

FOOD PROCESSING

FOOD & BEVERAGE • CONCEPT TO DELIVERY • PRESENT TO FUTURE

Trans fats, glutens still vex
p23

Health in a can (or bottle)
pWF-3

Plant upgrades on a budget
p36

Pest control planning
p41



Holy Grail of Sweeteners?

Stevia's had a good first year, but non-beverage products are slow in coming. p18

FEBRUARY 2010

Neuro Drinks “quench the modern consumer’s need for optimal living by providing nutritional, healthy benefits and Hollywood chic, in a sporty, sexy package.”



HEALTH IN A CAN (OR BOTTLE)

Consumers are guzzling antioxidants, fruits & vegetables and other good-for-you ingredients – but formulation hurdles remain. *By David Feder, RD, Technical Editor*

Building healthier beverages once was a matter of swapping sugar for cyclamates or saccharine and then developing a new marketing campaign. For decades the only thing that changed in that paradigm was the name of the substitute sweetener.

Then the idea of energy drinks hit with a jolt. Jolt Cola, that is. And the idea that a cold beverage could do more than slake thirst flung open the doors to using liquid refreshment as a vehicle to more energy or a “trimmer, slimmer, better you.”

On the heels of energy – first from ginseng and caffeine, then from such exotic botanicals as yerba maté and guarana – came concoctions with vitamins, minerals, antioxidants and other nutraceuticals.

Today’s healthy beverage is built with any of several different ingredient aspects in mind – sweeteners, vitamins/minerals, natural ingredients (i.e., naturally derived flavors and colors), antioxidants and other bioactive compounds – and more often than not a combination of several of these. The goals have expanded too, to target not just weight control and energy needs but any number of different conditions, including cognition, mental health, digestive health and even social and ecological health.

“We anticipate continued double-digit growth in most segments of the beverage industry with the greatest increases coming from cognitive, anti-stress, digestive health and the kids nutrition segments,” says Chris Noonan, health coordinator for NeuroBrands Beverages (www.drinkneuro.com), Santa Monica, Calif.

“More and more ingredients are being successfully adapted for beverages, providing consumers convenient ways of maintaining healthy lifestyles,” adds Noonan. “Consumers no longer have to sacrifice taste for nutrition, and the next decade will see even greater improvements in the sensory characteristics of healthy beverages as growers, suppliers and manufacturers all focus on the beverage category.”

Despite being primarily a maker of carbonated soft drinks, Christopher Reed thinks “the future of healthy is in probiotic drinks,” says the owner and CEO of Reed’s Inc. (www.reedsgingerbrew.com), Los Angeles. Reed’s was using a stevia extract even before the December 2008 FDA approval. “But I also see the fad of heavily caffeinated, so-called energy drinks eventually proven to be detrimental, replaced by more herbally rich drinks with (specific) flavors,” he continues. “And calming or rejuvenating beverages will take off, too.”

Reed also sees health-related growth for products and ingredients that target specific conditions, such as antioxidants that reduce risk of cancer, heart disease and “numerous other conditions,” citing the company’s own line of natural sodas, which contain powerful antioxidants derived from ginger.

“The hot categories for beverages – energy and antioxidant/tea drinks – will continue to be popular,” says Jocelyn Mathern, technical specialist-health unit for Frutarom North America (www.frutarom.com), North Bergen, N.J. “And we’ve also seen increased demand for ingredients that can promote ‘beauty from within,’ as this category is just starting to take off in beverages. Ingredients for cognitive function, such as mental fitness, concentration, and stress, have also been sought after for beverage applications.”

Frutarom offers nutraceuticals in combination with an extensive portfolio of flavors. An example of a non-antioxidant based “beauty” ingredient is Frutarom’s Collective, a marine collagen and elastin ingredient shown to reduce wrinkles, while the company’s Neuravena, wild green oat extract, has been shown in clinical studies to promote mental fitness and alertness while relieving stress via affecting brain activity patterns.

Fruit flavors

“Obesity concerns have led consumers to pursue alternative sweeteners with a perceived health benefit – such as fruit juices as a replacement for sweeteners like high-fructose corn syrup,” says Jeannie Curry-Swedberg, director of business development for Tree Top Inc. (www.treetop.com), Selah, Wash.

But not just any fruit flavors. While the explosion in all things pomegranate and açai was indicative of interest in exotic fruits that carried a cachet of health, it also paved the way for beverages relying on updates of favorite flavors of old. Orange opened up to include cara-cara, mandarin, blood orange, kumquat and tangelo; lime expanded to kaffir and key lime; and lemon gave way to Meyer lemons and natural pink lemons.

According to Robert Schueller of Los Angeles-based Melissa’s World Variety Produce (www.melissas.com), those and other citrus fruits are trending up, along with such fruits (and fruit flavors) as red papaya, melon, Muscat grapes, guava and rose apples. It’s no coincidence a number of the fruits Schueller names are tropical. The association of fruits from the rainforests with antioxidants and other health components was sealed with the unexpected success of açai.

Celebrating 35 Years of Bringing You the Latest in Processing Solutions!

Process Technology for Industry

PTXi

international

INTERNATIONAL

Powder & Bulk Solids

35TH ANNIVERSARY

Featuring:

Food Process

ChemProcess

PROCESS Pack

PharmaPROCESS

CONFERENCE & EXPOSITION

MAY 4-6, 2010

Donald E. Stephens Convention Center
Rosemont, IL (adjacent to O’Hare Airport)

Log on for FREE expo hall admission:

ProcessTechExpo.com

Please use Promo Code: AB

For information about exhibiting, visit
ProcessTechExpo.com or call 310/445-4200.

Produced and managed by: CANON COMMUNICATIONS LLC
11444 W. Olympic Blvd. • Los Angeles, CA 90064-1549 • Tel: 310/445-4200 • Fax: 310/996-9499

The latest exotic Amazonian on the scene is the maqui berry, another tart, South American purple fruit being promoted as “the highest antioxidant superfruit in the world.” Maqui claims antioxidant levels two to three times higher than açai, pomegranate, goji berry or mangosteen.

“Maqui is traditionally used to promote strength, endurance and overall health, and may also provide valuable benefits for the immune system,” says Andrew Carter, director of marketing for NP Nutra Corp. (www.npnutra.com), Rancho Dominguez, Calif. “More recently, Maqui has garnered interest for its potential in promoting a healthy body weight. Not only that, Maqui berries help support bone and joint health, and aid the cardiovascular system by encouraging blood flow.”

Maqui is a good source of vitamin C, calcium, potassium, and iron, and its antioxidants include anthocyanins, delphinidin, malvidin, petunidin, cumarins, triterpenes, flavonoids, and cyanidin.

The push to go “all natural” can get tricky when dealing with extracts and concentrates necessary for beverage applications.

“Flavors that are FTNF [from the named fruit], ‘natural’ and ‘all natural’ are regarded as must-haves when

trying to keep a product’s label clean,” acknowledges Aaron Dow, beverage scientist at FONA International Inc. (www.fona.com), Geneva, Ill. But he notes that, in addition to adding a health halo, nutraceutical compounds can alter flavors. “It’s important to understand which, if any, off-notes are being contributed by nutraceutical compounds. For instance, the ‘bitter’ notes some vitamins contribute are not going to present the same challenge as chalky notes contributed by a calcium salt. In much the same way, herbal additives – such as ginseng, guarana, yerba mate, etc. – will contribute ‘dirty’ or ‘earthy’ notes undesirable to many.”

Making it work

Due to this range of challenges, Dow notes it is important first to isolate exactly what off-notes your formula is up against. “From there, use flavors that will assist in



Code Blue launched a “recovery drink” of the same name with, among other things, D-ribose, sustamine, N-acetyl-cysteine, milk thistle, prickly pear extract and agave nectar.



STEVIA WORLD AMERICAS

**25-26 FEB 2010
ATLANTA, USA**

“Advancing Stevia’s Position as Mainstream Sweetener”

Hot Issues to be discussed at Stevia World Americas

- What is consumers’ perception of stevia? Do all natural really matter to consumers or taste is king?
- How to increase Consumer Awareness and Acceptance of Stevia?
- Market Outlook of Stevia vis-à-vis Sugar and other High Intensity Sweeteners
- New variety with higher Reb-A content
- Evaluation of Extraction & Purification Technologies
- Improving Economics of Stevia Usage
- Challenges of Formulating Stevia in Food & Beverage
- Potential of stevia in Pharmaceutical Applications
- Competitiveness of Stevia Cultivation & Production – Asia vs. South America
- Quality Standards to Ensure Highest Purity & Consistency for Reb-A
- End-users’ perspective of formulating with stevia

TO REGISTER	
Online: www.cmtevents.com	
Email: sasha@cmtsp.com.sg	
Fax: (65) 6345 5928	
Tel: (65) 6346 9124	

<input type="checkbox"/> Register Me	<input type="checkbox"/> Send sponsorship details	<input type="checkbox"/> Exhibitors	<input type="checkbox"/> Speaker	FP
Name _____	Position _____			
Company _____				
Address _____				
Tel _____	Email _____			
	Fax _____			

Promotion Partners



Supporting Association



Organised by



More on the Web

FoodProcessing.com features more than 1,000 archived articles, aggregated news, features, white papers, trend reports and supplier links for all your healthy beverage-building information needs.

But we're not all about words on paper (or a computer screen).

For a video interview with Chris Reed of Reed's Beverages, who has long been an advocate for stevia, see www.FoodProcessing.com/multimedia/2008/005.html.

Nor are we all about work. Do you call it soda or pop? For a little fun, check out www.FoodProcessing.com/soda-versus-pop, a point-and-click map where you can find out what colloquial term is favored for carbonated soft drinks in every county in the U.S.

covering up negatives or enhancing positives through their own flavor profile. Plus, it is always advisable to test whatever room you have within the base of a product. By adjusting acidity, flavor dosage and sweetness levels within the realm of what is permissible for a particular product, many of the common challenges presented by nutraceutical ingredients can be either completely overcome or greatly minimized."

He adds that masking or enhancing flavors can

assist, provided their regulatory status does not detract from the desired product label.

"The biggest challenge will be to add value through flavors that mask off-notes, modulate taste and flavor profiles, while rendering authentic, natural flavor profiles," says Mark Dewis, vice president of flavors R&D for International Flavors & Fragrances Inc. (www.iff.com), Hazlet, N.J.

Ed Nappen, global technical director for IFF's beverage category, concurs. "Many nutraceuticals carry off flavors that require masking systems to improve consumer liking, identification of complementary flavors to assist in the masking efforts and an understanding of the interactions with the beverage ingredients.

"To be functional, a beverage must include ingredients at an effective dosage level, which is usually significant," cautions Noonan of NeuroBrands Beverages. "The primary challenges include fortifying the beverage with ingredients at the proper dosage level and stability. At this high dosage, ingredients must be soluble, stable in solution, and not negatively affect the flavor."

But as all these challenges are met, beverages for health will continue to play a key role in bringing "grab-and-go" health to consumers. ☺

THINKS THE "NEW DEAL" IS
ONE OF THE SEMINAL PROGRAMS
OF AMERICAN POLITICS



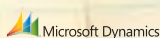
THINKS THE "NEW DEAL"
MEANS UPSIZING TO THE
EXTRA-LARGE DRINK AND FRIES



No two are alike.

One formula manufacturing information system offers more intelligence than the others. Vicinity Manufacturing's software is designed to meet your day-to-day (and year-to-year) challenges. Through continual innovation, we provide the information you need to improve your processes, from formula management and scheduling to compliance and production control. It is simply a smarter way to work.

- EXCLUSIVE VICINITY FEATURES
- Formula Management
- MSDS/Hazardous Bill of Lading
- Certificate of Analysis/Country of Origin
- Batch Costing/Yield Analysis
- Shop Floor Control
- Scheduling by Formula
- Complete ERP or Stand-alone



BUILD A smarter BUSINESS.

vicinitymanufacturing.com | 770 421 2467

INGREDIENT SUPPLIER GUIDE

COMPANY PHONE WEB

Cheese & Cheese Powders

Advanced Food Systems Inc.	800-787-3067	www.afsnj.com
Blue Pacific Flavors & Fragrances	800-248-7499	www.bluepacificflavors.com
Cargill Flavor Systems	800-234-2539	www.cargillflavorsystems.com
Chr. Hansen Inc.	800-558-0802	www.chr-hansen.com
Commercial Creamery Co.	509-747-4131	www.cheesepowder.com
Dariconcepts LP	877-596-4374	www.dairiconcepts.com
Davisco Foods International	800-757-7611	www.daviscofoods.com
Edlong Dairy Flavors	888-698-2783	www.edlong.com
Flavor Dynamics	888-271-8424	www.flavordynamics.com
Hilmar Ingredients	888-300-4465	www.hilmaringredients.com
Kraft Food Ingredients	901-381-6500	www.kraftfoodingredients.com
Lactalis Ingredients	716-823-6262	www.liusa.com
Land O'Lakes Inc.	800-928-9680	www.landolakesindustrialcheese.com
Premium Ingredients International	630-868-0300	www.premiumingredients.com
Quality Ingredients Corp.	952-898-4002	www.qic.us
Roquette America Inc.	800-553-7035	www.roquette.com
Sargento Food Ingredients Div.	800-795-7090	www.sargentofoodingredients.com
Wild Flavors Inc.	888-945-3352	www.wildflavors.com

Dairy, Eggs & Egg Replacers

Advanced Food Systems Inc.	800-787-3067	www.afsnj.com
ADM	800-637-5843	www.adm.com
American Egg Board	847-296-7043	www.aeb.org
Ballas Egg Products Corp.	740-453-0386	www.ballasegg.com
Cargill Texturizing Solutions	877-765-8867	www.cargilltexturizing.com
Clofine Dairy Products Inc.	800-441-1001	www.clofinedairy.com
Cognis Nutrition & Health	800-254-1029	www.cognis.com
Davisco Foods International	800-757-7611	www.daviscofoods.com
Edlong Dairy Flavors	888-698-2783	www.edlong.com
Elgin Dairy Foods Inc.	800-786-9900	www.elgindairyfoodsinc.com
Fonterra USA Inc.	847-928-1600	www.fonterra.com
The Food Source Inc.	610-540-0300	www.foodsourceinc.com
Hilmar Ingredients	888-300-4465	www.hilmaringredients.com
Kalsec Inc.	269-349-9711	www.kalsec.com
Lactalis Ingredients	716-823-6262	www.liusa.com
Land O'Lakes Inc.	800-928-9680	www.landolakesindustrialcheese.com
Lonza Inc.	610-292-4300	www.lonza.com
Michael Foods	800-328-5474	www.michaelfoods.com
National Starch Food Innovation	800-797-4992	www.foodinnovation.com
Natural Products Inc.	641-236-0852	www.npisoy.com
Pharmachem Food & Beverage	800-526-0609	www.pharmachemlabs.com
P.L. Thomas & Co.	973-984-0900	www.plthomas.com
Premium Ingredients International	630-868-0300	www.premiumingredients.com
Primera Foods Corp.	800-365-2409	www.primerafoods.com
Roquette America Inc.	800-553-7035	www.roquette.com

Product Development Software

Advanced Software Designs	636-532-6021	www.asdsoftware.com
ColorTec & Formulator Software	908-735-2248	www.color-tec.com
CSB-System Intl.	630-455-0455	www.csb.com
Esha Research	800-659-3742	www.eshacom
ETQ Inc.	800-354-4476	www.etq.com
Godin London Inc.	519-679-8290	www.godin.com
Hertzler Systems Inc.	800-958-2709	www.hertzler.com
Ometric Corp.	803-233-4683	www.ometric.com
Owl Software	888-621-9063	www.owlsoft.com
Pilgrim Software	813-915-1663	www.pilgrimsoftware.com
Sartorius Mechatronics	800-635-2906	www.sartorius.com
Vicinity Manufacturing	770-421-2467	www.vicinitymanufacturing.com

R&D Teams of the Year

Food Processing Presents
the Second Annual Awards
Honoring the Food &
Beverage Industry's Best
and Brightest R&D Teams!

Nominate R&D Teams
from Large and Small
Companies NOW - Here's
How It Works:

1. Visit www.foodprocessing.com/nominate
2. Nominate up to one R&D Team from each of the following sizes of firm:
 - a. Small (< \$100 million)
 - b. Medium (\$100-500 million)
 - c. Large (> \$500 million)
3. Provide a summary of the nominated team's qualifications/accomplishments

Nominations are open from
January 1st until February 28th.

Food Processing's editorial staff
will announce the nomination
finalists for the R&D Team
of the Year voting within the
March "Reader's Choice" Issue.

