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Issue 17 December 2023



balchem[®]
HUMAN NUTRITION & HEALTH

Editor's Note:

Dear Balchem Community,

As we approach the festive season, it brings us joy to present a glimpse into our December edition, showcasing the essence of innovation and wellness within our community.

In the realm of nutrition research, the recent "Future Directions in Choline" Symposium at the University of North Carolina Nutrition Research Institute, supported by Balchem, was a remarkable exploration into choline's pivotal role. Experts convened to dissect 25 years of progress, with highlights including Cornell University's groundbreaking study on VitaCholine's impact on cognitive function in children.

National Zinc Day unraveled the hidden gem of zinc, crucial for immune health and beauty. Our exploration extends to Balchem's Zinc Max, a potent zinc bisglycinate chelate, offering versatility in formulations.

Cozy up this winter with Injoy™ Flavor Systems, enhancing the sensory experience of beverages. Our oat bran-based powders, such as VitalBlend™ Oat 5003 NG, promise a delightful vanilla oat flavor profile.

In the realm of certifications, Kappa Solutions, part of Kappa Bioscience, proudly achieved ISO 17025 certification, reflecting our commitment to delivering top-notch services.

Celebrations continue with the InterVitaminK trial reaching a significant milestone in just 1 year and 5 months. This trial, exploring vitamin K2's impact on cardiovascular, metabolic, and bone health, exemplifies dedication and achievement.

Market trends provide intriguing insights, from the impact of label claims on VMS product choices to the rise of nootropic products for video game athletes. India emerges as a dynamic VMS market, fueled by a growing middle class and innovative supply chains.

As we bid farewell to 2023, Balchem remains dedicated to driving innovation and fostering wellness within our community. Wishing you all a joyous holiday season and a prosperous New Year!

Warm regards,
The Balchem Beat Editorial Team

University of North Carolina
Nutrition Research Institute

Future Directions in Choline Symposium

First established as an essential nutrient in 1998, choline has critical roles in the health and development of the brain, liver, and more. The past 25 years have seen significant advances in science – but where can we go from here? This was the focus of “Future Directions in Choline”, a symposium that gathered the leading experts in the field of choline nutrition to discuss the progress achieved in the 25 years since the 1998 IOM report, and to discuss where the next 25 years of choline research should lead us.

Balchem and the North Carolina Biotechnology Center provided funding support for the University of North Carolina Nutrition Research Institute (UNC NRI) to host “Future Directions in Choline”, held November 5 – November 7, 2023, in Kannapolis, NC. With 16 leading experts in the field and nearly 80 attendees, the agenda covered a variety of different topics related to choline and health. The event kicked off with an introductory session on the history of choline research led by pioneer in the field Steven Zeisel, MD, PhD, who shared his perspective on the research that led to the Institute of Medicine’s recognition of choline as an essential nutrient.



Image above: “Future Directions in Choline” Symposium in session.

Image on the left: City Hall in Kannapolis NC, site of Future Directions in Choline.



Speakers from left to right: Richard Canfield, PhD (Cornell University), Isis Trujillo-Gonzalez, PhD (UNC Nutrition Research Institute), Jonathan Bortz, MD (Balchem Corporation).

The first full day of the symposium was dedicated to the relationship between choline and prenatal development and early life nutrition. Topics ranged from newly uncovered mechanistic insights showcasing how choline supports brain development, to the results of human studies examining the relationship between maternal choline intake and childhood neurocognition and brain and spinal cord development. We heard from scientists who examined the ability of maternal choline intake to modulate the impacts of factors such as genetics and environmental exposures on fetal and childhood development. Plus, we learned about the results

of recent landmark clinical trials in prenatal nutrition. Incredible work from Cornell University showed that maternal VitaCholine supplementation improved cognitive function in children as early as the 1st year of life, with cognitive benefit effect lasting up to age 7. In addition, we saw amazing data showing that maternal supplementation of VitaCholine + DHA increased maternal DHA blood concentrations 67% more than supplementing with DHA alone. We also saw new insights into the role of choline in food aid to help address malnutrition in children across the globe, demonstrating the emerging importance of this nutrient for global public health.

During the 2nd full day, speakers explored the relationship between choline and health benefits for adults – specifically, liver, brain, and metabolic health. Highlights included Balchem Postdoctoral Fellow Evan Paules sharing data, including some of his work giving new insights into the function that choline plays in liver function at the molecular level, and some cutting edge preclinical data on the role of choline in brain health as we age. We concluded with a group discussion to help outline future directions and needs for the field, all in hopes of finding ways to help increase public awareness of this essential nutrient through evidence-based benefits.

There was such incredible data and fantastic discussion that highlighted the amazing progress made in the field of choline nutrition in the past 25 years, and we are excited to see where the next 25 years will take us!

Did you miss the event? Don't worry! We'll have interviews and share insights on Balchem's Real Science Exchange podcast coming soon, and a conference proceeding will be published in 2024.

 **Do you want to learn more about choline and 2024 is just too far away? Reach out today and we'll be happy to help!**



From Left to Right: Tom Druke (Director of Marketing, VitaCholine) and Scott Sorrell (Director of Marketing, Balchem Animal Nutrition & Health) record interviews with leading key opinion leaders Susan Smith, PhD (Deputy Director, UNC NRI) and Stephen Hursting, PhD (Director, UNC NRI) for Balchem's Real Science Exchange Podcast.



National Zinc Day

Zinc: Do Something Good for Your Health and Beauty

One in five



Americans
don't get enough zinc
in their diets.⁽³⁾

In today's fast-paced world, where stress and environmental factors continually challenge our well-being, it's essential to nurture both our inner beauty and our immunity. What you might not be aware of is that there's a hidden gem that can help you achieve both: zinc. Zinc has a handful of benefits that are good for your health and beauty.

The Role of Zinc in the Body

Zinc is an essential mineral that the body cannot produce on its own, so it must be obtained through diet. It's a vital nutrient that provides support for a healthy immune system, and it also plays a role in the synthesis and function of proteins like keratin and collagen, which provide structure to hair, skin, and nails⁽¹⁾. Furthermore, by supporting antioxidant function,

hormone production, and hormone regulation, zinc can help support wound healing and healthy skin – all essential for a glowing, healthy appearance⁽²⁾.

Despite its significance, 1 in 5 Americans don't get enough zinc in their diets⁽³⁾, and globally more than 1.4 billion have a lower zinc intake than the recommended dietary amount.⁽⁴⁾

How to Make Sure You're Getting Enough Zinc

Nutrition is a crucial factor affecting the overall health and appearance of the skin. As our largest organ, the skin is often one of the first to show signs of poor nutrition. Science has proven that nutritional deficiencies and lifestyle-related health issues result in visible changes to the skin, hair, and nails.⁽⁵⁾

While zinc is found in many foods, many people may not get enough zinc in their diets. The



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Here are a few tips for ensuring you're getting enough zinc in your diet:



- **Eat zinc-rich foods:** Oysters, beef, and pumpkin seeds are all [good sources of zinc](#). Other foods that are high in zinc include shellfish, chicken, beans, and nuts.⁽⁶⁾



- **Be mindful of zinc absorption inhibitors:** Some foods, [such as phytates](#) in whole grains and legumes, can inhibit the absorption of this essential nutrient⁽¹⁾.



- **Consider a zinc supplement:** If you're not getting enough zinc in your diet, a supplement may be recommended by your healthcare provider.

[Recommended Daily Allowance](#) (RDA) of zinc for adults is 8-11 milligrams per day, depending on gender, age, and pregnancy/lactation status⁽¹⁾.

Where Does Balchem Fit in?

Not all mineral supplements are created equal, and this is where Balchem steps in to make a significant difference. In our Albion® Minerals portfolio, we employ cutting-edge science and patented technology to create unique organic mineral forms known as amino acid chelates, mirroring nature's design. Our chelated zinc form – the zinc bisglycinate chelate – has been shown in clinical testing to be [up to 50% better absorbed than conventional zinc salts such as zinc gluconate](#)⁽⁷⁾.

Zinc Max is the newest zinc bisglycinate chelate innovation, and provides an impressive 27% elemental zinc. This is the highest concentration zinc product offered by Balchem, making it a powerful addition to your product formulation.

This product is a fantastic innovation for immunity product concepts, and it also plays a significant role in the trending beauty space, offering unique benefits such as superior absorption and multiple health benefits. Its flexibility in formulations, even within complex ones, demonstrates its adaptability to a wide range of product applications – from tablets, capsules, and soft gels, to trending formats such as gummies, powders, beverages, and more!

Balchem is your trusted partner, delivering the best nutritional benefits for consumers and enriching every product idea, whether focused on immunity, beauty, or a combination of both. Get in contact to learn more.



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Winter is Here



Cozy up by the fire and grab a mug of rich eggnog! Whether you prefer the nostalgic classic or spice things up with a unique twist like Holiday Spice, this sweet and creamy beverage is sure to please. Balchem creates products that enhance the taste, mouthfeel, and performance of popular beverages such as coffee, hot cocoas, teas, juices, smoothies, flavored milks, eggnogs, and more. We're always launching new and innovative beverage products along with seasonal Limited Time Offerings (LTO). Our Injoy™ Flavor Systems provide high-quality, flavors and top notes that are easily customizable. We can help you discover or tailor beverage solutions to stay on trend and make your brand even more memorable.



Oat bran-based powder Balchem's spray dried lipid powder portfolio



One example is our clean label, plant-based coffee creamer, **VitalBlend™ Oat 5003 NG**. Made with oat bran, it has a high fat content of 48-52% creating a smooth, sweet, and creamy vanilla oat flavor profile that's perfect for adding to your favorite coffee or tea. Plus, it creates a white froth that gives your beverage a delightful finish, as evidenced by the vanilla oat frother application. Choose our VitalBlend Oat 5003 NG for a delicious and sustainable coffee creamer option that's sure to impress.

We also have **VitalBlend™ Oat 5001 NG**, which is low carb and lactose free, providing digestive health benefits and plenty of prebiotic fiber. Also containing oat bran, the target fat content is 50% and the product provides an excellent source of protein, folate, and magnesium, all while working double duty to improve mouthfeel.

VitalBlend™ Oat 1703 NG is a blend of oat and chickpea protein, and has prenatal and maternal health as well as digestive health benefits. Also containing oat bran, the target fat content is 17%, the powder is high in fiber, and it provides an excellent source of protein, calcium, vitamins A & D, folate, magnesium, and iron.



ISO Certification Audit



We are thrilled to announce a significant milestone in our journey towards excellence

Kappa Solutions, a vital part of Kappa Bioscience, achieved ISO certification (ISO 17025 for testing and calibration laboratories) last year.

Obtaining and maintaining this prestigious certification requires an immense amount of dedication and hard work, and we're proud to share the results of our recent ISO audit, which took place over two days last week.

We are delighted to report that the audit went exceptionally well, with only 5 deviations found. This is an outstanding accomplishment for our first audit following certification, and it underscores our commitment to delivering the highest quality services to our valued clients.

The ISO certification holds immense significance not just for Kappa Solutions but for our entire Balchem family and, most importantly, our cherished clients. It solidifies our competence as an organization, ensuring that we meet the highest international standards in our industry.

A heartfelt thank you to our incredible ISO team. Your dedication, hard work, and exemplary teamwork have been instrumental in achieving this milestone. You can all take immense pride in this accomplishment, as it contributes to our continued success and reinforces our commitment to excellence.

At Kappa Bioscience, a Balchem company, we are dedicated to continuous improvement and delivering exceptional quality. Stay tuned for more exciting updates as we continue to raise the bar in the vitamin K2 world.

Interested in learning more?
[Click here!](#)



We are delighted to share with all of you the exciting news that our InterVitaminK trial has reached a significant milestone!

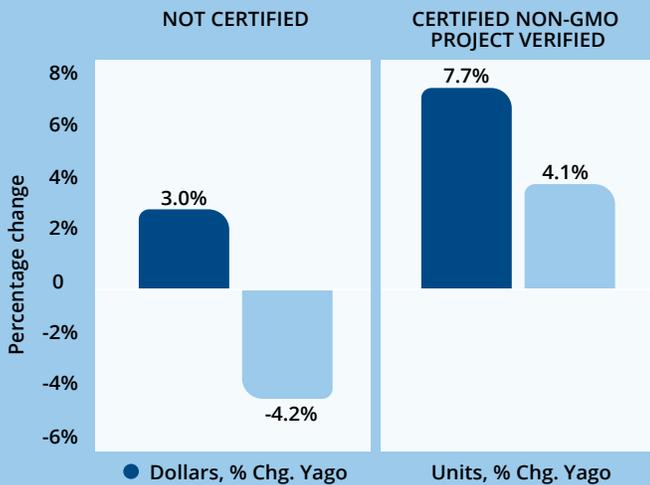
The trial, aiming to investigate the effects of vitamin K2 (menaquinone 7) supplementation on cardiovascular, metabolic, and bone health, has successfully met its target by finalizing the recruitment of 450 participants.

This achievement is truly remarkable as the InterVitaminK team accomplished it within an impressive time of just 1 year and 5 months, surpassing the initially scheduled 1 year and 6 months. Recruiting participants for clinical trials is no small feat, making this accomplishment a testament to the dedication and hard work of the fantastic InterVitaminK team. **Kudos to everyone involved in making this milestone possible!**

[For more detailed information about the InterVitaminK trial, click here!](#)



VMS products certified Non-GMO saw 7.7% increase in sales



Source: SPINS data 52 weeks end 07/16/23

Effective marketing is essential for educating consumers

- **Vitamins, minerals, and supplement (VMS) products are often optional in health routines.** Awareness and education about VMS typically come from informal sources, making marketing pivotal in building trust.
- A key takeaway is the impact of label claims and certifications. **For example, VMS products certified non-GMO experienced a 7.7% increase in year-over-year sales, while those without this certification only saw a 3% increase in dollar sales and a 4.2% decrease in units.** Similarly, products labeled "vegan" showed a significant 10.8% increase in dollar sales, highlighting the influence of certifications on consumer choices.



Events
SEE YOU THERE

- ★ **IDFA Dairy Forum**
1/21-24/2024
Pheonix, AZ
- ★ **Florida IFT Supplier Expo** 1/25/2024
Orlando, Florida
- ★ **ISM Jan 28-31, 2024**
Cologne Germany
- ★ Schedule a meeting with us, here: 

Supplements for video game athletes go beyond caffeine and into cognitive

- New products for gamers are going beyond quick hitters like taurine, guarana, and B vitamins and into nootropic products that purport to enhance mental focus, processing speed, reaction time and other cognitive functions to give gamers a competitive edge. Gamers can play not just better, but smarter according to new marketing claims.
- **Choline is a prime example of a product shown to support attention, focus, memory, and muscle control for gamers!**

Top brain health supplement ingredients by market share, 2022

 **22.9%**

Fish/Animal Oils

 **22.2%**

Other specialty

 **22%**

Others

 **11.6%**

Multivitamins

 **10%**

Combination herbs

 **7.2%**

Ginkgo biloba

 **4%**

Vitamin D

Source: NBJ, November 2023 Issue