are bubbling up with functional ingredients, such as prebiotic fiber or probiotics for digestive support. Classic cola flavors rich with spice and vanilla notes and fruity fizzy drinks with bright tropical notes appear to be equally popular.

Floral

As much as bold flavors are currently trending, there's also a place for nuanced, delicate flavors. Research shows botanicals are viewed as both premium and tasty by 43% of global consumers[b]. Ready-made cocktails with lower alcohol by volume (ABV) and brewed teas are two examples where subtle florals can shine, especially when coupled with unconventional fruit flavors. Hibiscus, honeydew melon and prickly pear or lemongrass and rose brew to a beautiful pink hue in hard seltzers and canned vodka sodas or bottled teas. Other floral and fresh fruit infusions continue to shake up the beverage space, like lotus pear, violet passionfruit, neroli and green apple and jasmine apricot.

Threaded throughout each of these fundamental taste profiles is consumers' ongoing interest in exploring regional flavors. In fact, 68% of global consumers say they are willing to pay a premium for drink products that contain new and unusual flavors. Beverage is a versatile and convenient vehicle for transporting consumers on flavorful adventures. For instance, regional notes of fig and cascara (aka coffee cherry), tamarind and cucumelon, lychee and yuzu, as well as tropical guava, mango, dragon fruit, banana and star fruit are only a few examples of exotic experiences that are just a sip away. With extensive expertise and advanced technology, flavorists can help beverage brands take consumers on a journey and tantalize their taste buds with floral, fruity, sweet, bitter and sour concoctions for any time of day.

[b] *fmcggurus.com/reports/fmcg-gurus-non-alcoholic-beverages-global-report-2022*





According Bob Graeter, when it comes to ice cream, people are still looking for reliability and authentication.

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Graeter's Ice Cream Talks Flavor Research & Development

Chief of quality assurance, Bob Graeter, shares his flavor journey and formative updates in the industry.

During *Flavorcon* 2022, the Graeter's team took the stage to discuss flavor development while passing out scoops for attendees to sample while gaining insight on the brand's methods.

To dig a little deeper into the carton, *Perfumer & Flavorist*+ (*P&F*+) tapped another member of the family-owned scoop shop, chief of quality assurance, Bob Graeter, to talk about his flavor journey as well as the evolution of the industry with a focus in, you guessed it, ice cream.

***P&F*+: Can you share the beginning of your flavor journey? Any stories you can share with us?**

Bob Graeter [BG]: This is a family business, so our history goes back four generations. My dad was involved in the business along with his father and his brothers. I grew up in the business of ice cream, candy, baked goods and have been in this business all my life.

We've always had nice, high-quality products for folks to indulge in. I never personally thought of Graeter's as a flavorist—or a chef-inspired business. There was not a lot of emphasis on the "gourmet" aspect of our ice cream in the early days, as we



In college Bob Graeter prioritized chemistry and biochemistry courses to understand the basics of proteins and sugars and what that meant in relation to taste.



Graeter's utilizes a small batch process, which can limit output, but can offer advantages in texture and quality.

stubbornly stuck to mastering the basics. That has evolved over the last 50 years. At first, we really made traditional products. But then, I started thinking about flavors when I grew up, and how to create a bigger experience from the traditional, combining flavors and building into this gourmet experience. In college I took a lot of chemistry and biochemistry and knew the basics of proteins and sugars and what that meant in relation to good-tasting foods. In the beginning we focused on the logistics and functionality of R&D. When my brother and my cousin and I took over the business, we started focusing more on creating something new, and on getting exposure to true innovators in the category. This was the catalyst for building something truly unique and special within the Graeter's product line, and for finding our unique place in the category, overall.

***P&F+*: Any specific challenges the ice cream market presents when it comes to innovation with flavors?**

BG: The biggest thing for us is that we're a niche player. We're smaller in volume than the national footprint companies. We cannot add flavors to top off our ice cream, as we use very real and specific ingredients. We source these ingredients with quality in mind, and the struggle lies in looking for something truly innovative in the volume that we need.

This is also a category that is cost-optimized for the majority of companies, which just doesn't fit our business. We never sacrifice quality, so it can be hard to find ingredients and materials that allow us to do that when other companies focus on a high-output. We will create quality over quantity every time.

Also, we use a small batch process, which does limit our output. But, by making everything in a batch process, it gives us greater advantages in texture and the quality of the ice cream we produce—although it certainly also presents us with limits to what we can add into our batches. But again, we'll choose quality of quantity every time.

***P&F+*: Can you touch on how consumer demand has evolved over the years and how it has influenced formulation?**

BG: Traditionally, we offered tried and true, Midwestern flavors—with maybe one inclusion. For example, with our Butter Pecan, we added nuts, and it was a big deal back then. But now, consumers want the complexity of flavors in their ice cream. Consumers also want flavors to replicate other dessert flavors that they already love, whether it's a candy or a pastry or cake. And, they want those options in their ice cream flavors too. Because of this, we're tasked with responding with a product that will sell to our traditional demographic while staying within our quality standards. We also have a long-term relationship with our consumers, many of which run through many generations. These consumers want the "familiar" when it comes to their comfort food—and at the same time, they also want the relief they receive from the stress of the world with Graeter's indulgence. Certainly, we'll challenge the status quo with a unique industry flavor every now and then, but by and large we stick with the flavors that our consumers traditionally favor. We've pushed the envelope on traditional flavors, but we don't veer too far from what we know.

***P&F+*: What is your advice to flavorists coming into the industry?**

BG: Get to know the consumer. Get to know the product, how it's used, and the behavior around your product. You then can be most effective in determining what flavors and eating occasions they value.

***P&F+*: Is there anything you wish you would've known before entering the flavor industry?**

BG: I would have spent more time in food science in my education. I went to a small, liberal arts college, and I would have gravitated more toward the intricacies of food specifically. I wish I had more awareness of what it could be back when I was in school.

***P&F+*: From your perspective, what does the future of flavor look like?**

BG: It can go multiple ways. We have amazing technology coming down the pike. From micro fermentation to crop genetics, the world is wide open to innovation. However, I think when it comes to ice cream, people are still looking for reliability and authentication. People need their favorite brands to hit those comfort and nostalgia buttons. In many food categories, folks will certainly step out of their comfort zones, and therefore, the future is bright for flavor innovation. There will continue to be new doors opening to flavor scientists, especially as we seek to innovate in a world that continues to value more sustainable and environmentally sensitive ways to make the foods we love.

p&f+



INVESTIGATING **FRAGRANCE MARKETING** AND **PURCHASING TRENDS**

Euromonitor consultant breaks down driving market factors.



Carmen Silva



Optimism is fueled by the purchase patterns of younger generations, who prefer having more fragrance choices that match moods of the moment and other personalization features.

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Ready for some projections from an industry researcher? Euromonitor released, "Revamping Digital Engagement in Fragrances[a]," highlighting factors driving fragrance innovation and evolving consumer demands in the wake of COVID-19. The report stated that the fragrance category was one of the winning beauty and personal care categories of the COVID-19 pandemic.

Perfumer & Flavorist+ (*P&F*+) connected with the article's author, Carmen Silva, consultant at Euromonitor International to discuss their perspective on report findings, consumer trends and the future of fragrance innovation.

***P&F*+: Can you touch on some of the consumer demands that are driving innovation in fragrance marketing/purchasing?**

Carmen Silva [CS]: Sustainability, neuroscience and personalization are some of the consumer drivers for innovation. We have on the sustainable side innovations on packaging but also on ingredients, like Coty's first line of fragrances made from carbon-captured ethanol, branded CarbonSmart[b], with LanzaTech. Personalization spans mass customization to diagnostics in the fragrance selection process, which overlaps with digital tools of olfactory maps and artificial intelligence (AI). For instance, Bvlgari's Allegra, launched in 2021, allows consumers to add five "magnifying essences" to five eau de parfums.

***P&F*+: From your perspective, what is the most interesting piece of research you came across in regard to digital engagement in fragrance?**

CS: Fragrance houses, brands and retailers will more greatly leverage AI, AR (augmented reality) and VR (virtual reality) to drive engagement and immersion with fragrances. AI is increasingly becoming a tool in the fragrance selection process, particularly among younger consumers, but comes with intellectual property challenges. Fragrance players' investment in the metaverse is also expected to accelerate, as is "smart packaging" with NFC tags to confirm denomination of origin, safety of usage and quality. One example is Luxury brand Byredo

[a]*www.euromonitor.com/article/revamping-digital-engagement-in-fragrances*

[b]CarbonSmart is a trademark of LanzaTech





Fragrance houses, brands and retailers will more greatly leverage AI, AR and VR to drive engagement and immersion with fragrances.

partnered with digital fashion start-up Rtfkt for its first metaverse project, which enables consumers to collect in the metaverse ingredients that represent emotions (eg harmony, virtue, etc.). These combinations serve as a "digital aura" for avatars, but can also be physically produced as personalized scents that come in bottles with NFC tags, creating "phygital NFTs" that are trending in the fashion world.

***P&F+*: What does the future look like for fragrance purchasing? Will we continue to see an upward trend in e-commerce even in a post-COVID environment?**

CS: While the forecast acknowledges some migration back to duty-free/travel retail, current research does not suggest a return to 2019 levels at the global level. There is a risk of "fragrance fatigue," as seen in post-2017 deceleration of color cosmetics after a hyper-cycle of consumption from 2013-2017. Cannibalization from aromatherapy, essential oils and other discretionary categories exist. Price hikes are expected to have a greater impact on entry-level premium and high-end mass tiers, since super premium fragrance consumers are likely to "trade down" in times of economic crisis.

The long-term change in fragrances' positioning is expected to offset these weaknesses and threats. The rise in importance of intrinsic drivers (eg fragrance as an item for "self-care") over extrinsic drivers (eg fragrance as sexual/sensual indulgence, or choosing scents that please others) suggest steady momentum upward. Optimism is also fueled by the purchase patterns of younger generations, who prefer having more fragrance choices that match moods of the moment and other personalization features.

***P&F+*: Looking at the trend in companies investing in neuroscience to track the emotional stimulants of certain ingredients and personalization of fragrances, can you share your outlook on the future of fragrance formulation?**

CS: Consumer awareness regarding fragrance formulation is evolving and some new features are becoming relevant as they get informed about parabens, aromatherapy and the impact that artificial colors could have on their skin. All of those preferences are highly related to health and well-being, even to mental and emotional wellness, showing a change of priorities and how they use fragrances in the post-pandemic era; self-pampering, self-care and health above all. This is how we have witnessed the emergence of functional fragrances like Nue CO or Yanbal aromatherapy collection.

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RTD ALCOHOLIC BEVERAGES POURING POTENTIAL

Evolving consumer demand is driving inventive flavor formulation.

BY DOUG RESH, Director, Commercial Marketing, T. Hasegawa USA



Mintel research indicates that nearly 31% of adults who buy alcohol in the U.S. aged 22-44 seek out "healthier" alcohol options, such as low-calorie and light beer, hard seltzer and lighter cocktails.

Consumers have been through a lot over the past few years. Luckily, the role of the food and beverage flavor industry has continually evolved to stay ahead of changing consumer patterns. After nearly three years of pandemic life, North Americans are bracing for a period of economic uncertainty, yet still seek excitement and experience from their foods and beverages – particularly those of the alcohol variety.

As real or perceived economic concerns tighten discretionary spending on restaurant dining and drinking, consumers demand more from packaged products and RTD beverages. As such, the flavor industry's critical role will be encouraging product trial and experimentation through exceptional taste.

Economic Concerns and At-Home Happy Hours

Labor and supply chain issues are impacting consumer behavior, with skyrocketing food costs and rising inflation as a result. Across the U.S., consumers are dealing with economic uncertainty and the alcoholic beverage category in particular is being affected by these concerns.

According to Mintel research[a], 80% of U.S. consumers feel that financial challenges would affect their alcohol purchase behavior, with more than a third of consumers citing reduced alcohol consumption in general. More than a quarter cite less alcohol purchase in foodservice.

After several years of pandemic life, consumers are already accustomed to exploring new flavors in the home kitchen, including alcoholic beverages. Decreasing patronage of bars and restaurants in favor of at-home mixology and drinking is a natural reaction to economic uncertainty. It follows that North Americans are likely to increase their consumption of RTD cocktails, mixes and spirits at home this year. To retain or grow their user base, brands need to explore new and creative ways to demonstrate value to the at-home alcohol consumer, in the form of new flavors and products that make it easy and enjoyable to drink at home.

Better Tasting, and Better-for-You

According to a report by Kantar[b], an estimated 20% of Gen Z and millennials have reduced their alcohol consumption over the past few years as

> "Attention-grabbing flavors tap into a 'sense of the intense,' which explores people's desire for visceral, intense experiences."

a result of the pandemic placing a pronounced emphasis on health and wellness. While many of these consumers still partake in alcoholic beverages, the consistent theme is moderation and seeking out healthier choices.

The trend toward BFY alcoholic beverages is especially pronounced among younger consumers. Mintel research[c] indicates that nearly 31% of adults who buy alcohol in the U.S. aged 22-44 seek out "healthier" alcohol options, such as low-calorie and light beer, hard seltzer and lighter cocktails. These products are appealing due to their robust flavor, often with lowered alcohol levels, for consumers who want to moderate their alcohol consumption or consume products with reduced sugar and carbohydrates.

Functional alcoholic beverages are also growing increasingly popular. Those include beer brands that

[a] *store.mintel.com/report/trending-flavors-and-ingredients-in-alcoholic-beverages-us-2022*

[b] *www.kantar.com/Campaigns/Covid-19-Barometer*

[c] *https://store.mintel.com/report/a-year-of-innovation-in-rtd-wine-spirits-2022*

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Consumers are accustomed to exploring new alcoholic beverage flavors.

are exploring the use of adaptogenic mushrooms that claim to have anti-inflammatory benefits or RTD cocktails that feature green tea, berries and other superfoods known to provide antioxidants or other tangible benefits.

A key result of the moderation trend and shift toward healthier options is that consumers are more selective in their alcoholic beverages than ever before, which puts emphasis on delivering a robust flavor experience. With consumers reducing their alcohol intake, flavor becomes the key differentiator that leads to trial and continued purchase.

The challenge that many brands face is creating clean-label alcoholic beverages that deliver on the health aspects that consumers demand, that still taste great and mask the burn of alcohol. Flavor manufacturers are leveraging innovative technologies and unique development processes to balance the requirements of a low-ABV, low-calorie beverage and navigating the impact of functional ingredients in the flavor formulation of a new beverage. Since removing sugar and sweeteners typically makes other flavors in a beverage even more pronounced, the industry's leading technology veers into reformulation as a way to recover the optimal flavor profile by masking unwanted notes and amplifying desirable flavors.

Delivering a "Sense of the Intense" Through Flavors

Regardless of changing economic patterns or the shift toward BFY options, alcoholic beverages need to deliver excitement and refreshment. As consumers seek more from their cocktails, wine, beer and spirits, the flavor industry continues to innovate and meet this demand – helping brands adapt to shifting consumer preferences with attention-grabbing flavors which, according to Mintel, "drive impulse purchase and tap into a 'sense of the intense,' which explores people's desire for visceral, intense experiences."

One key area of potential growth in alcoholic beverages is fruit flavors. Long associated with cocktails and increasingly popular with beer and wine, fruit flavors represent nearly 11% of GNPD

product launch activity in 2022, according to Mintel data. While stone fruit, citrus and berry flavors are common favorites among alcoholic beverage launches, brands are engaging consumers through exotic tropical flavors in RTD spritzers, coolers and cocktails and specifically marketing these products for use in social occasions such as poolside parties, cocktail hours and tailgate gatherings. Other brands are tapping into the potential of international fruit flavors in alcoholic product launches, such as Asian-inspired mango, papaya or dragon fruit.

The increase in alcoholic product development is bolstered by emerging flavor technology that is perfecting the way consumers experience alcoholic beverage flavors. New innovations allow the industry to lift specific fruit flavor notes through compounding and maximize the desired taste – both for RTD beverages and foodservice formulations. These innovations make it possible for brands to produce consistently great-tasting RTD alcoholic beverages with a longer shelf life, while also reducing the amount of costly ingredients needed to produce certain beverages.



New flavor innovations can help lift specific fruit flavor notes to reach the desired taste.

Another surprising trend is the shift toward RTD "hard" coffee. According to Mintel[d], RTD coffee is the fastest growing segment of the coffee market, and RTD alcoholic coffee beverages are primed to appeal to younger adult consumers. Gen Z and millennials are already decreasing their away-from-home coffee purchases and limiting alcohol intake, plus they are influenced by the influx of espresso-flavored martinis in bars and restaurants in recent years – creating an ideal opportunity for brands to capitalize on with alcoholic RTD coffee products. This trend is only beginning to take shape, but 18% of consumers express interest in RTDs with espresso flavor, including 21% among Gen Z and millennial drinkers.

Since foodservice trends remain the forerunner for overall beverage flavor inspiration, other more adventurous RTD cocktail formulations tap into the exotic taste of botanical and floral notes, seasonal ingredients, spices and fresh herbs – all inspired by bar and restaurant menus. A 2022 Mintel surveyd found that more than 30% of participants expressed future interest in trying alcoholic beverages featuring chili pepper, basil or turmeric – indicating the potential growth for non-traditional RTD cocktails.

Beyond adventurous ingredients, both RTD and foodservice cocktails are leveraging the power of nostalgia and fun in new flavor development. Indulgent "dessert" cocktail flavors that tap into nostalgia are growing increasingly popular, including s'mores, apple pie, churro, chocolate brownie and orange vanilla milkshake.

Flavor manufacturers are focusing technology and resources on finely crafting these unconventional ingredients and flavor pairings to produce great-tasting spirits that deliver the excitement that consumers are thirsty for in RTD retail beverages or foodservice products.

p&f

[d] *store.mintel.com/report/us-flavor-and-ingredient-innovation-on-the-menu-market-report*

GENDERLESS FRAGRANCE SECTOR ON THE RISE

See the latest launches from the growing sector and what it means for the future of fragrance.

BY JENNA RIMENSNYDER, managing editor, *Perfumer & Flavorist+*



Scent Beauty's collaboration with The Phluid project produced four genderless scents labeled Humanity, Transcend, Intention and Balance.

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The unisex fragrances market[a] in the United States was valued at $170 million in 2020 and is projected to reach $190 million by 2025, growing at a CAGR of 2.6%. Often also referred to as gender-neutral, gender-fluid as well as genderless scents, Trendalytics[b] released a report on the top trending perfume ingredients for 2023 highlighting classic notes and a preference for unisex elements. These notes include pheromones, citrus, musk, almond, neroli and jasmine.

The budding generation of perfume consumers has the power to inform industry trends. As of right now, the power lies in the hands of Gen Z.

T his demand informed the creation of D by Diesel, a genderless fragrance designed to reflect the way that Gen Z youths have embraced fluidity and freedom. The fragrance was crafted by Givaudan perfumers Nisrine Grillié, Shyamala Maisondieu and Louise Turner and manufactured by L'Oréal.

The fragrance combines a bourbon vanilla infusion from Madagascar with lavender hearts from Provence. Top notes include spicy ginger and aromatic lavender. Base notes hold fresh cotton and vanilla tones.

Perfumer & Flavorist+ (*P&F*+) tapped fragrance curator and former SVP of product innovation at Victoria's Secret Beauty for his perspective on the growth of the genderless fragrance market.

"The trends have a broader reach that isn't gender-based as floral and fresh notes have more appeal across genders that may not have been open to them previously. As importantly it is all about how the fragrance is balanced/created, the connection, and the emotions it provokes in the users. This will continue as the taste for fragrances continue to widen," Knitowski shares.

In 2022, Scent Beauty collaborated with The Phluid Project to craft a genderless fragrance collection. The Phluid Project was launched in 2018 to make gender-free apparel and accessories available worldwide. The website reads, "We joined a movement committed to challenging the ethos of dated traditions that inhibit freedom and self-expression, embarking on a mission to improve humanity through not only fashion, but also community outreach, activism, and education."

The genderless collection consists of four scents: Humanity, Transcend, Intention and Balance. The Balance scent offers notes of bergamot, crisp apple, water lotus, lavender, freesia, rosewood, patchouli leaf, cedar and musk.



D by Diesel was created to reflect the way that Gen Z youths have embraced fluidity and freedom.

> "As importantly it is all about how the fragrance is balanced/created, the connection, and the emotions it provokes in the users."

While the headlines continue to see an uptick in genderless fragrance launches, the industry is also seeing a shift in fragrance marketing and consumer purchasing habits. *P&F*+ connected with a Euromonitor consultant to break down the recent trends and patterns, flip to **page 36** to find out more.

p&f+

[a] *https://www.researchandmarkets.com/reports/5354163/unisex-fragrances-market-in-the-united-states-of*

[b] *https://blog.trendalytics.co/just-the-data-perfume-ingredients*



THE FUTURE OF SUSTAINABLE FRAGRANCE FORMULATION

An industry expert weighs in on how the industry can best adapt to sustainability initiatives and consumer demands.

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In October 2022, The Fashion Group International awarded Firmenich with the Sustainability Award during its 38th Annual Night of Stars gala and awards ceremony. Firmenich's global president, Perfumery, Ilaria Resta accepted the award, presented by Deepak Chopra. *Perfumer & Flavorist+* (*P&F+*) connected with Resta to discuss how sustainability initiatives affect fragrance formulation and current trends.

***P&F+*: From your perspective, how will sustainability initiatives affect fragrance formulation?**

Ilaria Resta [IR]: Consumers are looking to brands to help educate them on the complexities of products so that their purchases have a smaller impact on the environment. This rising awareness calls for brands to adopt sustainable and ethical models that are grounded in environmental responsibility. To adapt to this need, there will be an even greater importance put on data, life cycle analysis, transparency on health, eco and social impact, and carbon emissions, when formulating fragrances.



Ilaria Resta

Because of this expanding consumer demand for more transparency from the beauty sector, a big focus has been put on the traceability of ingredients at each stage of the supply chain to ensure there is ample information on ingredients from farm to final product. To achieve this, we can further improve our responsible sourcing programs with biodiversity and ethical management via Regenerative Agriculture, Living Wage, Projects at Source, Empowerment and Traceability, plus Certifications.

***P&F+*: What are some of the current trends in fragrance? How are they shaping formulation?**

IR: Throughout our experience, a few trends we see at the apex of the industry are:

- **Accountability & Transparency:** As mentioned previously, consumers are imploring brands to not only formulate products with a stronger focus on sustainability, ensure each claim is backed by data and impact proof, but also educate consumers so they can make a clear and conscious choice when purchasing. At Firmenich, we have placed an extreme emphasis on our overall sustainability efforts.
- **Personalization:** We have found consumers are gravitating towards the idea of a "Scent Just for Me" to fully tap into their individuality. This idea of hyper-personalization is being kept top of mind as we utilize new technologies while formulating.
- **Physical/Digital Space:** A large-scale driver that is shifting the fragrance industry globally is rapidly accelerating technology. Increased digitalization has been on the rise, especially in the last two years, catapulting us into a "phygital" future—the combination of physical and digital spaces. As identified in the Future of Fragrance Report, the macro trend of programmable realities—innovations that will turn fragrance into digitally translatable entities—is on the horizon. Through sensorial products and experiences, our sense of smell will be a part of the digital world.

"This rising awareness calls for brands to adopt sustainable and ethical models that are grounded in environmental responsibility."

To continue our leadership within this competitive industry, we have partnered with the renowned trend agency LSN Future Laboratory to enhance our internal trend forecasting expertise, allowing us to further explore first-to-market insights. Within our Future of Fragrance Report, as mentioned above, we have found that the global drivers of anxiety rebellion, accelerating technologies, evolving demographics, etc. are determining the future of the industry. To maintain the tenets of our company's mission and Positive Perfumery strategy, the macro trends outlined in this report allow us to have an outlook on the future of digitalization, well-being, health and sustainability while formulating.

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- FEMA 3158 2-FURANMETHANETHIOL FORMATE
- FEMA 3199 5-METHYL-2-PHENYL-2-HEXENAL
- FEMA 3236 MENTHOFURAN
- FEMA 3256 BENZOTHIAZOLE
- FEMA 3266 4,5-DIHYDRO-3(2H)THIOPHENONE
- FEMA 3305 3-METHYL-1,2-CYCLOHEXADIONE
- FEMA 3306 NUTTY PYRAZINE
- FEMA 3337 DIFURFURYL ETHER
- FEMA 3346 FURFURYL PROPIONATE
- FEMA 3366 2-METHYL-5-(METHYLTHIO)FURAN
- FEMA 3436 THYMYL METHYL ETHER
- FEMA 3555 2-ISOPROPYL-4-METHYL THIAZOLE
- FEMA 3680 2-ETHYL-4-METHYL THIAZOLE
- FEMA 3949 2-METHYL-3-(METHYLTHIO)FURAN
- FEMA 4179 2-METHYL FURAN
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