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# Beverage

Trends, technology & products shaping the marketplace

# Industry

April 2014



## THE MYSTIQUE OF MOONSHINE



**SALES OF UNAGED  
CORN WHISKEY  
INCREASE TRIPLE DIGITS**

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# Conquering the day with energy

Natural trend continues for energy ingredients

**AMERICANS SEEM TO BE BUSIER THAN EVER. THE AVERAGE WORK DAY IS 8.6 hours, according to Rochester, N.Y.-based Harris Interactive, and 39 percent of Americans between the ages of 19 and 36 report that they do not have enough leisure time, according to Chicago-based Mintel. Under these conditions, 23 percent of American adults cite a lack of energy as the main reason for their lack of productivity at work, according to a Harris Interactive poll conducted in June 2013 on behalf of Santa Monica, Calif.-based Red Bull North America Inc. For an energy boost to get them through the day, consumers often turn to beverages, including water, coffee and energy drinks, according to Red Bull's August 2013 "Getting Energized on the Job" infographic. Ingredients in energy beverages, in particular, can help consumers boost concentration and battle workplace fatigue, it states.**

"Almost every consumer is seeking an energy boost in their daily drink intake due to busy lifestyles," says Catherine Barry, director of marketing for the National Honey Board, Firestone, Colo. "Consumers are seeking a more nutritious day-to-day way to combat fatigue."

Beverages can be a good vehicle to deliver energy ingredients because of their multi-functional format, says Michael Crabtree, technical sales manager at Bioenergy Life Science, Ham Lake, Minn. "They serve as a high delivery volume of specified nutrients and retain an element of satiety," he says. Plus, liquids tend to have a denser matrix of ingredients per serving compared with powdered mixes, he adds.

Consumers and retailers also tend to associate energy benefits with beverages, says Gregory Drew, director of Kearny, N.J.-based Pharmachem Laboratories Inc.'s food and beverage group. "It just seems to me that if you walked into a supermarket and asked for an energy product, clerks would point you to [energy drinks and shots] — that's sort of the category creator."

Caffeine is one of the most popular beverage energy ingredients, Pharmachem's Drew says. In the year ending March 10, 169 beverages containing caffeine were launched, including different packaging styles for the same product, according to Mintel's Global New Products Database. This energy ingredient is not limited to energy drinks and shots, though. The range of beverages containing caffeine spans carbonated soft drinks (CSDs), protein shakes, drink mixes, sports drinks, juice drinks and liquid concentrates as well, according to the database.

These types of beverages mostly are targeted toward teens and consumers in their mid- to late-20s, notes Russ Hazen, premix innovation manager

at Fortitech Premixes, Schenectady, N.Y. However, baby boomers looking for a pick-me-up to fuel their 24/7 lifestyles are another group that is drawn to this category, he says.

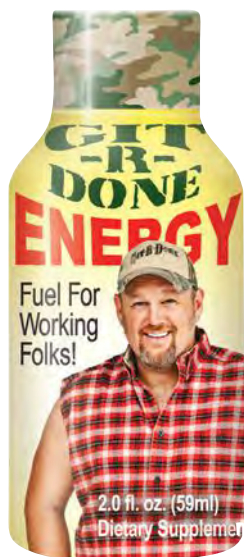
On average, Americans consume 300 mg of caffeine each day, according to the U.S. Food and Drug Administration (FDA). However, the FDA has cited 400 mg a day, or the equivalent of four or five cups of coffee, as an amount generally not associated with dangerous, negative effects, Fortitech's Hazen notes. Thirty-eight percent of total caffeine intake comes from CSDs, 24 percent comes from coffee, and 6 percent comes from energy drinks, according to the Centers for Disease Control and Prevention (CDC), Atlanta.

Despite these intake levels, some consumers are leery of caffeine because of the "crash" associated with it. Crashes typically are associated with synthetic caffeine sources, but the effect varies by consumer and his or her environment, diet and personal tolerance, explains Kristen Wemer, lab manager at Flavorman, Louisville, Ky. To minimize any potential crash effect, caffeine can be paired with ingredients such as L-theanine, she says.

Blue California, Rancho Santa Margarita, Calif., offers its L-Tea Active natural L-theanine 98 percent ingredient for pairing with caffeine. The FDA generally recognized as safe (GRAS) ingredient induces relaxation but also boosts mental clarity, focus, concentration and productivity, the company says. Plus, the water-soluble ingredient does not add taste, color or odor to a beverage, it adds.

## A NATURAL BOOST

Another way to avoid the crash issue is to utilize natural sources of caffeine, which are not associated with crash effects, Flavorman's Wemer



▲ Energy from natural sources like green tea, yerba mate and guarana are popular ingredient choices, says Flavorman's Kristen Wemer. The Git-R-Done Energy shot contains all of these ingredients. (Image courtesy of Hangover Joe's Holding Corp.)

**“The natural trend is continuing its growth in the market, and we’re seeing people want to create naturally positioned energy drinks. Using caffeine from things like green tea, yerba mate, coffee beans and guarana are more well-received than using synthetic anhydrous caffeine.”**

— Kristen Wemer, lab manager at Flavorman

says. Because of this and other health benefits, natural caffeine sources have become some of the most popular energy ingredients lately, she says. “The natural trend is continuing its growth in the market, and we’re seeing people want to create naturally positioned energy drinks,” she says. “Using caffeine from things like green tea, yerba mate, coffee beans and guarana are more well-received than using synthetic anhydrous caffeine.”

The health halo of these natural sources can help

pave the way for consumer acceptance of these ingredients in energy beverages and positively impact sales, Foritech’s Hazen adds.

Blue California offers several natural plant extracts standardized to caffeine, their natural active ingredient, says Executive Vice President Cecilia McCollum. For example, its guarana extract with 22 percent caffeine is a natural caffeine source from the guarana seed. The company also offers Natural Caffeine 99 Percent derived from green tea leaves. “The demand for this ingredient is growing,” she says. “It was developed for use in [ready-to-drink] beverages and is the ideal addition to an energy drink.”

However, many products containing natural caffeine sources must be labeled as dietary supplements instead of beverages because they contain ingredients such as ginkgo biloba, milk thistle extract and other dietary ingredients that have not been approved by the FDA and, therefore, would not allow the product to be labeled as a conventional beverage, Flavorman’s Wemer explains.

On the formulation side, natural caffeine ingredients pose a couple of other challenges, Wemer adds. Natural caffeine ingredients typically contribute earthy or herbal flavors that sometimes need to be overcome, she notes. In addition, they often require additional processing steps, such as



RevHoney beverages use honey’s natural energy benefits to provide a healthy energy boost. (Image courtesy of RevHoney Inc.)

continued on page 50

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heat treatment for pasteurization, and often are more expensive than using synthetic ingredients, she says. However, sometimes the extra cost is worth it in order to have

a clean label on a beverage, Blue California's McCollum says.

In addition to natural energy solutions like guarana and green tea extract, Sam Wright IV, chief

executive officer of The Wright Group, Crowley, La., notes that consumers are asking for B vitamins such as thiamine, carnitine, niacin and pantothenic acid.

B complex vitamins are popular energy ingredients because of the roles they play in increasing the body's energy levels through involvement in biochemical processes, including the Krebs Cycle, a chemical reaction that creates energy in aerobic organisms, Fortitech's Hazen explains. For example, vitamin B1 or thiamine helps convert blood sugar to energy, while vitamin B3 or niacin creates oxidation-reduction reactions, and vitamin B5 or pantothenic acid enhances the release of energy from carbohydrates in the Krebs Cycle, he says.

#### POWERED WORKOUT

When included in beverages, D-ribose, a form of sugar produced by the body, also can contribute energy for physical endurance, Hazen says. "Additional D-ribose may help replenish [adenosine triphosphate] (ATP) in the body and help boost muscle energy, which helps improve performance and exercise duration," he explains. In addition, D-ribose can help modulate the formulation of oxygen free radicals during exercise and recovery, which can decrease inflammation and soreness and shorten the needed recovery time between workouts, he notes.

Bioenergy Life Science offers a patented form of D-ribose called Bioenergy Ribose. This natural energy ingredient is available in both powdered and agglomerated forms and is completely soluble in liquid systems while formulating amicably with 95 percent of auxiliary ingredients in dry-blend systems, Crabtree says.

New York-based Kyowa Hakko USA Inc. also offers its Sustamine ingredient for physical energy during workouts and recovery. The dipeptide ingredient combines amino acids

L-alanine and L-glutamine to create a chemical structure that easily is absorbed by the body to help it rehydrate, replenish and

<< Guarana offers approximately twice the concentration of caffeine found in coffee beans and is known to increase endurance and reduce fatigue, according to Raw Foods International LLC. (Image courtesy of Raw Foods International LLC)

3:30 PM

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recover, the company says. More specifically, Sustamine has been shown to enhance water and electrolyte absorption in the intestines, stimulate glycogen synthesis, inhibit muscle protein breakdown while promoting muscle protein synthesis, contribute to better nutrient absorption by protecting the integrity of the gastrointestinal tract, and boost the immune system, it says.

Another important ingredient for muscle energy is carbohydrates, which help maintain muscle glycogen, a major fuel source for athletes, according to the National Honey Board's Barry. Honey provides 17 grams of carbohydrates per tablespoon, she says.

In addition to providing energy, honey also doubles as a sweetener, Barry says. Honey is as much as 25 percent sweeter than sucrose and can be used in smaller quantities to attain a similar flavor profile as other sweeteners, she says. Plus, it has the ability to smooth or mask the flavor profile of functional ingredients that can carry off-flavors, in addition to interacting with other flavors to enhance the overall taste of a beverage, she adds.

Probably one of the biggest benefits of using honey as an energy ingredient from a marketing standpoint is the clean label image it provides, Barry says. The ingredient can be labeled as honey on the beverage package because it does not contain any other additives or ingredients and naturally is made in a beehive as

opposed to a manufacturing plant, she says.

"Consumers continue to care more and more about what ingredients go into products they consume, and ... honey is familiar to consumers and promotes a clean label," Barry says.

Using familiar ingredients or natural claims and educating the public about specific energy ingredients can help boost acceptance for the energy ingredient industry. "The general public has a tendency to blame entire systems, as opposed to educating themselves on the individual ingredients," Bioenergy's Crabtree says. "Energy ingredients are under scrutiny because they are largely a part of stimulant-based beverage systems, which have proven to be harmful if consumed in large quantities. Of course, not all common energy drink ingredients are culpable, but in many cases, ingredients that stimulate the central nervous system become guilty by association. It is important for companies distributing such ingredients to be proactive in the areas of [research and development] and [quality control] to ensure lines are drawn appropriately." **BI**



▲ ON Powered Refreshment drinks feature a blend of ornithine, caffeine from tea leaf extract, and B vitamins for energy. (Image courtesy of ON Beverages)

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## SENSIENT FLAVORS SHOWCASES NEW HEADQUARTERS

After moving its headquarters from Indianapolis to Hoffman Estates, Ill., last year, Sensient Flavors, a part of Sensient Technologies Corp., showcased its new facility to the trade media on Feb. 18. The Hoffman Estates facility is situated closer to Sensient Flavors' customers and is consistent with the company's global restructuring initiative in North America and Europe, said Chief Financial Officer Eric Harton at the media event. In addition to touring the facility's sensory lab and pilot plant, reporters were able to sample food and beverages from its research and development lab. In particular, beverage samples showcased the company's

Sensient Natural Origins (SNO) flavors, which aim to capture the authentic taste profiles of natural botanicals, as well as its Smoothenol natural masking technology, which masks undesirable off-notes and aftertastes, the company says. Teresa Olah, marketing director for beverage flavors in North America, concluded the event by presenting Sensient Flavors' predictions for the Top 12 flavors of 2014: balsamic fig, burnt calamansi, fernet, ginger plum, gochujang, green coconut, guasacaca, juniper berry, ras el hanout, rhubarb, tayberry and Willamette hop.

■ **Sensient Flavors, 5115 Sedge Blvd., Hoffman Estates, Ill. 60192; 847/645-7000; sensientflavorsandfragrances.com.**



## R&D NEWS

New York-based **Kyowa Hakko USA Inc.**, a wholly owned subsidiary of **Kyowa Hakko Bio Co. Ltd.**, completed generally recognized as safe (GRAS) self-affirmation for its L-Citrulline amino acid. The ingredient, which is free of preservatives, allergens, artificial flavors and artificial colors, plays an important role in nitric oxide metabolism and regulation, the company says. The company announced this status at the Engredea show co-located with Natural Products Expo West in March.

**Tate & Lyle**, Chicago, formally introduced its Tasteva stevia sweetener at Engredea. Tasteva is a natural, zero-calorie sweetener that offers a clean, sweet taste with no bitter aftertaste, the company says. The company showcased the new ingredient in a blackberry peach sparkling beverage for attendees to try at the tradeshow.

**FutureCeuticals Inc.**, Momence, Ill., highlighted at Engredea its ingredient portfolio for use in beverage formulations. Among those highlights was CoffeeBerry, a line of patented ingredients made from the whole fruit of the coffee plant. The company also featured QuinoaTrim, which can be used in dietary supplements, beverages and food to support digestion, weight management and sports nutrition. Also available for beverage formulation is ModCarb, which can improve the texture, mouthfeel and functionality of protein products.

**Ingredion Inc.**, Westchester, Ill., featured its natural sweetener portfolio that helps support the natural products industry at Engredea. The company also recently developed the Sweetabulary sweetness language, a vocabulary that leverages Ingredion's analytical and sensory understanding and connects the consumer experience of sweetness with taste and functional attributes that the company can use to create products with sugar-like profiles. It also is an integral part of Ingredion's Dial-In Sweetness Technology, which uses the language to deliver desired sweetness profiles faster, the company says.

**Bioenergy Life Science Inc.**, Ham Lake, Minn., promoted the benefits of its D-Ribose at Engredea and welcomed a few guests. On the first day of the expo, Olympic Gold Medalist **Susan Francia** shared how Bioenergy Ribose safely helps her sustain energy and reduce muscle soreness. The company also hosted **Jacob Teitelbaum**, a best-selling author, board-certified internist and nationally known expert in the fields of chronic fatigue syndrome, fibromyalgia, sleep and pain, for a book signing about his research on ribose.

At Engredea, Minneapolis-based **Cargill** introduced its newest complement to the sweetener industry: ViaTech. Part of what sets the ViaTech portfolio apart from other sweeteners is the use of Cargill's proprietary taste prediction model, which leads to clean sweetness in even some of the most difficult-to-perfect zero-calorie and reduced-calorie food and beverage formulations, the company says.

**Allen Flavors**, Edison, N.J., showcased its flavor ingredient capabilities within the beverage industry at Engredea. The company has experience working within many categories throughout the industry, it says.

**Fortitech Premixes** and its parent company **DSM**, Parsippany, N.J., exhibited their portfolio of solutions for food and beverage formulations at Engredea. The booth featured samples of a market-ready powdered beverage.

**GLG Life Tech Corp.**, Vancouver, showcased its high-purity, all-natural, zero-calorie stevia extract sweeteners for use in food and beverages at Engredea.

At Engredea, **GNT USA**, Tarrytown, N.Y., promoted its Exberry natural colors for food and beverage brands.

**ProSweetz Ingredients**, Edison, N.J., showcased its natural sweetener and flavor solutions at Engredea.

New Brunswick, N.J.-based **Natreon Inc.** highlighted its botanical portfolio at Engredea.

**Nutrigenesis**, Brattleboro, N.J., promoted its nutraceutical ingredients for the dietary supplement and food and beverage markets to attendees at Engredea.

At Engredea, Erlanger, Ky.-based **Wild Flavors Inc.** showcased its flavors portfolio and health and wellness ingredients; natural colors; and ingredient systems for the food, beverage and dietary supplement industries.

**Ganeden Biotech**, Cleveland, announced that its heat-resistant probiotic ingredient GanedenBC30 is included in Copper Moon Coffee Co.'s new French Vanilla Cappuccino Insta-Kups. The functional single-serve coffee launched at Natural Products Expo West. GanedenBC30 also became the first probiotic to be included in a high-pressure pasteurized product with the launch of Garden of Flavor's cold-pressed, organic juices in February.

The **Celanese Foundation**, the philanthropic arm of Dallas-based **Celanese Corp.**, made its first donations to Dallas-area charitable and community organizations. The organization donated \$573,000 to local charities including Big Brothers Big Sisters Lone Star, the Dallas-area chapters of the American Red Cross and Alzheimer's Association, and Metrocrest Social Services, among others. In addition to these donations, the foundation also participated in multiple community volunteer events in 2013, including the Celanese International Impact Program to Brazil and the Celanese Global Impact Week at 29 Celanese sites worldwide.

**Fona International**, Geneva, Ill., opened a new innovation center in Guangzhou, China, to benefit its customers around the world with Asia-Pacific consumer and trend knowledge in addition to the region's resources, the company says. The new facility features natural light, spacious labs, a learning center and elevated gardens. In other news, the company hired **Peter Holocher** as director of customer innovation.