



The Esca Bona™ Ingredient Trend Series

Adaptogens

MACA, MATCHA & ASTRAGALUS



Adaptogens:

Delivering Balance & Harmony in Product Formulation

by Danielle Rose



Adaptogenic herbs have been used in many ancient healing traditions, including the 3,000-year-old practice of Ayurveda, a comprehensive system rooted in the principle that health and wellness depend on a delicate balance and harmony between the mind, body and spirit. These plants help the body adapt to physical and mental stress, marked by issues such as fatigue, poor concentration, anxiety, inflammation, lagging performance and more. With so many benefits, they are an ideal lifestyle option for today's health-conscious consumers who want to increase energy or promote relaxation and well-being.

Interest in adaptogenic herbs has been rising since 2014, and food and beverage makers are launching innovative products containing matcha, maca, ginseng, ashwagandha, goji berry, astragalus, eleuthero, holy basil (tulsi), schisandra, Cordyceps and *Rhodiola rosea*. Options abound for brands looking to forge ahead in the space. This report spotlights three adaptogens seeing marketplace innovation: matcha, maca and astragalus.

ADAPTOGEN INNOVATION RISING

Several categories—Diet & Nutrition; Drinks; Snacks, Cookies & Candy; Cereal & Breakfast Foods; and Dairy (including plant-based)—showed consistent product innovation with adaptogens at the Natural Products Expos from 2014 to 2017.

Added ingredients that offer health benefits are making the beverage category a noteworthy sector for both tradition and innovation. Fortified dairy has long been a widely accepted functional food category. Despite fortification, milk is still seen as a one-ingredient, clean label food, and consumers expect that same simplicity in their dairy alternatives.

Coffees, teas, herbal and energy drinks are increasingly considered healthy alternatives to sugar-laden drinks. While the top three beverage categories (carbonated soft drinks, juices and dairy milk) showed stagnancy or decline, energy drinks and

coffee experienced a strong sales growth of 8.7 percent last year. Mintel reported more than one-third of “iGens” born between 1995 and 2007 said they would pay more for coffee and tea with added health benefits. Plant-based beverage growth can be seen via the increase in adaptogen-based drinks found at the Expos.

This speaks to global sports nutrition market, which comprises a significant portion of the beverage category and accounted for approximately US\$28.4 billion in 2016 (anticipated to reach \$45.2 billion by 2022), according to Zion Market Research. No longer a niche market, sports nutrition speaks to weight management, body composition and an active lifestyle.

EDUCATION IS KEY TO MARKET SUCCESS

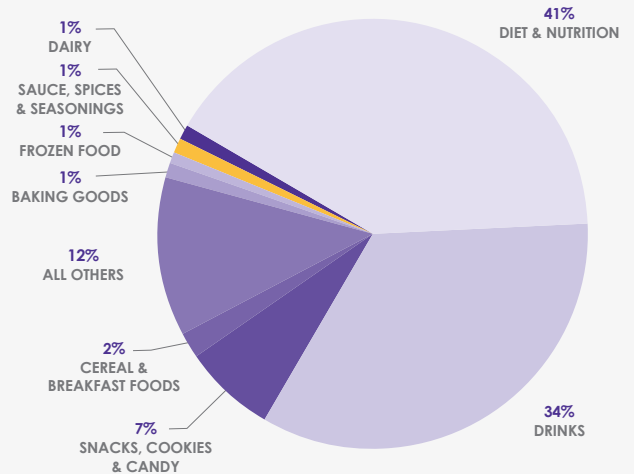
The challenge in marketing adaptogens lies in helping consumers understand how one ingredient can do so much. Similarly, navigating regulations can be difficult, since it’s hard to quantify claims for both “improved vitality” and “stress reduction.” The science behind these claims is only just becoming available. Telling adaptogens’ overarching story can be key to making the science/function connection.

Newsletters and other literature explain how ingredients work within the body and offer insights on studies and disease. Well-placed and timed demos and samples—during flu season, for example—further educate. Educational engagements that speak to the issues and concerns that adaptogens address can further the effort. Along those lines, the American Botanical Council’s (ABC) “Adopt an Herb” program is an interactive, electronic database that allows the entire industry—from manufactures to consumers—easy access to clinical publications and regulations.

Gaia’s “Meet Your Herbs” program (meetyourherbs.com) allows consumers to enter the product code from their purchases and see where the ingredients came from, as well as their certificates of authenticity. This is a huge step for consumer supply chain transparency.

Represented in nearly 1,600 products, the following categories have the highest incidence of products formulating with adaptogens.

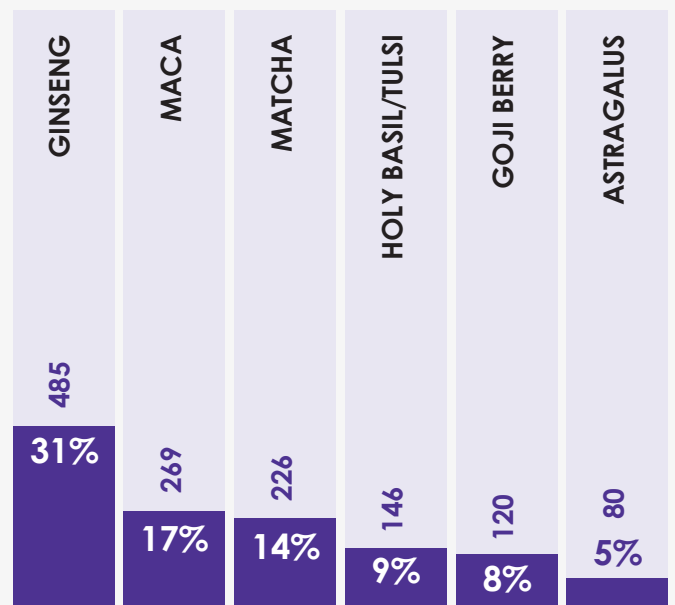
Expo West 2013—Expo West 2017



Source: New Hope Network NEXT Trend Database

Adaptogen Usage Continues to Grow Among Products Launched at Expo West

Most in-demand adaptogens are: Ginseng, Maca, Matcha, Holy Basil/Tulsi, Goji Berry and Astragalus.



Source: New Hope Network NEXT Trend Database

KEEPING SUPPLY CHAIN LINKS INTACT

Ensuring the integrity of the supply chain is also crucial. Ayurvedic botanicals, like any other botanicals, are affected by soil, environmental and genetic variability. They are particularly vulnerable to external contamination. Several studies conducted in different parts of the world—including the United States—have raised concerns on quality and potential contamination of Ayurvedic botanicals.¹ Working with quality suppliers and procuring ingredients backed by certifications when available can help manufacturers stay above board.

A recent report from Gartner indicated that “89 percent of marketers compete primarily on the basis of customer experience.” This is becoming particularly true when it comes to transparent sourcing.

Establishing a punch list of items that suppliers must address ensures the correct plant species and plant part is used, is unadulterated and safe for human consumption, and has the level of chemical constituents claimed. The first step in creating a punch list is establishing an ingredient specification sheet detailing ingredient concerns, place of origin and form. Determining the correct identification method to be used, and understanding the test’s strengths, weaknesses, advantages and disadvantages are an important part of this process. For example, different growing conditions makes Peruvian maca different from maca sourced from China, and each requires different tests to determine quality.

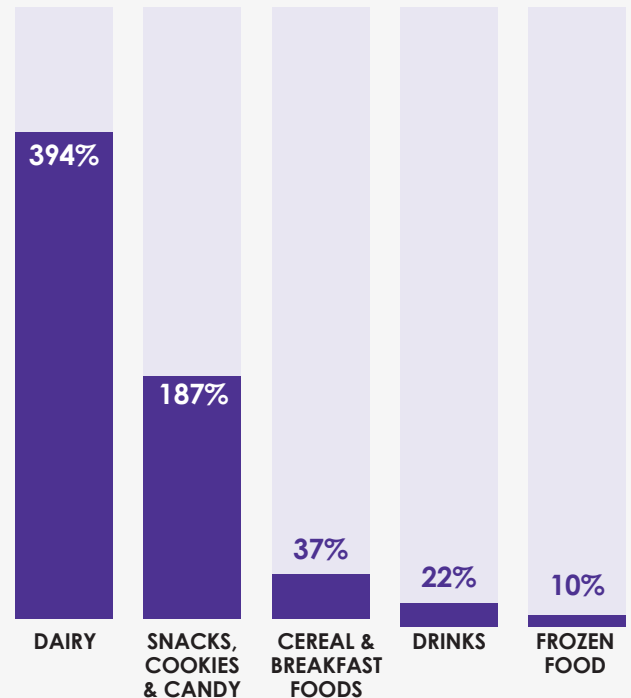
Understanding where and how ingredients are sourced and processed is particularly important for adaptogens, as these factors can affect bioactivity and efficacy. A trusted partner supplier should be able to trace its ingredient from the field to a consumer’s door. Understanding the types of certifications a company holds gives insight into the company’s values and direction, as does knowing its focus—i.e.: Does the supplier predominately offer ingredients from one geographical area, or for a specific category or health issue?

A 2015 Nielsen study across 58 countries found that more than half of consumers are willing to pay more to buy from companies committed to corporate social responsibility. Any socially responsible manufacturer must be aware of its supplier’s stance in order to make that claim to the consumer.

Leading Categories Innovating with Adaptogens

(according to absolute growth of number of new products)

Expo West 2014—Expo West 2017



Source: New Hope Network NEXT Trend Database



ADAPTOGENS TO WATCH

Maca

Maca (*Lepidium meyenii*), also known as “Peruvian ginseng,” is an adaptogenic root native to Peru. The ancient superfood has been used for strength and virility and has been clinically found to have stimulating and therapeutic effects for mild stress-induced depression,² and reproductive benefits for both men and women.^{3,4} It contains vitamins B1, B2 and C, as well as amino acids, iron, minerals and fatty acids.

In 2015, news of potential adulteration of the Peruvian maca supply chain increased the need for education and confidence, and manufacturers need to demand truth and transparency in the own supply chain. Since lower-quality maca has the potential to destroy consumer faith in the ingredient, partnerships that share the burden of a crop’s reputation are imperative to the future of this powerful adaptogen. Gaia Herbs® and Navitas Naturals® collaborated to create long-term, sustainable sourcing for maca that benefits Peru, its farmers and consumers.

Maca innovation is being seen in the Diet & Nutrition aisle, driven by heavy growth within the Snacks, Energy & Granola subcategory.

Corporate responsibility remains a strong driver of sales. REBBL’s Maca Mocha coconut milk elixir combines herbs with chocolate and maca extract, and a percentage of revenue goes toward Not For Sale, a nonprofit that helps prevent human trafficking. Navitas Naturals remains committed to sourcing maca root consciously through direct farmer partnerships in Peru.

Maca innovation is being seen in the Diet & Nutrition aisle, driven by heavy growth within the Snacks, Energy & Granola Bars subcategory. Maca use in Drinks is clocking impressive growth within the Powdered Drinks subcategory, while the Snacks, Cookies & Candy category is witnessing robust growth in the Chocolate subcategory.

[Maca]

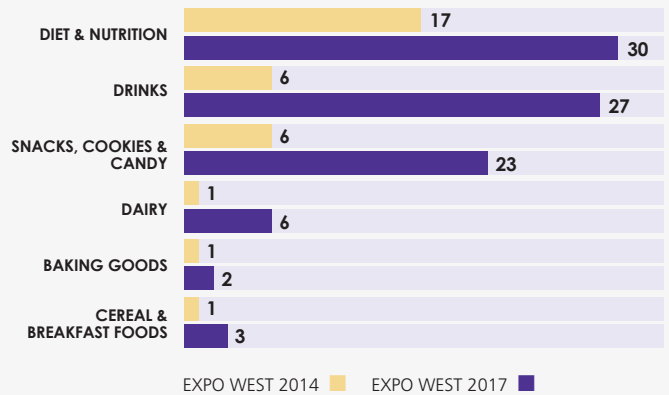
BY THE NUMBERS

At nearly 95 products at Expo West 2017, maca opportunities lie in the Diet & Nutrition; Drinks; and Snacks, Cookies & Candy aisles with impressive innovation in the Snack, Energy & Granola Bars subcategory.

Categories Innovating with Maca

(according to absolute product count)

Expo West 2014—Expo West 2017

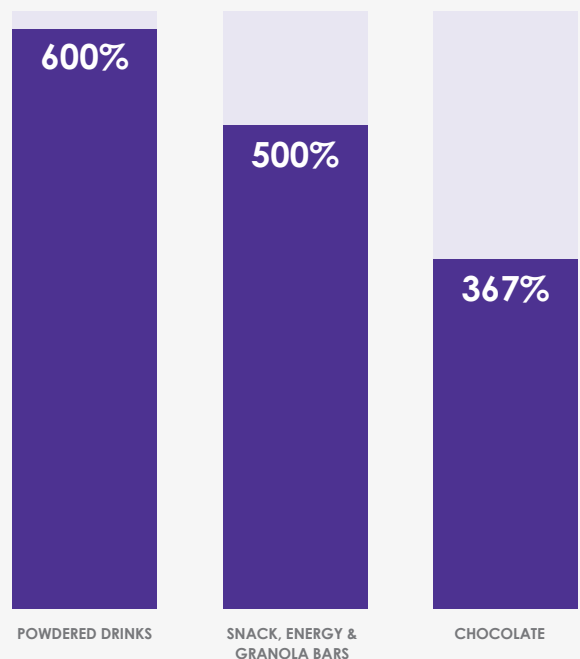


Source: New Hope Network NEXT Trend Database

Leading Subcategories Innovating with Maca

(according to absolute growth of the number of new products)

Expo West 2014—Expo West 2017



Source: New Hope Network NEXT Trend Database

Matcha

Derived from shade-grown green tea leaves, matcha is traditionally used for Japanese tea ceremonies; however, like most adaptogens, it also boasts myriad health benefits. It contains the amino acid L-theanine, which is associated with enhanced memory and learning, as well as a sustained caffeine boost without the crash.

Antioxidant and vitamin-rich composition of matcha tea has fueled the product demand, and the global matcha market is expected to reach \$5.07 billion by 2025, according to Grand View Research Inc. Matcha showed 386 percent absolute growth in the Drinks category at Natural Products Expos from 2014 to 2017, driven by new product launches in the Powdered Drinks, Tea Bags, and Iced & bottled Teas subcategories.

Because traditional matcha requires a whisk and a bowl to make, ready-to-drink, cold-pressed options have made this adaptogen more accessible. Joining the latte trend, matcha lattes can be found in coffee shops, ready-to-drink (RTD) beverages, powders and

concentrates. Instagram evidenced growth in this category through the increased use of the hashtag #matchalatte, which grew by 16 percent during a three-month period at the end of 2017.

REBBL brand’s organic coconut milk drinks piggyback this while speaking to the dairy category with blends such as matcha/coconut milk. The company has plans to package its naturally flavored beverages in BPA-free cans with certifications such as Non-GMO Project Verified and Certified Gluten-Free.

Green tea company and matcha veteran ITO EN has gone beyond the drink bandwagon with Matcha LOVE Culinary Matcha product for at-home use. Other examples of successful culinary matcha include snacks such as green tea Fair Trade chocolate from Cocoa Camino by La Siembra Co-operative, as well as UK based, Yogland yogurt. Marketed as “fit frozen dessert,” Yogland has brought functional food to the snack and dairy aisles by offering vegan frozen yogurt blended with ingredients like fruits, matcha and hemp.

[Matcha]

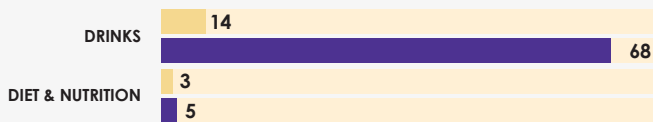
BY THE NUMBERS

At 86 products at Expo West 2017, matcha opportunities lie in the Drinks aisle with increased innovation in the Powdered Drinks, Tea Bags, and Iced & Bottled Tea subcategories.

Categories Innovating with Matcha

(according to absolute product count)

Expo West 2014—Expo West 2017



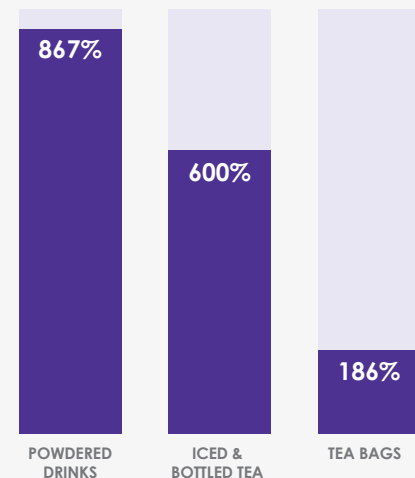
EXPO WEST 2014 ■ EXPO WEST 2017 ■

Source: New Hope Network NEXT Trend Database

Drinks Subcategories Innovating with Matcha

(according to absolute growth of the number of new products)

Expo West 2014—Expo West 2017



Source: New Hope Network NEXT Trend Database



Astragalus

Astragalus (*Astragalus membranaceus*, among others), also known as Huang Qi, is the name given to over 2,000 species of plants. As a dietary supplement, astragalus root has been used to support the digestive system, fatigue, anorexia, upper respiratory infections, heart disease, edema, and is used in conjunction with some cancer therapies, according to the National Institutes of Health (NIH). It also has been shown to support recovery from illness while helping promote restful sleep, even in chronic situations. As a vasodilator, astragalus also decreases blood pressure, and may lower blood sugar and otherwise benefit type 1 and 2 diabetes.

Astragalus has seen growth in the Diet & Nutrition and Drinks categories. While its representation at the Natural Products Expos has been minimal and predominately through tea bags, its growth is steady and representative of other adaptogens.

At Natural Products Expo West 2017, *astragalus* appeared in the supplements, energy/granola bars, powdered drinks and RTD teas, giving indication of its various potential.

A trusted partner supplier should be able to trace its ingredient from the field to a consumer's door.

Although typically only the root is used, the aerial, or above-ground part of *Astragalus dasyanthus* is now being utilized by herbal tea company, SaTek USA. Care must be taken when adopting new ingredients into the American market, as SaTek discovered when FDA procedures required subsequent rounds of paperwork and documentation prior to final approval.

Understanding the laws and requirements of adaptogens like *astragalus*, as well as being intimately connected to supply chain and sourcing, not only helps manufacturers understand the market and avoid pitfalls, but it forces them to speak to important consumer concerns of the day.

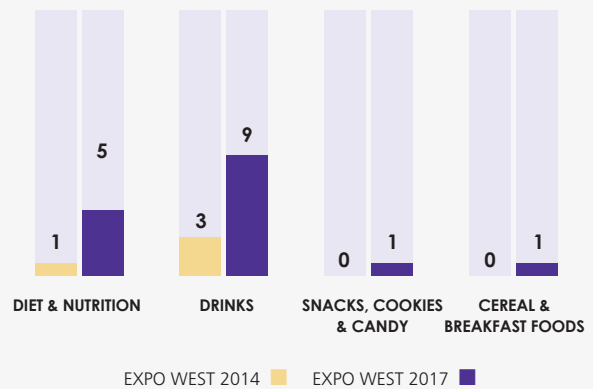
[*Astragalus*]
BY THE NUMBERS

An adaptogen coming into the spotlight, *astragalus* was represented in 16 products at Expo West 2017 with innovation in the Diet & Nutrition and Drinks aisles.

Categories Innovating with *Astragalus*

(according to absolute product count)

Expo West 2014—Expo West 2017



Source: New Hope Network NEXT Trend Database



References

1. Saper R et al. "Lead, Mercury, and Arsenic in US- and Indian-Manufactured Ayurvedic Medicines Sold via the Internet." *JAMA* 2008 Aug 27; 300(8): 915-923.
2. Melnikova I et al. "Effect of *Lepidium meyenii* Walp. on Semen Parameters and Serum Hormone Levels in Healthy Adult Men: A Double-Blind, Randomized, Placebo-Controlled Pilot Study." *Evid Based Complement Alternat Med.* 2015;2015:324369.
3. Dording CM et al. "A double-blind placebo-controlled trial of maca root as treatment for antidepressant-induced sexual dysfunction in women." *Evid Based Complement Alternat Med.* 2015;2015:949036.
4. Ai Z et al. "Antidepressant-like behavioral, anatomical, and biochemical effects of petroleum ether extract from maca (*Lepidium meyenii*) in mice exposed to chronic unpredictable mild stress." *J Med Food.* 2014;17(5):535-42.

[Adaptogens]

MARKET MANIFESTATIONS



CALIFIA FARMS



REBBL



KOUKLA DELIGHTS

Califia Farms’ line of enhanced almond milks build on the company’s commitment to innovation in the plant-based beverages. The enhanced plant-based milks are non-GMO, vegan, kosher and BPA-free, deliver extra nutrients such as matcha, ginger and turmeric in four flavors: Matcha, Maca-’Nilla, Ginger and Choca-Maca. The Matcha Almondmilk contains 90 calories, 3.5g fat, 10 g sugar, 2 g protein and a blend of ceremonial and culinary grade matcha and a pinch of maple syrup. The Ginger Almondmilk contains 110 calories, 4.5 g fat, 13 g sugar and a combination of ginger and turmeric. Califia Farms’ protein almond milks with matcha won the NEXTY Award for Best New Non-Organic Beverage in 2017.

Plant-forward beverage innovator REBBL delivers efficacious levels of functional herbs in clean, indulgent, coconut milk elixirs. All REBBL drinks are certified organic, vegan, soy and dairy free, and include adaptogenic herbs such as ashwagandha, reishi, maca and turmeric. The line includes 10 flavors: Reishi Chocolate, Maca Mocha, Maca Cold-Brew, Reishi Cold-Brew, Turmeric Golden-Milk, Turmeric Lemon Creme, Matcha Latte, Ashwagandha Chai, Schizandra Berries & Creme, and 3 Roots Mango Spice. REBBL’s Maca Mocha Coconut-Milk Elixir combines herbs with chocolate and maca extract, and a percentage of revenue goes toward Not For Sale, a nonprofit that helps prevent human trafficking. REBBL received an inaugural NEXTY Gold Award at Natural Products Expo East in 2017 for its innovative thinking and upholding industry values.

Koukla Delights line of USDA Organic, gluten-free, vegan, paleo, non-GMO and kosher macaroons and cookies are a perfect blend of taste and nutrition designed to satisfy the sweet tooth and nourish the body. Koukla’s five flavors include: vanilla macaroons, chocolate macaroons, matcha green tea macaroons, matcha green tea macaroons with cacao nibs and cranberry maple granola cookies. The matcha green tea macaroons feature matcha as the first ingredient, followed by coconut, maple syrup, vanilla extract and Himalayan salt. Products are never heated above 115 degrees to preserve nutrients. All its products are sweetened exclusively with organic maple syrup and free from dairy, soy, peanuts, agave, preservatives, refined sugar and *trans* fats.