



VITALINE

Ahead of your needs

A publication from Roche Vitamins Inc. to the Food Industry providing insights on new ingredients, consumer trends, and fortification guidelines.

May 2002

IFT UPDATE

What: 2002 IFT Food Expo
When: June 15-19, 2002
Where: Anaheim Convention Center, Anaheim, CA

Roche Vitamins will be highlighting its "Nutrient Blends" technology with the second generation "One Solution" products. Please stop by to see our capabilities in action at Booth #6114 or for more information go to <http://www.nutraaccess.com>.

We hope to see you there!

WHAT'S NEW

CAROTENOID KIT

Do you have a new concept food/beverage product you are working on? Formulation just got a little easier with the introduction of our new Carotenoid Sample Kit. Utilize this handy kit to produce the colors and added fortification benefits you need in products that appeal to your customers. Also, each kit comes with directions for producing stock solutions. Both oil and dry based kits are available and each includes product data sheets. Now there is no need to wait for samples to get started, just ask your Roche Vitamins sales representative for more information or contact Robert Bailey, Carotenoid Marketing Manager at 973-257-8185.



E-COMMERCE

In June at the IFT, we will launch nutraaccess.com, a new e-commerce website that will allow customers to place orders on-line, track shipments, quickly access product

information, pricing and build more efficiency into inventory management systems. More details will follow in the upcoming months but in the meantime contact your sales representative for more information or visit us at booth #6114. For further information on nutraaccess.com visit the site or contact Susan Oh at 973-257-8255

NEW INGREDIENTS

LYCOPENE ... NOW GRAS FOR FOOD

In 1999, we introduced lycopene for use in dietary supplements. We are pleased to announce that Roche Lycopene has now been affirmed GRAS (Generally Recognized as Safe) for selected food categories.

Lycopene is the antioxidant carotenoid that is the main pigment in tomatoes, watermelon, pink grapefruit, papaya and guava. Numerous epidemiological studies published in the scientific literature have associated dietary intakes and/or plasma levels of lycopene with a reduced risk of certain types of cancer, especially that of the prostate, lung and stomach, as well as reduced risk of cardiovascular disease.

Scientific research suggests that approximately 6.5 mg daily of lycopene may be beneficial in promoting prostate health. However, government data finds that as much as half the population at risk may have intakes under 3.6 mg. Roche Lycopene provides food manufacturers an exciting opportunity to fortify their products with this powerful antioxidant. Roche Lycopene, available in water-dispersible and oil-soluble forms, is bioavailable, stable, easy to process and will not affect the taste profile of foods and beverages.

Now, the Roche Lycopene GRAS status allows your company to add lycopene to a variety of foods for health-minded consumers.

If you have any questions or would like additional information, please don't hesitate to contact Karen Todd at 973-257-8239 or Diane Hnat at 973-257-8322.

LUTEIN AND ZEAXANTHIN: CAROTENOIDS FOR HEALTHY VISION

Healthy eyesight is one of the top health concerns of Americans, according to several surveys. As the American population ages, maintaining quality of life through the “golden years” is increasingly important, and eye health is certainly a quality of life issue. Lutein and zeaxanthin have attracted attention in recent years because some epidemiological studies have associated higher dietary intakes of these carotenoids (around 6 mg) with a reduced risk of chronic eye diseases, such as age-related macular degeneration (AMD) and cataracts.

AMD is the leading cause of acquired blindness in the US and leading cause of vision impairment around the world. Around 10 million Americans show signs of early AMD, and 1.7 million Americans have AMD. AMD is a condition where fine visual acuity is lost (reading, face recognition, etc.) as the macula breaks down, and AMD is not curable. Cataracts are the leading cause of vision impairment in the US and the leading cause of blindness around the world. Cataracts can only be treated by replacing the lens through surgery, and this is the number one surgical procedure supported by Medicare.

Lutein and zeaxanthin are the only two carotenoids found in the retina (specifically the macula) and to a lesser extent in the lens. Lutein and zeaxanthin have two potential functions in the eye: they absorb near UV-blue light, the highest-energy and most damaging wavelength of light that actually reaches the retina; and they act as antioxidants that protect against free radicals.

Primary sources of lutein and zeaxanthin are dark green leafy vegetables, as well as other colorful fruits and vegetables such as corn, brussel sprouts and peppers. The average aggregate dietary intake ratio of these carotenoids is approximately 5:1 lutein:zeaxanthin. Few Americans are following the food pyramid guidelines of 5-9 servings of fruits and vegetables daily, and consumption of these carotenoids is therefore far lower than the 6 mg level associated with eye health benefits. With growing consumer awareness of the eye health benefits of lutein and zeaxanthin and the existing dietary gap, it is an opportune time for food manufacturers to fortify products with these new carotenoids.

Roche offers Lutein 5% beadlets and Lutein 20% suspension in corn oil. Kemin Foods is providing Roche exclusively with raw material, patented under the name FloraGLO® Lutein. Only FloraGLO® Lutein is GRAS (Generally Recognized As Safe) by self-affirmation through a partnership between Roche Vitamins and Kemin Foods. Among the food and beverage applications under GRAS are ready-to-eat cereals and cereal bars, energy bars, fruit juices and fruit drinks, non-carbonated beverages, energy drinks, meal replacement drinks and soy-based beverages. Roche Lutein is easy to use and shows good stability in various food and beverage applications. Roche Lutein also does not affect the taste profile.

Roche also offers Zeaxanthin 5% beadlets with the same solid stability profile and ease of use as Roche Lutein 5% beadlets. Zeaxanthin is expected to be GRAS self-affirmed by an independent panel of experts later this year.

Consumers are actively seeking to add lutein and zeaxanthin to their daily regimen, and both ophthalmologists and optometrists are beginning to embrace the benefits of these carotenoids for eye health. Manufacturers can now add shelf appeal to their products by adding Roche Lutein to their labels. For more information concerning these ingredients, contact our Director of New Ingredients, Lynda Doyle at 973-257-8338.

FEATURE

NUTRIENT BLENDS

A lot has changed over the course of the last decade regarding nutrient additions to products in the food and beverage industries. Not only has there been an increase in the number and level of vitamins and minerals added to these products, but also an expansion to these product categories as well. This is evident in the growth experienced by the functional beverage, nutritional bar and fortified snack product categories. It is not just about nutrient additions of vitamin and minerals anymore. Many food and beverage companies have added such nutrients as amino acids, botanicals and herbal extracts along with the traditional vitamins and minerals to their products.

Along with the expansion of nutrient additions to food and beverage products, companies have looked to consolidate the number of suppliers they work with in order to reduce cost and complexity in their operations. In most cases they have sought out suppliers that provide a wider variety of products with more value-added services while maintaining high quality in a cost-effective, reliable manner. In addition, these companies have also looked for suppliers to pre-mix these nutrients, sometimes with other functional ingredients, into a blend that is easily added to their production process. These trends have resulted in the growth of the Nutrient Blends business.

Roche Vitamins Inc. has responded to the growth trend in this business with the formation of the Custom Products Unit (CPU). CPU is a process-oriented organization that is solely focused on providing liquid and dry blend products and related services. Aside from the core blending process of weigh, mix, pack, test and release, CPU concentrates on those activities that add value for our customers while providing not only a blend but a total product solution. CPU strives to accomplish this in a number of different ways.

First, Roche Technical Services Group works directly with our customers at the beginning of the product development cycle. Technical Services Group consults with our customers by understanding their product development or enhancement objectives, identifying the fortification need or rationale and providing formulation as well as application assistance. This would involve formulating a blend based on the specific

customer's specifications identifying the right nutrient market forms while taking into consideration taste, stability, shelf life and process application.

Next, CPU focuses on finding the best way to produce our blends utilizing the appropriate blending technology for the application. The objective is to process the blend in the simplest way possible so that our cycle time is short and the customer's needs can be met while still maintaining high quality standards. Recently, CPU has added technology that is ideal for blends that have numerous ingredients with varied particle sizes, which require a gentler blending in order to achieve uniform distribution across the mixture. In addition, CPU utilizes bar coding and scanners in the process to assure that the right material goes into the right piece of equipment at the right time.

To assure the quality and the blend specifications have been met, CPU has an in-house Quality Control department. The Quality Control group provides chemical, microbiological and physical testing services for all finished blends as well as the raw materials used in blends. The Quality Control group applies the same high quality standards to approving and testing raw materials purchased from third parties as they do to Roche products. The testing of finished blends for release is based on the customer's specifications and release criteria.

In order to meet the expectations of our customer, CPU has other value-added services that support the blends business in order to respond to our customers quickly. CPU has a Purchasing Agent dedicated to solely supporting the blends business. The CPU Purchasing Agent can work closely with our customer's purchasing contacts to source specific raw materials for use in their blends. Forthcoming in 2002 will be implementation of Roche's E-Commerce initiative. This will allow us to securely share and exchange information with our customers in a timely fashion to more proactively managing their business with us. This initiative will most certainly result in less hand-offs and reduce the cost of conducting business with our customers through more efficient management of raw materials and finished goods. To learn more, go to www.nutraaccess.com.



Roche Vitamins Inc. Custom Products Unit offers a unique advantage to customers. At the Belvidere, NJ location we produce bulk vitamins, finished forms and custom blends coupled with value added services making it the right choice for your Nutrient Blends source!

Please visit Booth #6114 at the upcoming IFT Expo in Anaheim, CA to see our Nutrient Blend capabilities at work in the second generation "One Solution" beverages.

TRENDS

INTRODUCING ...

The consumer has spoken and the results of our HealthFocus research shows that consumers want healthy choices but good taste still is the top priority. The problem ... fortification and good taste don't always go together. Roche through an alliance with TetraPack and Givaudan developed six beverages to assist in taking your functional foods into the mainstream. Utilizing custom research through HealthFocus these products were developed to deliver taste first and foremost with the added benefit of fortification and portable packaging to keep up with on the go lifestyles.



ReJuice!, a new light fruit punch enriched for wellness and vitality. ReJuice! is smooth, flavorful and invigorating. This delicious punch is made with pineapple, orange and grapefruit juices for a lightly sweet and refreshing taste. It contains the antioxidant vitamins C and E, together with B-vitamins, selenium and zinc for enhanced vitality, energy and immune function.

Moo-Mania, a new chocolate drink supplement with fun flavor and serious nutrition. Moo-Mania is a chocolate drink fortified with essential nutrients for children. New Moo-Mania has the yummy chocolaty good taste your children will love. And provides 100% of the daily requirements of thirteen essential vitamins and all the calcium of a glass of milk



Embrace, a refreshing new orange juice drink. Take it all in: great orange taste, fortified with three antioxidants. Each serving contains 100% of the vitamin E and Vitamin A (as beta-carotene), and 200% of the vitamin C your family needs every day for health and wellness.

Indulge, a delicious chocolate milk with rich taste that is guilt free. Indulge is a reduced-fat chocolate milk fortified for adult heart health and wellness. Plus, the important benefits of Omega-3 fortification for cardiovascular health. New Indulge reduced-fat chocolate milk satisfies you with an indulgently rich, velvety smooth chocolate flavor.



SqueezeFreez, a new beverage with cool taste and awesome ingredients. SqueezeFreez is an orange cream beverage fortified for children's wellness. SqueezeFreez is a good source of calcium, B-vitamins and the antioxidant vitamins A, C and E.

New Zappuccino promotes energy and alertness with B-vitamins, Vitamins C and E, and taurine (an amino acid). Plus, you get the great taste of your favorite frosty chilled frappuccino.



REGULATORY

LC-OMEGA-3 REGULATORY UPDATE

From the regulatory perspective, intense challenges to the FDA's October 2000 decision of a 'qualified' health claim is continuing. The claim was originally designated for supplements only.

- A task Force led by the Consumer Health Products Association and Roche which includes all fish/algal oil manufacturers, has submitted alternate wording to FDA and awaits response.
- The FDA responded to a suggestion from Pearson vs. Shalala plaintiffs and reworded the 'qualified' health claim to say: "Consumption of [LC-] omega-3 fatty acids may reduce the risk of coronary heart disease. The scientific evidence supporting this claim is strong but not conclusive."
- The National Academy of Sciences is considering recommending DRI's for macronutrients including omega-3 fatty acids. These are anticipated to be published by mid-year 2002. However a decision to implement would not be made until 2003 or later, however.
- Another industry committee (working group) formed by CRN and funded by fish and algal oil manufacturers is trying to establish nomenclature for differentiating long-chain [LC-] ingredients. The goal is to then use these names on products containing fish and algal oils, thus educating consumers that the EPA and DHA are the fatty acids that they should consume directly, rather than just eating sources of alpha-linolenic acid as the general omega-3.
- Further, the above CRN Technical Subcommittee has reviewed how to raise the industry's quality standards for fish and algal oils. Concerns about oxidation, impurities and reduced potency of various inexpensive brands of marine oils is fueling this discussion. Meeting the monograph standards would be voluntary.

Roche now has self-affirmed GRAS status in additional food categories for ROPUFA Food Oil (and Powder) which allows food marketers additional opportunities to fortify products.

- Ethyl ester forms of LC-omega-3 have been available for 10 years or so in the dietary supplement area. Roche introduced an ethyl ester EPA:DHA (40:20) April 2002.
- Ocean Nutrition Canada now has self-affirmed GRAS status for a 50% ethyl ester form of EPA:DHA (30:20) and food fortification may soon be seen in the market.

For more information regarding LC-Omega-3 please contact Marketing Manager Diane Hnat at 973-257-8322 or by e-mail at diane_louise.hnat@roche.com

CAROTENOIDS

Roche Carotenoids are colors, with wide applications in beverages, baked goods, candies, dairy products, processed vegetables, salad dressings, snacks, soups, sauces and many other food products. Roche Carotenoids offer:

- uniform and consistent color,
- stability in typical food processing conditions
- kosher certification
- safe and beneficial labeling with nutritional advantages.

Roche offers a variety of β -carotene market forms which provide versatility in a number of food applications. They also have the benefits of being safe colorants, antioxidants, and sources of vitamin A.

Have a new food or beverage concept you are working on? Roche Vitamins now has a carotenoid sample kit to utilize in your new product development or reformulation projects. The kit contains a complete assortment of water soluble or oil based colors. Also included in the kit are directions on making your own stock solutions, a full set of Product Data Sheets, Kosher status and Vitamin A conversion charts. Now getting your next project started is a snap!

Contact Marketing Manager Robert Bailey at 973-257-8185 for more information.

This information is based on data we believe to be reliable. It is intended only as a guide for use at your discretion.