



The Balchem Beat

2024 – Evolving
Trends in Health
and Nutrition

VitaCholine® New
Production Site

K2VITAL®
TruQuality

Spray Dried Lipid
Powders

Better-For-You
Snacking

Balchem Nutrition
Science Visits the
White House

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Clinical Study

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Editor's Note:

Happy New Year! First, we are proud and excited to announce that Balchem has been named one of America's Most Responsible Companies by Newsweek and Statista Inc. for the fourth consecutive year.

As we step into 2024, we're thrilled to present the January edition of Balchem Beat, a curated collection that explores the evolving trends shaping health and nutrition this year.

We delve into Balchem's innovative solutions, from Protein Z-Crisps® transforming indulgence into nourishment, to VitalBlend™ leading the way in plant-based evolution. Our commitment to transparency and quality shines through the TruQuality program, addressing concerns in the dietary supplements market.

We're proud to announce a significant expansion in the production capacity of VitaCholine®, reinforcing our dedication to meeting the increasing global demand for this essential nutrient. The success of this expansion is a testament to our commitment to providing top-tier quality in choline salts.

Balchem's active involvement in nutrition science is exemplified by our participation at the White House Advancing Nutrition Summit, advocating for harmonized nutrient intake recommendations and supporting nutrition surveillance efforts.

As we explore these trends and initiatives, we invite you to engage with us. Let's continue shaping a healthier future together. Visit Balchem Human Nutrition and Health for more details.

Wishing you a year filled with health, innovation, and enriching discoveries.

The Balchem Beat Editorial Team



TOP 2024 Evolving Trends in Health and Nutrition

As we embark on the journey through 2024, the Human Nutrition & Health team at Balchem Corporation is excited to unveil a roadmap for the year ahead, spotlighting health and nutrition trends that are evolving to reach new heights.



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Drawing from our commitment to innovation and scientific excellence, we present five key trends that will shape the landscape of wellness in the coming year. From prioritizing proactive health to embracing plant-based offerings, we invite you to explore the transformative power of these trends and the potential they hold for steering us toward a healthier future.

1. Prioritizing Self-Care

In 2024, a significant shift towards prioritizing self-care is observed with Americans prioritizing health and wellness in some way⁽¹⁾. Anxiety or stress and lack of energy are a prevalent issue and the highest reason for overall supplement usage in the US⁽²⁾. This may not be seen as surprising, given the post-pandemic world. This level of engagement is consistent across generations and consumers are proactively taking self-care actions to support their overall wellness, especially with daily stress, joint pain and heart health⁽²⁾.

Our minerals can help – including our of Albion® Minerals portfolio and one of the latest additions to our product family, OptiMSM®. Our selection of minerals includes chelated forms of iron, magnesium, zinc, calcium, and more. Chelated minerals have demonstrated improvements over conventional inorganic minerals, such as improved bioavailability⁽³⁾.

For heart health, magnesium is an essential mineral since it is important for many processes in the body, including



K2VITAL DELTA



VitalBlend™
Plant-based

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making protein, bone, and DNA, aiding in the regulation of muscle and nerve function, and supporting healthy blood pressure⁽⁴⁾. Vitamin K2 (MK-7) activates a protein that deposits calcium into the bone⁽⁵⁾ and supports arterial elasticity⁽⁶⁾. Additionally, for joint health, OptiMSM acts as a source of sulfur, plays a role in maintaining the health of our joints by serving as a key component of joint tissue to help support mobility and protect healthy cartilage⁽⁷⁾.

2. Ingredients: Spotlight

In today's wellness-driven era, consumers are more ingredient-conscious than ever. One in three global consumers consistently examines product labels, with an emphasis on the importance of "protein" in their choices⁽⁸⁾.

Balchem's Protein Z-Crisps® takes center stage, providing a perfect fusion of high-quality protein, crunch, and texture. These protein crisps don't just complement your candy bars, they transform them into a wholesome indulgence. Picture the classic elements of gooey caramel, crunchy fillings, nougat, or nuts paired with a powerful protein punch⁽⁹⁾.

At Balchem, our dedication to delivering high-quality ingredients shines through in Albion® Minerals. Carefully chelated for optimal tolerability, these minerals provide consumers with a bioavailable⁽¹⁰⁾ and digestive-friendly experience⁽¹¹⁾. Greater bioavailability ensures a higher dose, potentially reducing cost-in-use compared to other forms.

K2VITAL®, our non-GMO 99.7% all-trans K2 MK-7, mirrors the K2 molecule found in nature, fully bioactive to support your health. Our K2VITAL® DELTA is the world's only microencapsulated vitamin K2 for mineral formulations, unlocking

the full potential of innovative and synergistic heart and bone health solutions for all ages.

3. Plant-Based Pleasures

In response to the escalating demand for plant-based alternatives, the key to success lies in skillfully transforming familiar dishes and formats. This strategic culinary evolution offers consumers a reassuring blend of familiarity, clear choices, and the promise of recognizable flavors, making the transition to plant-based options all the more enticing. Mastering formats that echo traditional favorites is instrumental in captivating an audience eager to embark on a flavorful journey through the expansive world of plant-based alternatives⁽⁸⁾.

VitalBlend™ by Balchem is at the forefront of this innovation, offering a line of lipid-based powders designed to effortlessly integrate plant-based proteins. Featuring a customizable array that includes peas, chickpeas, and soy, each protein imparts distinct characteristics, subtly influencing the nutritional profile, mouthfeel, color, and flavor of the final products. As consumers seek the comfort of recognizable tastes and textures, VitalBlend™ becomes a powerful tool for innovators, providing a flexible way to adapt traditional dishes like beverages and bar mixes into plant-based delicious familiarity.

4. Balance and Well-being

Consumers today are looking beyond traditional supplements to support their wellness goals, actively seeking health benefits within indulgent formats. The desire has fueled a remarkable growth in selected indulgent categories* actively promoting health claims over the past 5 years. This trend signifies a significant evolution in preferences, where individuals no longer view indulgent moments as incompatible with their health-conscious aspirations^(8,12).



Balchem's flavor system technology is a key player for meeting the demand for satisfying and healthy indulgences. Through TrenDish™, our innovative approach allows for the creation of the perfect custom ice cream, while our variegates add a sensory experience that tantalizes the taste buds and provides delightful texture – a unique treat for consumers. Picture crafting something truly satisfying and indulgent with flavors like lemon poppy muffin, hibiscus berry, cinnamon toast, or cereal milk⁽¹³⁾. This intersection of pleasure and well-being opens a world of possibilities for creating delectable treats that align with consumers' evolving expectations.



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several measures as part of a simple 'aim and click' targeting task⁽¹⁶⁾. With 90% of adults not getting adequate choline in their diet, choline salts are an excellent option to fill dietary gaps as they have among the highest choline contents by weight⁽¹⁷⁾.

Another sought-after ingredient in beverages is magnesium. Vital for energy management, magnesium supports the brain's high energy demands which accounts for 20% of the body's energy use, despite being only 2% of the total body weight⁽¹⁸⁾. Magnesium also serves as a regulator of neurotransmitter function, supporting cognitive health⁽¹⁹⁾.

Lastly, Creatine MagnaPower®, a unique blend seamlessly combining creatine and magnesium, offers athletes a distinctive nutritional advantage. According to the National Institutes of Health (NIH), creatine monohydrate is one of the most thoroughly studied and widely used dietary supplements⁽²⁰⁾ to enhance exercise and sports performance. Creatine is believed to be the most effective supplement available for enhancing capacity for high-intensity exercise and lean body mass during exercise⁽²¹⁾.

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Let us know how we can help you!

Engage with us to discover how our resources can enable your differentiation in the market.



Contact us today to learn more

5. Quenching the Future

In the face of escalating climate change⁽¹⁴⁾, the crucial link between hydration and sustainability takes the spotlight. The urge in nutritional drinks,, specifically emphasizing hydration-related claims over the last three years, signifies a growing consumer awareness of the pivotal connection between proper hydration and overall well-being^(8,12). Balchem is well-prepared to meet this rising demand with a range of essential ingredients perfectly suited for incorporation into ready-to-drink beverages.

Choline is an essential nutrient that supports brain health and cognitive function⁽¹⁵⁾ and is increasingly in high demand in foods, supplements, and beverages. Choline bitartrate, one of the choline salts used in our VitaCholine® brand of choline, has been shown to improve reaction times and accuracy within two hours of consumption. In the study, published in Nature Scientific Reports, young healthy adults were given 800mg (about the weight of a small paper clip) of choline or a placebo. The researchers found that the choline group experienced a rapid cholinergic response and then performed significantly better than the control group on

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*Selected indulgent categories: all desserts & ice cream subcategories, bakery: bread & bread products, cakes – pastries & sweet goods, sweet biscuits & cookies, confectionery: chocolate bars, chocolate blocks, chocolate pieces – wrapped, chocolate pieces – unwrapped, other chocolate confectionery, soft drinks: juices & nectars.

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VitaCholine® Production Expansion

Balchem announces expansion of VitaCholine® production capacity to satisfy growing global demand



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Balchem is pleased to announce an expansion in production capacity in the US for VitaCholine®, Balchem's brand of human choline. The upgrade will increase output by 50% and will allow the company to better meet the rising demand for this essential nutrient, well known in the supplement industry in relation to cognitive health and performance.

the term have steadily trended upward, reaching +55% compared to 2020. This surge in interest is driven by consumers becoming increasingly aware of the numerous health benefits delivered by this ingredient, including supporting cognitive health. The latter is also the fastest growing category, registering +7.2% in 2022, against +1.9% of the overall industry.⁽¹⁾ This trend touches every generation, with people being on the lookout for supplements that not only preserve memory and brain function, but also enhance them. Taking a closer look at choline, clinical studies have shown that this ingredient can play a critical role throughout all stages of life. In pregnancy and early childhood development, for example, higher prenatal choline intakes have been shown to improve cognitive processing speeds, increase attention levels, and enhance DHA uptake.^(2,3) Research has also reported that the benefits of choline may extend beyond early childhood, being applicable to adults as well, improving their cognitive performance.⁽⁴⁾

Frédéric Boned, Senior VP & General Manager, Human Nutrition & Health at Balchem, shared his excitement about this new achievement:

We're enthusiastic about the successful expansion of our VitaCholine® manufacturing capacity. This milestone demonstrates our commitment to providing an expanded supply of quality human choline to help our partners' global growth in early childhood nutrition, dietary supplements, and food & beverage applications. Boasting numerous quality certifications, VitaCholine® is the gold standard in choline salts and provides the highest levels of choline of any product form – effectively helping with the dosage challenges associated with most supplement formulations.

Expanding production capacity

The capacity expansion was completed in August 2023 and is expected to be fully operational by the end of the year. Reflecting Balchem's ongoing dedication to innovation, excellence, and customer service, as well as its established leadership in the production of choline, the main highlights of the project include:

- **Increased production capacity:** Choline production capacity has increased by approximately 50% thanks to the extension of the facility by almost 2,230 sqm, to accommodate state-of-the-art machinery and equipment.

Fulfilling consumer demand

In recent years, choline's popularity has been on the rise among consumers, with Google Trends data demonstrating that searches for



Speaking further on this important expansion, Mr. Boned also said:

We are actively expanding our global footprint so we can support customers by providing quality ingredients in all markets. This expansion bolsters our U.S. supply chain and, when combined with our Italian VitaCholine® site and the Norwegian K2VITAL® site, positions us well for future growth. Our international presence, combined with the synergies among our integrated branded ingredients, enables us to offer formulators a scientific advantage in strategic health areas, unlocking new opportunities.



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- **Enhanced Technology and Quality:** The investment included a significant upgrade in technology, such as new heating, ventilation and air conditioning systems, alongside packaging automation to ensure better environmental conditions. The new installations will also result in improved air quality and process consistency to optimize the regulation of heat and humidity, for higher-quality solutions.
- **Environmental and Sustainability Commitment:** As part of its sustainability goals and commitment to the United Nations Global Compact, the company has implemented energy-efficient systems and initiatives to reduce water and waste.
- **Safety:** By eliminating manual handling and switching to automated packaging processes, the newly expanded facility boasts enhanced safety in the work environment.

For more information about Balchem and its brand VitaCholine®, click here



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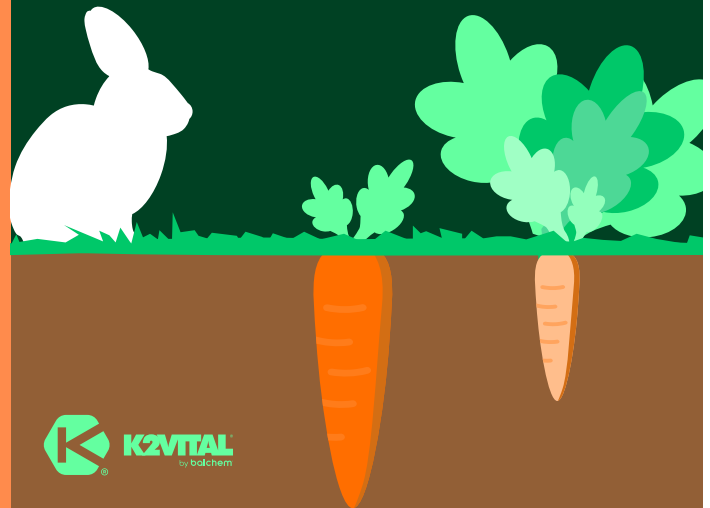
TruQuality

Revealing the Truth: Gaps in Dietary Supplements
Explore the truth with us as we shed light on the state of quality in dietary supplements. With K2VITAL®, we're leading a TruQuality revolution, dedicated to transparency and excellence in the Vitamin K2 market.

Key Insights: After rigorous testing of over 38 products, our groundbreaking report reveals a concerning trend – many supplements fail to meet label claims. Our collaboration with a third-party lab exposed revealing results – only 29% of tested products meet both K2 MK-7 content and isomeric purity standards.

What's Below the Surface: From regulatory gaps to inconsistent quality control, the dietary supplements industry grapples with challenges. It's time to demystify misrepresentations and pave the way for a healthier future. It's time to embrace transparency and accountability in the industry!

Take a better look.
Science always reveals the truth.



Check out our TruQuality program for transparency and accountability in our industry and download our brochure to learn more about it.





Balchem's Versatile Spray Dried Lipid Powders

Elevating Culinary Creations

WITH CREAMINESS AND FLAVOR ENHANCEMENT


Our lipid-based powders enhance soups, sauces, gravies, and ready meals, providing stability, texture, and flavor enhancement. Choose from non-dairy or dairy-based options for creaminess and improved mouthfeel. We offer a variety of formulations with different fat levels and functionalities to meet specific application needs.

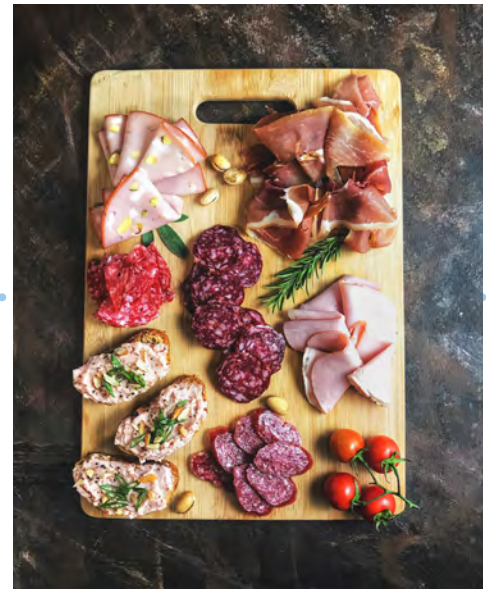
Some of the benefits of these spray dried lipid powders include:

- Substituting for milk, butter, and cream, and cheese
- Maintaining emulsion stability in high heat
- Boosting thickness and smoothness, and providing a rich, creamy mouthfeel
- Preventing oiling off, enhancing flavor, and imparting an appealing opaque, glossy sheen to the finished product

Some products that we have used in sauces and other savory applications include:

A Perfect Cheese Sauce with Centennial™ 6802 (178655), Quali Cream™ 7211 (1017211) plus Centennial™ 6802 (178655) or Jerzee™ 31-Palm NT (170706-MB) for any savory application where a clean dairy flavor is needed!

Whether for the perfect cheese-free cheese sauce, vegan mac & cheese (use VitalBlend™ Pea Organic 5023) or any other vegan powder needs, Balchem's diverse spray dried lipid powder portfolio can help you achieve your culinary goals. 



Better-For-You Snacking in the New Year

As the new year gets underway, many people will evaluate their well-being and food choices. Through it all, consumers will still focus on "better-for-you" snacking. What better way to increase protein intake than through meat snack sticks? Our MeatShure® encapsulate technology allows for amazing flavor development without the need for added sugars like dextrose. Through unique combinations, you can create the acidic flavor profile characteristic of fermented meat. Create new visions for the year with encapsulates by Balchem.

MeatShure®

Balchem Nutrition Science Visits the White House

Balchem Nutrition Science team member Eric Ciappio was among a group of nutrition scientists from across academia, industry, and government invited to participate in the Advancing Nutrition Science workshop held at the White House in Washington, D.C., in November 2023.

Led by the Nutrition Working Group, this event convened relevant government agencies / departments and key stakeholders from the private and academic sectors to identify scientific opportunities, gaps, and priorities to continue to advance nutrition science, with a particular emphasis on ensuring equitable access to the benefits of research. This event specifically provided an opportunity for PCAST Working Group members and stakeholders to discuss strategies and recommendations that PCAST could make to the President. This is part of the effort to create actionable policies coming out of the [National Strategy on Hunger, Nutrition and Health](#) published by the Biden-Harris Administration in September 2022.




Eric Ciappio, participated in the Advancing Nutrition Science workshop at the White House.



From Left to Right: Michael Meirovitz, Sr Director Government Affairs, Council for Responsible Nutrition; Andrea Wong, PhD, SVP Scientific & Regulatory Affairs, Council for Responsible Nutrition, and Eric Ciappio, PhD, Balchem RD Strategic Development Manager

During a panel discussion, Eric advocated for 1) the need to support nutrition surveillance efforts (e.g., NHANES) for the U.S. population, particularly among pregnant/lactating women (>90% of whom do not get enough choline in their diets); 2) the need to harmonize nutrient intake recommendations across government agencies, as evidenced by the challenges the lack of harmonization creates in prenatal dietary supplement formulations; and 3) the opportunity that the FDA has to help guide food/supplement formulations through updates to qualified/authorized health claims and to structure/function claim regulations to help improve dietary intakes of key nutrients missing in the American diet

(e.g., choline, iron). Other attendees advocated for the importance of recognizing the role that dietary supplements and fortified foods play in helping Americans to meet their nutrient needs, and the hope is that policies developed coming out of this meeting will reflect the value of these products in supporting public health.

Additional information about the meeting can be found here: 

Interested in learning more about how you can work with Balchem to support our nutrition advocacy work? [Contact us today!](#)





New Clinical Study Reports OptiMSM® as Having Strong Potential to Relieve Joint Discomfort in Health Adults



OptiMSM®

Results of a new clinical study⁽¹⁾ conducted in Japan revealed that OptiMSM® have shown improvement in overall joint health and comfort relative to placebo, even when used at a low dose of 2 grams per day.



The study, "Methylsulfonylmethane (MSM) Improves Knee Quality of Life in Participants with Mild Knee Pain" was a randomized, double-blind, placebo-controlled trial that set out to evaluate the effects of oral consumption of MSM in relieving mild knee joint pain. Published in the scientific journal *Nutrients*, the study evaluated 88 healthy adults who were experiencing mild pain in the knee joint(s) and consumed 2g of OptiMSM® or a placebo daily for 12 weeks.

The participants were evaluated at 4, 8, and 12 weeks for pain and stiffness in the knees during daily life activities. The assessment included reports of pain when walking, when ascending or descending stairs, any variance in range of motion, and fluid build-up in the joints. At the end of the 12 weeks, evaluations measured through the JKOM scoring system⁽²⁾ showed significant reductions in morning pain, nocturnal pain, pain while standing, and overall health condition in the MSM group compared to the placebo group. Nocturnal pain and pain while standing were also reduced after 8 weeks of MSM consumption.



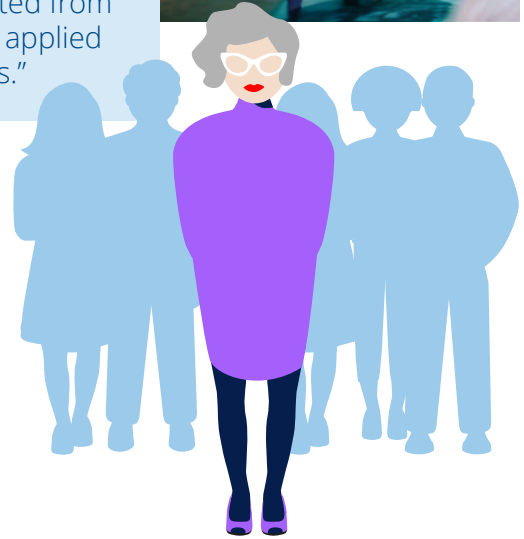
OptiMSM® is a source of sulfur, a key component of the building blocks of joints and connective tissue, which rely on it for proper structure and function. Several pre-clinical and clinical studies have shown OptiMSM®'s potential to support joint health and its ability to aid in the production of the crucial antioxidant glutathione,⁽³⁾ helping to manage oxidative stress and building healthy joints and repairing them post-exercise and activity. Supplementation with OptiMSM® has also been previously linked to relieved joint pain and reflected the improvement of several indicators of joint conditions, in clinical studies with patients diagnosed with osteoarthritis.^(4, 5, 6, 7)



“We are particularly excited about this study as it was the first one carried out on healthy adults, and to highlight OptiMSM®'s potential to be effective at just two grams per day,” notes Eric Ciappio, PhD, RD, Strategic Development Manager and nutrition scientist for Balchem Human Nutrition & Health. “We are fully committed to leading the way with industry-leading clinical studies, and this trial provides us with the confirmation that all the benefits reported from clinical and pre-clinical studies on patients with osteoarthritis can be applied to healthy adults, changing the landscape of joint health formulations.”

“Joint health is a priority for people across multiple generations” says Lauren Eisen, Strategic Marketing & BD Manager “who are proactively seeking ways to ensure a good quality of life as they age. In addition, according to the World Health Organization by the end of the decade one in six people worldwide will be over 60⁽⁸⁾, which presents the opportunity to prioritize staying active. High-quality, innovative ingredients like OptiMSM® will play a pivotal role in joint health segment growth.”

1 in 6 people over 60
 WORLDWIDE WILL BE
 BY THE END OF THE DECADE ⁽⁸⁾



OptiMSM® has set the standard for purity, safety, and consistency in nutritional dietary supplement applications of MSM. Produced through a proprietary multi-stage distillation process, OptiMSM® is the purest and only GRAS-designated MSM to receive a no objection notice from the FDA. (methylsulfonylmethane).

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Pay Attention to Generation Alpha

- **Born between 2010 and 2025, the up-and-coming cohort, this new generation of consumers now known as Generation Alpha, will outnumber Baby Boomers by 2025** and already has unprecedented influence on family purchase decisions. Generation Alpha speaks their minds!
- This is the first generation growing up entirely in the digital age so that they have faith in technology, but this also has negative connotations for their mental health.
- Generation Alpha will expect easily accessible and highly personalized health and wellness solutions in return for allowing the tracking of personal data.

Source: NBJ, December 2023 Issue

Functional Formulations are Growing in the Adult Nonalcoholic Beverage Market



- **The adult nonalcoholic beverage market is expanding.**
- Drinks with functional ingredients for mood are emerging as an important subcategory.
- To sustain growth beyond novelty status, the products need to look, taste, and feel adult while delivering a mood experience.

Flavor innovations will continue to elevate consumers' product experience with food and beverage products



- Floral flavors in food and drink are re-emerging!
- The appeal of botanical flavors is driven by the appeal of natural ingredients.
- Floral flavors, mostly used in teas and other beverages in the past, have now begun to be used in new spaces such as yogurts and milk drinks.
- The appeal of more exotic and distinct taste profiles, textures and aromas, and the positive perception of mood-enhancement qualities is growing interest in floral flavors.

Source: Mintel Food & Drink Flavor Trends 2024 (January 3, 2024)



Events

SEE YOU
THERE

★ **IDFA Dairy Forum**
1/21-24/2024
Phoenix, AZ

★ **Florida IFT Supplier
Expo 1/25/2024**
Orlando, Florida

★ **ISM Jan 28-31, 2024**
Cologne Germany

★ Schedule a meeting with
us, here: 