



ΓΕΝΙΚΟ ΠΡΟΞΕΝΕΙΟ ΤΗΣ ΕΛΛΑΔΟΣ ΣΤΟ ΣΙΚΑΓΟ
ΓΡΑΦΕΙΟ ΟΙΚΟΝΟΜΙΚΩΝ ΚΑΙ ΕΜΠΟΡΙΚΩΝ
ΥΠΟΘΕΣΕΩΝ

ΑΔΙΑΒΑΘΜΗΤΟ
ΚΑΝΟΝΙΚΟ

Σικάγο, 31 Μαρτίου 2022
Α.Π.Φ. 2215/20

ΠΡΟΣ : - Ως πίνακας αποδεκτών

ΚΟΙΝ.: - ΔΓ κ. Πρωθυπουργού
- ΔΓ κ. Υπουργού
- ΔΓ κ. Αναπληρωτή Υπουργού
- ΔΓ ΥΦΥΠΕΞ κ. Φραγκογιάννη
- Γραφείο κ. Γενικού Γραμματέα
- Γραφείο κ. Γενικού Γραμματέα ΔΟΣ & Εξωστρέφειας
- Γραφείο κ^ας Β' Γενικής Διευθύντριας
- Β1, Β3 Διευθύνσεις
- Πρεσβεία Ουάσιγκτων
- Γραφεία ΟΕΥ Ουάσιγκτων, Νέας Υόρκης, Σαν Φρανσίσκο

Ε.Δ. : - Γραφείο κ. Γενικού Προξένου

ΘΕΜΑ: Η άνοδος των λειτουργικών ροφημάτων στην αγορά των ΗΠΑ

Η άνοδος των λειτουργικών ποτών στις καταναλωτικές προτιμήσεις των Αμερικανών αποτυπώθηκε καθαρά το 2021, ενώ η τάση αναμένεται να διατηρηθεί στο μέλλον. Λειτουργικά ποτά θεωρούνται όσα, πέρα από την επαρκή διατροφική δράση τους, ισχυρίζονται ότι επηρεάζουν ευεργετικά μία ή περισσότερες από τις βασικές λειτουργίες του οργανισμού, κατά τέτοιο τρόπο ώστε να βελτιώνουν την κατάσταση υγείας και ευεξίας ή να μειώνουν τον κίνδυνο εκδήλωσης ασθενειών.

Το γραφείο μας παρακολούθησε σειρά σεμιναρίων με θέμα τα λειτουργικά ροφήματα στο πλαίσιο του διαδικτυακού συνεδρίου «*Positive Nutrition Digital Summit*», που διοργάνωσε η εταιρεία ερευνών αγοράς Food Navigator-USA και συγκρατεί τα κάτωθι σημεία ενδιαφέροντος για όσους επιθυμούν να δραστηριοποιηθούν στη σύγχρονη αγορά ποτών των ΗΠΑ:

Η δυναμικότητα της αγοράς λειτουργικών ροφημάτων

Η αξία της παγκόσμιας αγοράς λειτουργικών μη-αλκοολούχων ποτών από \$121,18 δισ. (€ 109,5 δισ.) το 2020, αυξήθηκε σε \$130,51 δισ. (€ 118 δισ.) το 2021 και αναμένεται να φτάσει τα \$173,23 δισ. (€ 156,5 δισ.) το 2025. Στις ΗΠΑ το 2021 η αξία της αγοράς ήταν \$37,3 δισ. (€ 33,6 δισ.) και αναμένεται να φτάσει τα \$50 δισ. (€ 45 δισ.) το 2026. Μεγάλες εταιρείες της κατηγορίας έχουν αντιληφθεί την τάση και αναπτύσσουν νέα προϊόντα¹.

¹ Κύριες εταιρείες στην κατηγορία λειτουργικών ροφημάτων: Danone, Clif Bar & Company, Universal Nutrition, Cloud 9, The Coca-Cola Company, Monster Beverage Corporation, Arla foods, National Beverage Corp, Cloud 9, Nestle (Research and Markets, 2021)

Έμφαση στην υγιεινή διατροφή

Κατά τη διάρκεια της πανδημίας το κοινό προέβαλε το αίτημα για καλύτερη πρόληψη μέσω της διατροφής (Clean and Clear Labels, Organic, Non-GMO) ενσωματώνοντας τα λειτουργικά προϊόντα στη διατροφή του. Το 83% των καταναλωτών πιστεύει ότι η υγιεινή διατροφή μπορεί να ισχυροποιήσει το ανοσοποιητικό σύστημα. Το 65% των καταναλωτών παγκοσμίως θεωρεί τα φυσικά προϊόντα περισσότερο υγιεινά και το 71% θεωρεί υγιεινή τη φυτική πρωτεΐνη.

Μείωση της ζάχαρης και του αλκοόλ στα ροφήματα

Πολλές κυβερνήσεις επιβαρύνουν φορολογικά την ζάχαρη ως συστατικό τροφίμων ή ποτών. Η επιλογή αυτή που γίνεται με σκοπό τον περιορισμό της κατανάλωσης ζάχαρης για λόγους δημόσιας υγείας έχει οδηγήσει στην κατά 44% αύξηση ροφημάτων με λίγη ή καθόλου ζάχαρη, που κυκλοφορούν στην αγορά παγκοσμίως. Παράλληλα, μεταξύ 2018 και 2019 αυξήθηκε κατά 32% η παρουσία ροφημάτων χωρίς αλκοόλ.

Νέοι ισχυρισμοί στις ετικέτες των προϊόντων

Τα λειτουργικά ποτά στοχεύουν στην επίτευξη συγκεκριμένης λειτουργίας, που θεωρείται σημαντική για την υγεία, όπως η αύξηση της ενέργειας (45%), της συγκέντρωσης και της διάθεσης, η ρύθμιση της πέψης (25%), η θωράκιση του ανοσοποιητικού συστήματος (23%), ο έλεγχος του σωματικού βάρους (15%), η διατήρηση φυσιολογικών τιμών σακχάρου στο αίμα (12%) και η βελτίωση της ποιότητας του ύπνου (6%).

Νέες χρήσεις συστατικών

Για την παρασκευή λειτουργικών ροφημάτων χρησιμοποιούνται πρεβιοτικά και προβιοτικά (19%), κολλαγόνο, φυτικές ίνες, βότανα (π.χ. κάνναβη), μπαχαρικά, βιταμίνες και ιχνοστοιχεία, παράλληλα με τη μείωση της ζάχαρης, των λιπαρών και της καφεΐνης. Το 63% των καταναλωτών θεωρεί τη χρήση βοτάνων υγιεινή επιλογή. Παραμένουν ψηλά η καφεΐνη, το πράσινο τσάι και η κομπούτσα. Ανερχόμενα συστατικά είναι το κολλαγόνο, η L-Theanine και το ashwagandha (winter cherry).

Κύριοι παράγοντες για την ανταγωνιστικότητα των προϊόντων

Το 63% των Αμερικανών καταναλωτών θεωρεί τη γεύση ως τον σημαντικότερο παράγοντα για την επιλογή ροφήματος (ακολουθεί το κόστος, 51% και τα οφέλη για την υγεία, 19%). Στην παρούσα φάση της ανάπτυξής τους, τα λειτουργικά ροφήματα είναι πλέον εύγευστα, με αποτέλεσμα τη σταδιακή εκτόπιση των παραδοσιακών αναψυκτικών². Το χρώμα θεωρείται επίσης βασικός παράγοντας, ενώ υπάρχει η προσδοκία να είναι φυσικής προέλευσης και να έχει προστιθέμενη αξία στη διατροφή. Το 87% των καταναλωτών επιθυμεί προϊόντα φιλικά προς το περιβάλλον.

Ανάπτυξη προϊόντων με βάση τις ανάγκες της κάθε ηλικιακής ομάδας

Τα λειτουργικά ροφήματα ακολουθούν τις διατροφικές ανάγκες της κάθε ηλικιακής ομάδας από τη βρεφική (good2grow) και την παιδική (Bitsy's), την εφηβική (Happy Moose), τη νεανική (Brainstorm), τη μέση (Verywell), την ώριμη (Gut Brain) ως την τρίτη ηλικία (Enlive). Λόγω της γήρανσης του πληθυσμού, αναμένεται αύξηση του αριθμού των ηλικιωμένων και επομένως διακρίνεται δυνατότητα ανοίγματος στην αγοράς σε αυτό το σημείο.

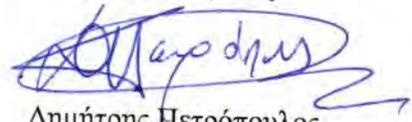
² Παραδείγματα λειτουργικών ροφημάτων: Runa Brewed Natural Caffeine, Sound, Aqua ViTea, Minna Lightly Brewed Sparkling Tea, Vitamin Water, Flow Alkaline Spring Water, Smartwater, Sodastream, Olipop Sparkling Tonic, Recess, Spindrift, Bubly, Zevia, Remedy Organics, Evolve, VitaCoco, Propel, BodyArmor

Διαπιστώνεται ότι η αγορά λειτουργικών ροφημάτων στις ΗΠΑ παρουσιάζει υψηλή δυναμικότητα, καθώς αυξάνεται ο αριθμός των εταιρειών που επιχειρούν στα ανταποκριθούν στις αναδυόμενες καταναλωτικές ανάγκες και επιθυμίες, με τη δημιουργία καινοτόμων προϊόντων.

Επισυνάπτονται τα αρχεία παρουσίασης των σχετικών webinars, που παρακολουθήσαμε, μεταξύ άλλων: α) «*Functional Beverages, from Adaptogen & Nootropic Infused Water to Prebiotic Soda*» και β) «*Healthy beverage trends: from sparkling water to functional wellness shots*», Food Navigator USA, γ) «*Better-for-you beverages: From functionality to sugar reduction*», Symrise, δ) «*Bringing the best out of the better-for-you beverages*», Exberry, καθώς και διαφημιστικό υλικό των εταιρειών που συμμετείχαν στο συνέδριο.

Το Γραφείο μας βρίσκεται στην διάθεση σας για κάθε διευκρίνιση.

Ο Προϊστάμενος



Δημήτρης Πετρόπουλος
Σύμβουλος ΟΕΥ Α΄

ZΠ/

Συν.: ένα (1) αρχείο PDF

ΠΙΝΑΚΑΣ ΑΠΟΛΕΚΤΩΝ

ENTERPRISE GREECE
ΠΑΝΕΛΛΗΝΙΟΣ ΣΥΝΔΕΣΜΟΣ ΕΞΑΓΩΓΕΩΝ (ΠΣΕ)
ΣΥΝΔΕΣΜΟΣ ΕΞΑΓΩΓΕΩΝ (ΣΕΒΕ)
ΣΥΝΔΕΣΜΟΣ ΕΞΑΓΩΓΕΩΝ ΚΡΗΤΗΣ
ΣΥΝΔΕΣΜΟΣ ΕΠΙΧΕΙΡΗΣΕΩΝ & ΒΙΟΜΗΧΑΝΙΩΝ (ΣΕΒ)
ΣΥΝΔΕΣΜΟΣ ΒΙΟΜΗΧΑΝΙΩΝ ΒΟΡΕΙΟΥ ΕΛΛΑΔΟΣ (ΣΒΒΕ)
ΣΥΝΔΕΣΜΟΣ ΒΙΟΜΗΧΑΝΙΩΝ ΑΤΤΙΚΗΣ & ΠΕΙΡΑΙΑ (ΣΒΑΠ)
ΣΥΝΔΕΣΜΟΣ ΒΙΟΜΗΧΑΝΙΩΝ ΑΝΑΤΟΛΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ ΘΡΑΚΗΣ
ΣΥΝΔΕΣΜΟΣ ΒΙΟΜΗΧΑΝΙΩΝ ΣΤΕΡΕΑΣ ΕΛΛΑΔΟΣ
ΣΥΝΔΕΣΜΟΣ ΒΙΟΜΗΧΑΝΙΩΝ ΘΕΣΣΑΛΙΑΣ & ΚΕΝΤΡΙΚΗΣ ΕΛΛΑΔΟΣ
ΣΥΝΔΕΣΜΟΣ ΘΕΣΣΑΛΙΚΩΝ ΕΠΙΧΕΙΡΗΣΕΩΝ & ΒΙΟΜΗΧΑΝΙΩΝ
ΣΥΝΔΕΣΜΟΣ ΕΠΙΧΕΙΡΗΣΕΩΝ ΒΙΟΜΗΧΑΝΙΚΗΣ ΠΕΡΙΟΧΗΣ ΗΡΑΚΛΕΙΟΥ
ΣΥΝΔΕΣΜΟΣ ΒΙΟΜΗΧΑΝΙΩΝ ΚΙΛΚΙΣ
ΣΥΝΔΕΣΜΟΣ ΒΙΟΜΗΧΑΝΙΩΝ & ΒΙΟΤΕΧΝΙΩΝ ΕΒΡΟΥ
ΣΥΝΔΕΣΜΟΣ ΒΙΟΜΗΧΑΝΙΩΝ ΠΕΛΟΠΟΝΝΗΣΟΥ & ΔΥΤΙΚΗΣ ΕΛΛΑΔΟΣ
ΣΥΝΔΕΣΜΟΣ ΒΙΟΜΗΧΑΝΙΩΝ & ΒΙΟΤΕΧΝΙΩΝ ΝΟΜΟΥ ΡΟΔΟΠΗΣ
ΕΛΛΗΝΙΚΗ ΠΑΡΑΓΩΓΗ
ΚΕΝΤΡΙΚΗ ΕΝΩΣΗ ΕΠΙΜΕΛΗΤΗΡΙΩΝ ΕΛΛΑΔΟΣ (ΚΕΕ)
ΕΜΠΟΡΙΚΟ ΚΑΙ ΒΙΟΜΗΧΑΝΙΚΟ ΕΠΙΜΕΛΗΤΗΡΙΟ ΑΘΗΝΩΝ
ΕΜΠΟΡΙΚΟ ΚΑΙ ΒΙΟΜΗΧΑΝΙΚΟ ΕΠΙΜΕΛΗΤΗΡΙΟ ΘΕΣΣΑΛΟΝΙΚΗΣ
ΕΜΠΟΡΙΚΟ ΚΑΙ ΒΙΟΜΗΧΑΝΙΚΟ ΕΠΙΜΕΛΗΤΗΡΙΟ ΠΕΙΡΑΙΩΣ
ΕΛΛΑ-ΔΙΚΑ ΜΑΣ
ΛΑΧΑΝΙΚΩΝ ΚΑΙ ΧΥΜΩΝ INCOFRUIT HELLAS
ΠΑΝΕΛΛΗΝΙΑ ΕΝΩΣΗ ΑΓΡΟΤΙΚΩΝ ΣΥΝΕΤΑΙΡΙΣΜΩΝ ΒΙΟΛΟΓΙΚΩΝ ΠΡΟΪΟΝΤΩΝ
ΣΥΝΔΕΣΜΟΣ ΕΛΛΗΝΙΚΩΝ ΒΙΟΜΗΧΑΝΙΩΝ ΑΝΑΨΥΚΤΙΚΩΝ

Functional Beverages, from Adaptogen & Nootropic Infused Water to Prebiotic Soda

Howard Telford, Head of Soft Drinks

FOOD

navigator-usa.com



**EUROMONITOR
INTERNATIONAL**

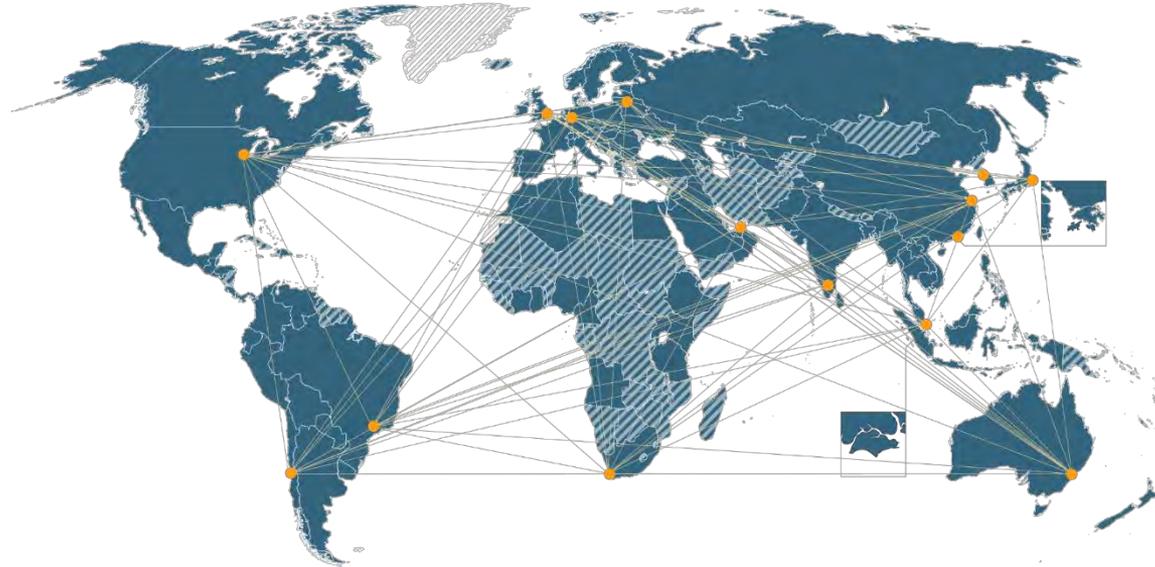
This PowerPoint presentation includes proprietary information from Euromonitor International and cannot be used or stored with the intent of republishing, reprinting, repurposing or redistributing in any form without explicit consent from Euromonitor International.

For usage requests and permission, please contact us

<http://www.euromonitor.com/locations>.

The data included in this document is accurate according to Passport, Euromonitor International's market research database, at time of publication: March 2021

Euromonitor International network and coverage



● 15 OFFICE LOCATIONS

London, Chicago, Singapore, Shanghai, Vilnius, Santiago, Dubai, Cape Town, Tokyo, Sydney, Bangalore, São Paulo, Hong Kong, Seoul and Düsseldorf

■ 100 COUNTRIES

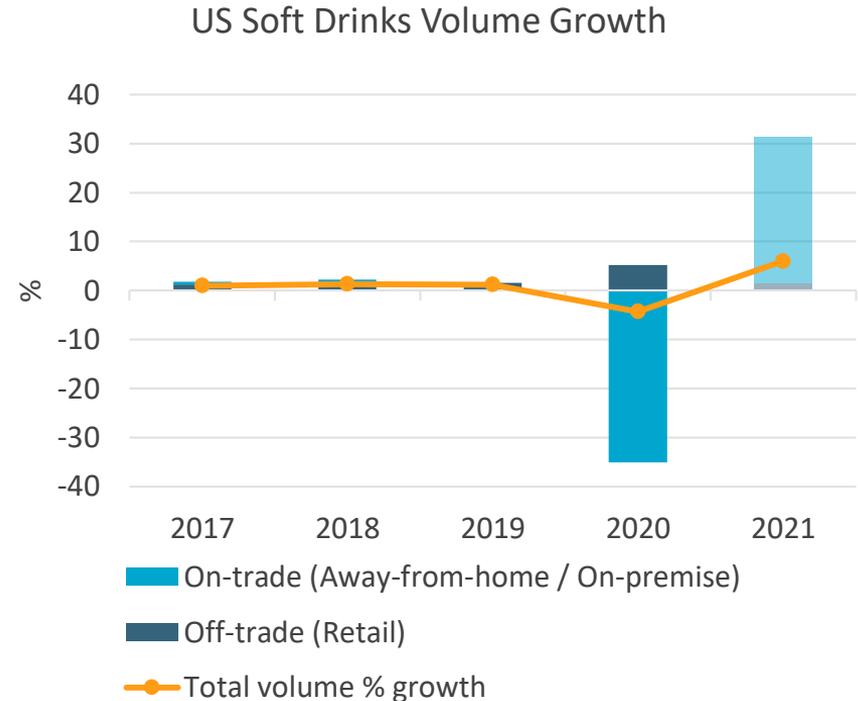
in-depth analysis on consumer goods and service industries

■ + ▨ 210 COUNTRIES AND TERRITORIES

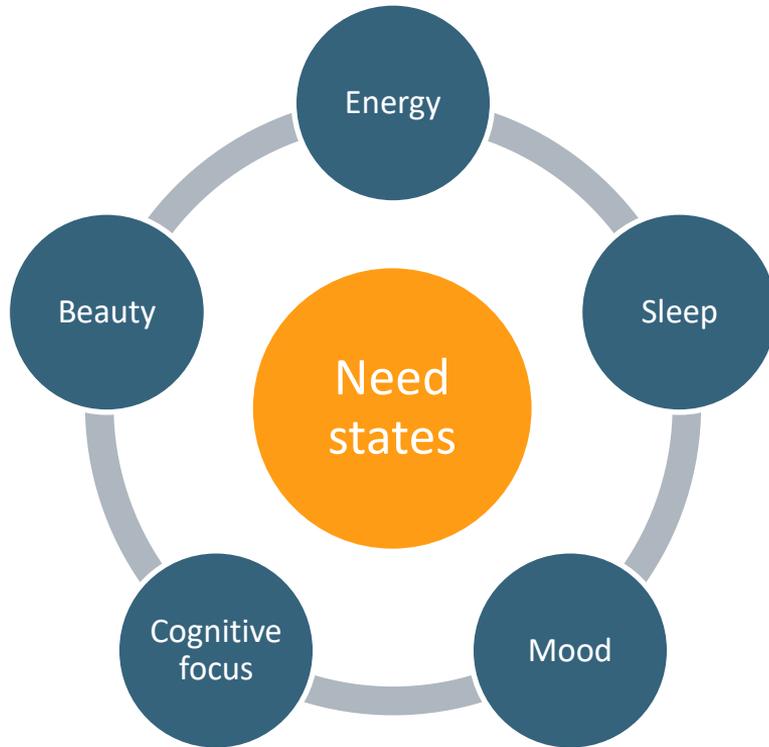
demographic, macro- and socio-economic data on consumers and economies

US soft drinks performance

- The five-year recovery window
- Channel shifting between on-premise, impulse and grocery
- Impulse versus future consumption
- A leap forward in e-commerce



What is a functional beverage?



What does being healthy mean to you?

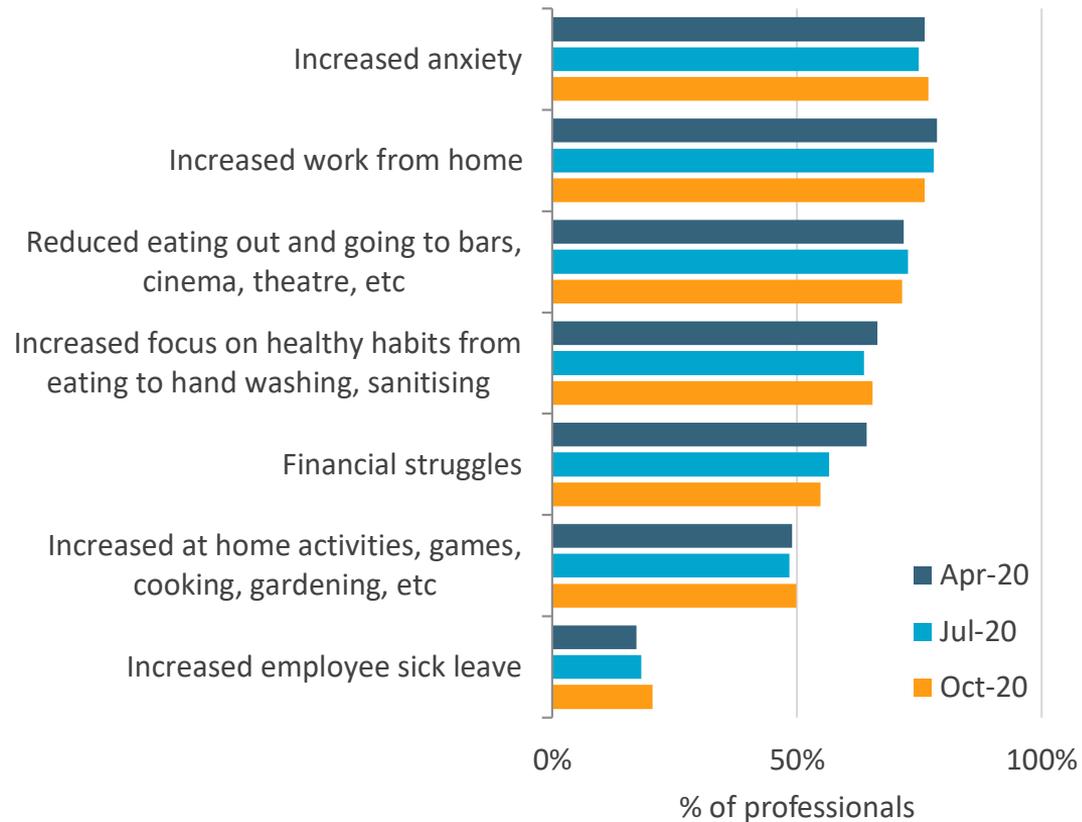


Source: Euromonitor International Health and Nutrition Survey, fielded February 2020

Rebuilding a routine

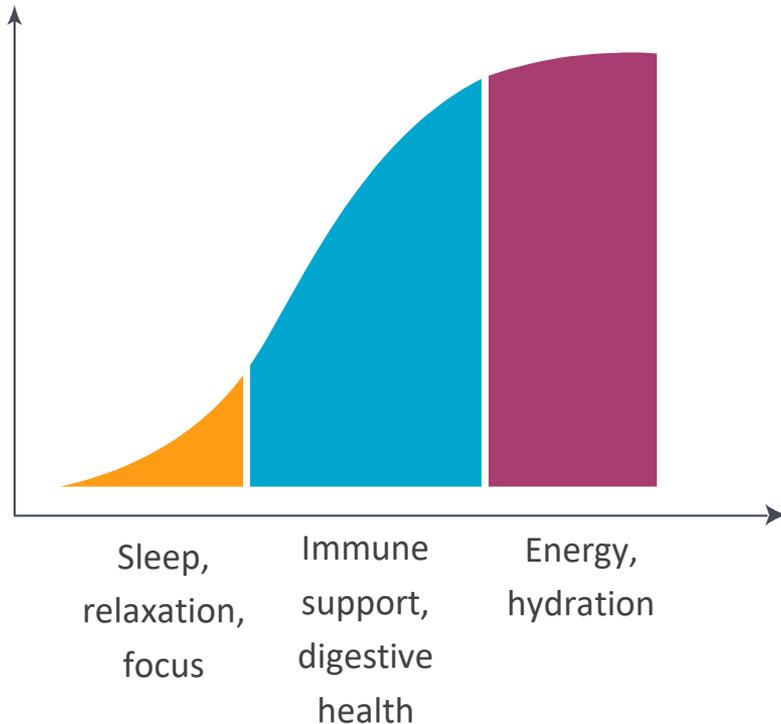
- New away-from-home occasions move into the home permanently
- Addressing mental and emotional health
- Balancing wellness and wellbeing

Which of the following do you think are the most likely effects of the COVID-19 pandemic on employee health and lifestyles in the next six months?



Source: Euromonitor International COVID-19 Voice of the Industry Survey, fielded April / July / October 2020

Identifying the next breakout benefit territory



Reducing calories



Boosting energy

Reducing sugar



Reducing harm



Relieving stress



Supporting immune health



Promoting sleep



Supporting digestive health



Thank You

Please download the slides here: <https://bit.ly/38yELzs>

Howard Telford, Head of Soft Drinks

✉ Howard.Telford@Euromonitor.com

in www.linkedin.com/in/howard-telford/



Fibersol® – This Isn't Yesterday's Fiber!

In search of a better-for-you-lifestyle, many of today's consumers want food that contains dietary fiber. To meet this desire ADM offers a premier, well-tolerated, soluble dietary fiber which can boost fiber content and improve the nutritional profile in a wide range of foodstuffs.

Fibersol® can be used for sugar reduction and fiber enrichment. It adds fiber with little to no impact on taste or texture, two elements that are very important to consumers. Also, in addition to these positive attributes Fibersol® doesn't affect the viscosity.

CONSUMER-FOCUSED SOLUTIONS FOR YOUR NEEDS

- Fibersol® has 90% fiber content and is easy to formulate into most product applications.
- It has a high tolerance (68 g per day).
- It offers superior solubility in hot or cold beverages, with no off-note or grainy texture.
- It has a neutral taste and color, and can mask off-notes.
- Ideal for low-sugar applications, fiber fortification and improving the nutritional profile in a range of products.
- Backed by 30 years of science, Fibersol® is your ideal ingredient for Health-Forward solutions.

59%
consumers
associate fiber
with aiding the
digestive
system¹

68%
of Vietnamese
consumers are
concerned about
maintaining their
gut health²

75%
of Indonesian
consumers are
interested in products
to improve
gut health³

^{1,2,3}FMCG Gurus/Mintel



More Applications, More Benefits



Beverages

- Fibersol® is part of ADM's sugar reduction solution toolbox



Sweets/Baked Goods

- "Better-for-you" approach – Fibersol® can replicate structural function of sugar with lower calories!



Alcoholic Drinks

- Perfect ingredient for sugar reduction, also helping to limit alcohol burn sensation
- It helps to improve body and mouthfeel as well as sensorial profile



Specialized Nutrition/Healthcare

- Backed by 30 years of science and numerous clinical studies to support targeted health benefits
- Microbiome support solution
- Brings structure and gummy "bite", especially in sugar reduced or low sugar gummies



Ice Cream

- Enhances creaminess and smoothness



Yogurt

- Extra creaminess at reduced calorie levels – pairs excellent with proteins
- Highly stable in cultured products and fruit preparations



Fibersol® Application Attributes

- When it comes to sugar-reduced and high-protein products, Fibersol® can mask bitterness and help balance the flavor profile

THE POWER OF TWO

Fibersol® is supported by the joint venture between Archer Daniels Midland Company, Matsutani Chemical Industry Co., Ltd., and Matsutani America, Inc., a global selling and marketing partnership combining strong technical and scientific expertise with a vast global production and transportation network, for a high-quality food ingredient backed by attentive, reliable service and supply.

always
inspiring more ...

symrise 

Better-for-you Beverages

From Functionality to Sugar Reduction



Bigger Opportunity for Functional Beverages Accelerated by COVID-19

In recent years, there is increased emphasis in holistic health which encompasses both physical and mental health, as well as a shift from curative to preventive approach. **80% of global consumers will proactively eat and drink healthily because of COVID-19¹**, which presents an opportunity for manufacturers to address consumer health concerns in beverage innovations.



Manufacturers Can Do More to Address Top Consumer Health Concerns

Top Consumer Health Concerns:²

 **Mental Health & Stress/Anxiety**
Top concern in Japan (33%)

 **Immunity**
Top concern in China (33%)

Other top concerns include Eye Health, Heart Health & Blood Pressure, Weight Management, Sugar Intake

Based on our recent study, **health ingredients content** is the attribute in functional beverages with **least satisfaction³**. This could be because **only <20% of functional beverage claims target the top health concerns (6% stress & sleep claims; 15% immunity claims).⁴**

Consumers are Paying More Attention to Food Labels

Consumers are placing more emphasis on food labels and **transparency on the source of ingredients**, as COVID-19 has further pushed **food safety and quality** to the forefront of consumer's minds. This should continue to **drive demand for ingredients with natural labelling**.

 **38%** of Chinese consumers **prefer clean label⁵**

 **51%** of Thai consumers see **"contain natural ingredients" as a key factor** when buying food and drink with added health benefits⁶

Beyond Functionality, Consumers are Focusing more on Sugar Reduction

Sugar reduction has become mainstream in APAC with **sugar tax on sugar sweetened beverages**, and **increasingly stringent healthier choice logo (HCL) requirements**. Consumers are also becoming **increasingly aware of the negative effects of sugar**. This shift is expected to translate to functional beverages in the form of low/no sugar variants.

41%

Consumers are **controlling their sugar intake**, and this is also the **top step taken** by consumers to manage health.¹

>70%

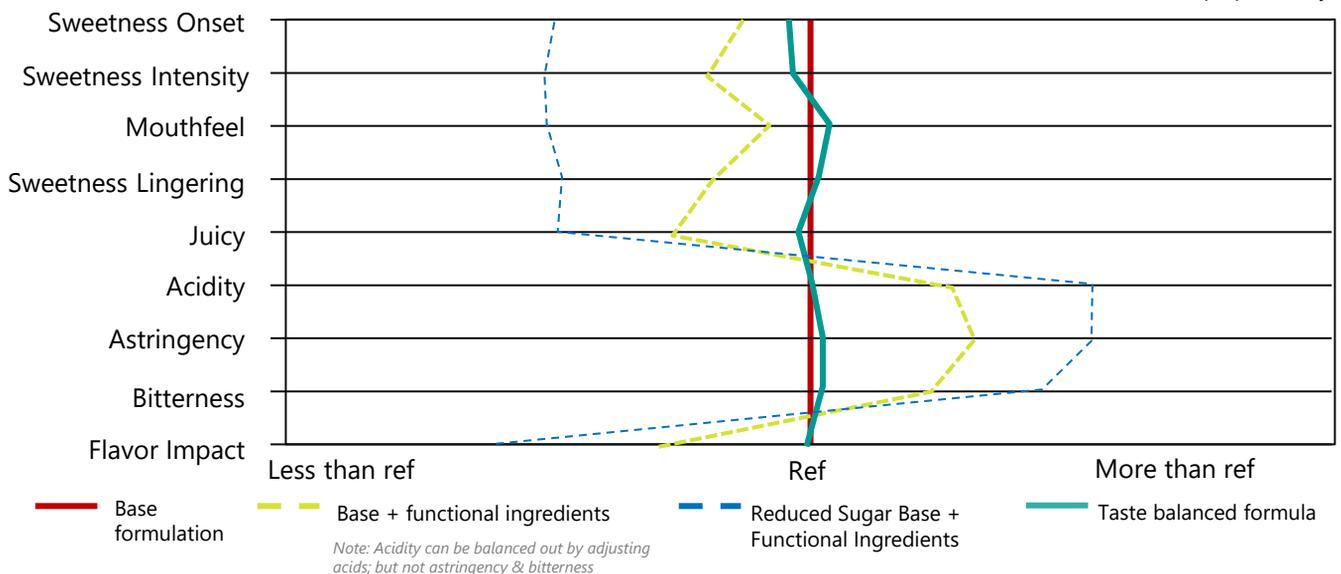
consumers who have consumed sugar reduced beverages are opting for **zero sugar or 70% sugar reduction**.²



The TASTE Challenge in Reduced Sugar Functional Beverages

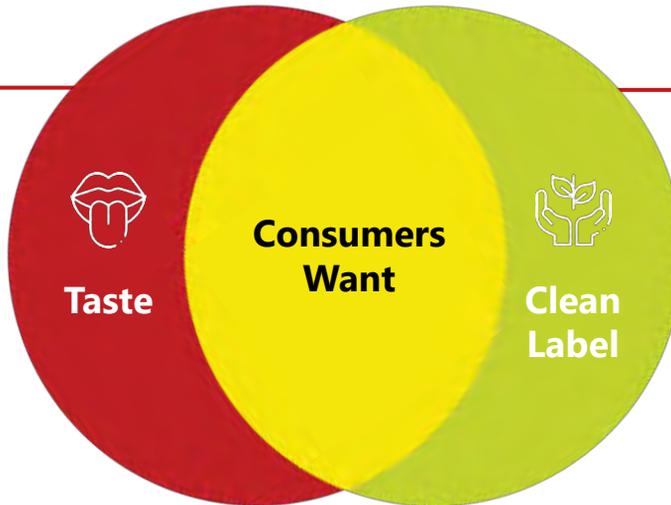
Functional ingredients and **sugar reduction** come with various taste challenges. For instance, adding high antioxidant ingredients such as **acerola may impart astringency and bitterness**, while **reducing sugar affects not only sweetness, but also mouthfeel and juiciness** which sweeteners alone cannot solve. A holistic approach is required to solve these challenges.

For illustration purposes only



Tackle the Key Challenges in Better-for-you Beverages

Consumers expect great taste in functional beverages. However, **functional ingredients and sweeteners come with various off-notes.**



Consumers are paying more attention to food labels, with a **preference for natural ingredients and clean labelling.**

Here's one of the many opportunities for your next functional beverage innovation!

Taste Solutions

To rebalance overall taste

Sugar Reduction

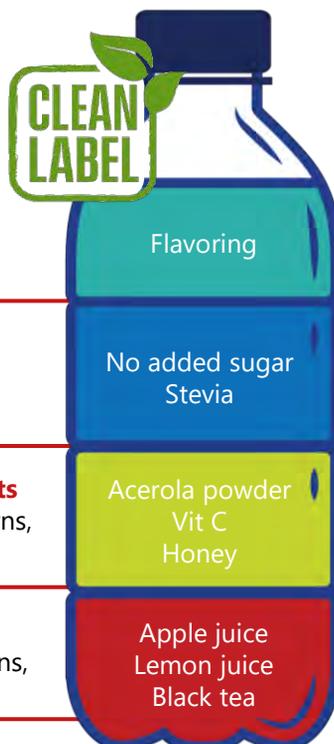
And/or addition of sweeteners

Leveraging Natural Ingredients

Associated to top health concerns, e.g. immunity

Leveraging Key Categories

associated to top health concerns, e.g. juices, tea



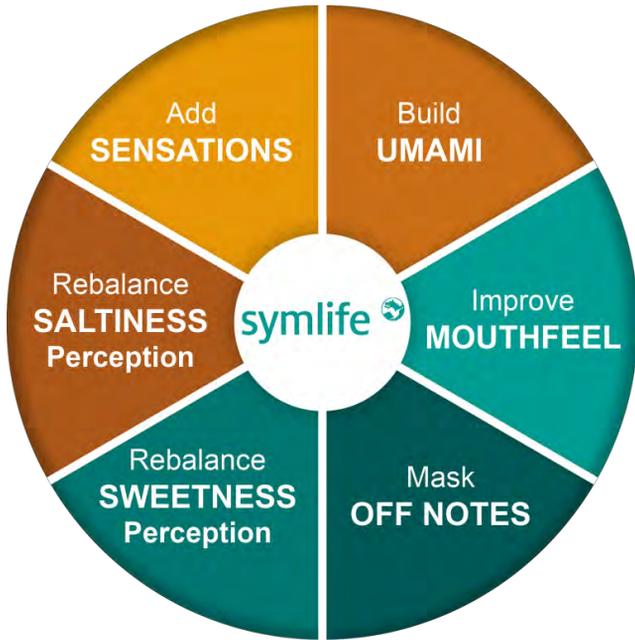
Address your **TASTE** and **LABELLING** challenges with Symrise solutions:

Taste Balancing solutions, **symlife™** to **bridge the taste gap** by rebalancing sweetness perception and masking off notes, e.g. astringency from acerola

Natural flavor solutions, **code of nature™**, to **deliver authentic taste** with **natural labelling**

Natural ingredient solutions, **dianafood™**, that addresses consumer wellbeing and **clean label** requirements

Tackle the TASTE challenge with **symlife™**



symlife™ is Symrise's range of **taste balancing solutions** that **rebalances overall taste perception**. All symlife™ solutions are classified under the flavor regulation and hence can be **labelled as natural flavor or flavor**, which can provide better labelling for your products.

Uniquely tailored to customers' specific needs, **symlife™ taste balancing solutions** help manufacturers achieve **better-for-you products with no compromise on taste**.

Our Holistic Approach to Taste Balancing

MASKING

Bitterness
Astringency
Acidity
Off-notes

symlife™

Over 200 patents



BOOSTING

Flavor Profile
Impact
Creaminess
Mouthfeel
Sweetness

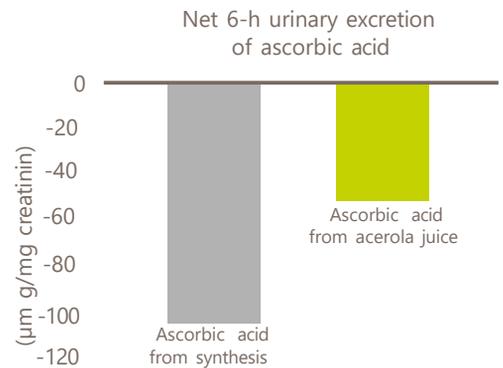


Addressing Clean Labelling Needs with **dianafood™**



With increasing consumer focus on managing health through diet, there is growing interest in natural ingredients that will support consumer's health in the long term. **dianafood™** has strong sourcing, technological and scientific expertise in health solutions that has led to the creation of a wide range of **reliable natural ingredients to support consumers' specific health conditions and expectations.**

We back up our products with **robust research and clinical studies to prove the efficacy of our health actives.** For instance, in a study from Uchida (2011), we found that the **net urinary excretion of ascorbic acid (Vit C) from our acerola juice is 2 times lower than synthetic ascorbic acid**, which indicates a **more efficient absorption!**



Explore our Natural Ingredients Portfolio to Address Consumer's Top Health Concerns:



Mental Health & Stress/Anxiety

| Natural Ingredient | Remarks |
|--------------------|--|
| Wild Blueberry | Contains polyphenols which is known to support cognitive functions |
| Acerola | Contains Vitamin C which is known to support cognitive functions |



Immunity

| Natural Ingredient | Remarks |
|--------------------|--|
| Acerola | Contains vitamin C is a top nutrient associated with immunity boosting |
| Elderberry | Contains anthocyanin which is believed to support immunity |
| Honey | Honey is a top ingredient associated with immunity boosting |

and more...

Addressing Clean Label Needs and Delivering Great Taste in Better-for-you beverages with *code of nature*™

code of nature™ is Symrise's signature taste solution platform that unlocks and amplifies the authentic taste of nature. The all-encompassing approach connects market and consumer needs with all facets of Symrise's long standing expertise and heritage to **deliver great taste with natural labelling declarations for cleaner label.**



The holistic *code of nature*™ approach is based on four pillars:



Consumer driven

Creating natural taste experiences based on consumer insights and in house sensory research.

Best naturals

Sustainably sourcing from people & places we know and trust



With a wide range of natural flavor portfolio to craft your functional beverages:

FRUITY ESSENTIALS™

- Citrus fruits
- Exotic fruits
- Orchard fruits
- Red fruits



Applied science

Proprietary technologies and gentle preparation methods for natural taste

Regulatory guidance

Providing tailored answers to changing consumer needs, incl. transparency and traceability.



BOTANICAL ESSENTIALS™

- Herbs & Leaves
- Blossoms & Flowers
- Seeds & Spices
- Woods & Barks
- Roots & Stems
- Nuts & Beans

Our selection of FTNJ* & FTNS* flavors which can be labelled as natural extracts**:

| FTNJ/FTNS Flavors | Remarks |
|-------------------|--|
| Apple | Crafted with our unique aroma recovery technology, SymTrap™, where discarded materials are turned into valuable flavoring solutions through sidestream aroma recovery and selective enrichment |
| Ginger | <i>Derived from real ginger, created using our selective enrichment technology which captures the intense and authentic aroma of fresh ginger</i> |

*FTNJ: From the Named Juice FTNS: From the Named Source
**subject to local market regulations

and more...

always
inspiring more...



Excited to discover how Symrise can help you deliver great taste in better-for-you beverages which your consumers love?

Reach out to us now:



Scan the QR code or go to <http://bitly.ws/oTgZ> to let us know how we can help you.



About Symrise

Symrise is a leading global supplier of taste and nutrition solutions, fragrances and cosmetic ingredients. Its clients include food and beverage manufacturers, producers of nutritional supplements, pet food, pharmaceuticals, perfumes and cosmetics.

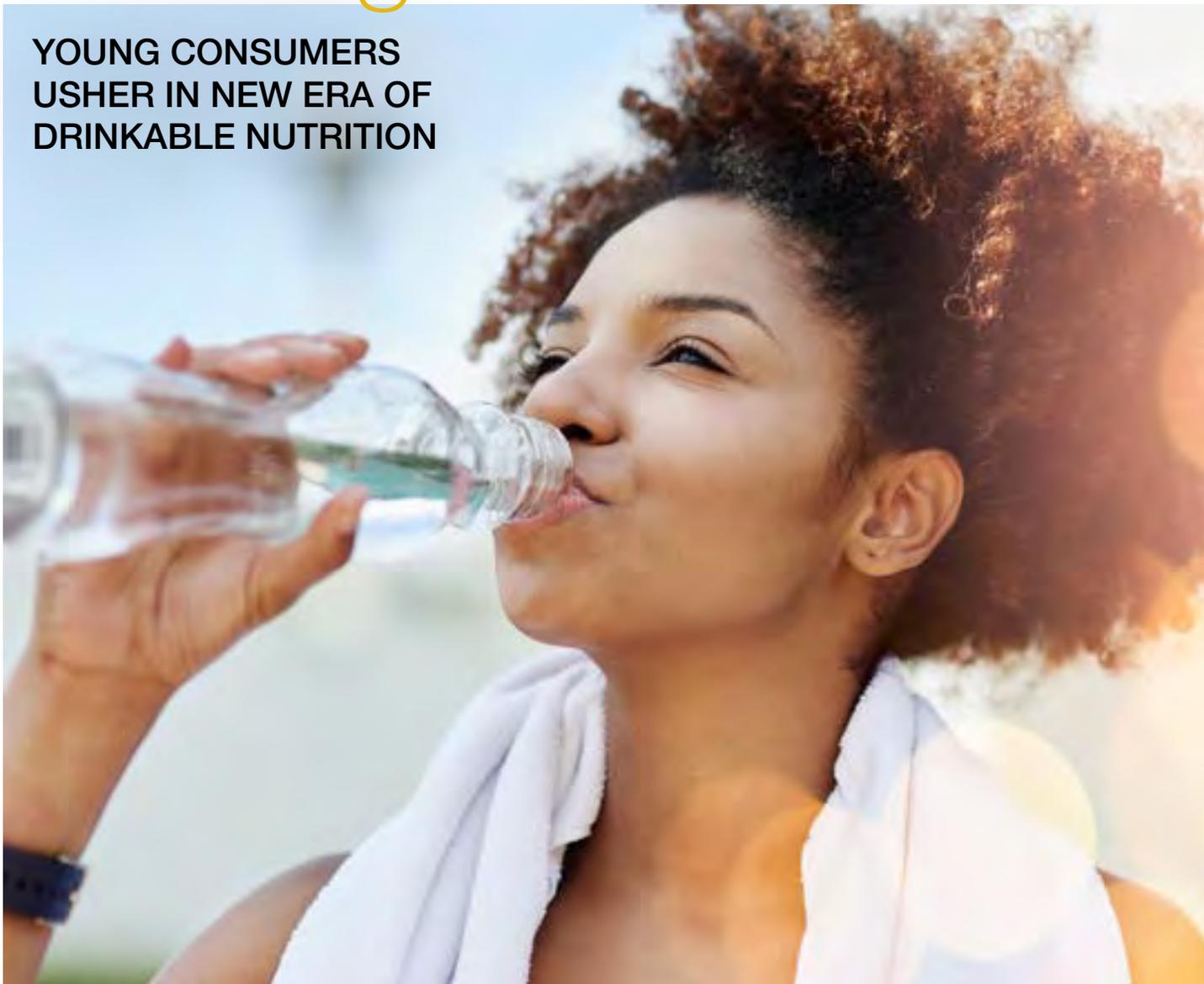
Sales amounted to € 3.8 million in the 2021 fiscal year. Headquartered in Holzminden, Germany, Symrise serves its customers with more than 100 sites in Europe, Africa, the Middle East, Asia, the United States and Latin America. Symrise works with its clients to develop new ideas and market-ready product concepts that form an indispensable part of everyday life. Economic success and corporate responsibility are inextricably linked as part of this process.

Symrise – always inspiring more...

Beverage beliefs

Insights
Report

**YOUNG CONSUMERS
USHER IN NEW ERA OF
DRINKABLE NUTRITION**



From the explosion of rock-and-roll, to the ubiquitousness of denim and the adoption of wearable technology, young consumers have typically been the first to embrace new ideas. Nothing is new about this, but today, these revolutionary concepts are sweeping down the pike faster as technology allows young generations to glean information at record pace.

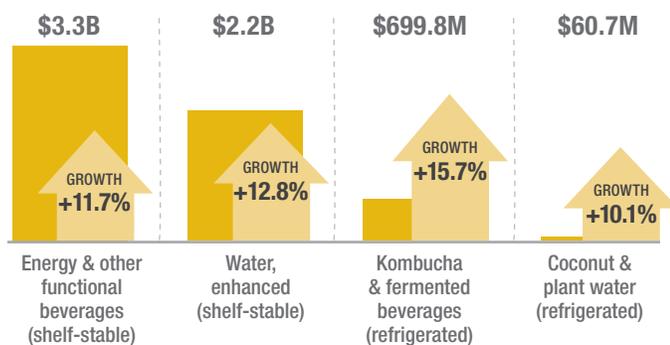
This phenomenon is now particularly relevant in the

beverage sector, where young consumers are driving demand for new-age beverages in unprecedented ways. Research firm The Hartman Group refers to this emerging movement in its 2018 report as “modern beverage culture,” noting that beverages now play an outsized role in the lives of young consumers like millennials, who are looking for beverages to provide not only convenience but also indulgence, experience, health and wellness.¹

As these young consumers drive the expanding role of beverages in our daily nutritional menu, it has accelerated change in the beverage segment, with disruption and innovation across categories—from water and juice to alcohol. Functional beverages are where a lot of the action is, with the global market estimated to reach \$208 billion by 2024 on an 8.66% CAGR, according to data from Research and Markets. Growth in the overall category, which includes energy drinks, fortified juices, sports drinks, dairy/alternative dairy, enhanced waters and RTD teas and coffees, is propelled by a growing inclination toward non-alcoholic beverages and a preference for functional drinks over fruit juices and carbonated beverages.²

The heightened preference for added function is reiterated by U.S. beverage market data from SPINS/IRI, which shows that energy and other functional beverages make up the largest portion of the \$27.2 billion market, but many functional beverages are seeing double-digit growth.

Top functional beverage categories (2019)



Source: Natural and Specialty Gourmet Channels (proprietary), Conventional Multi Outlet (powered by IRI); 52 weeks ending April 21, 2019. Infographic cited in Consumers Seeking Out Functional Beverages, CSP Daily News.

As young consumers reach adulthood, they are also ushering in changes to alcohol consumption. According to a report from International Wine and Spirits Record (IWSR), “Global Opportunities in Low and No-alcohol Drinks,” 52% of U.S. consumers said they are trying to drink less alcohol. This is leading to a booming market for new beverages. The global non-alcoholic beer market alone is estimated to jump from \$18.3 billion in 2020 to \$25 billion by 2024.³ The IWSR study predicts the overall category will see a CAGR of more than 38% by 2022.⁴

Whatever their drink of choice, the data undoubtedly shows that consumers consider beverages an important part of their nutritional routine. As they become more interested and informed about nutrition and health, they eschew beverages perceived as less healthy in favor of those they believe will bolster health.

New beverage behavior: The search for health and wellness



Consumers are clearly looking for beverages that can do more than ever—from hydration and satiety, to energy and cognitive support. While this trend is taking hold across generations, young consumers, especially millennials, are driving the shifts in beverage consumption.

Younger consumers now view beverages as a source of nutrition and a substitute for other foods. But their parents aren’t all that far behind.

Generational attitudes toward beverages

| | TOTAL | MILLENNIALS | GEN X | BOOMERS |
|---|-------|-------------|-------|---------|
| Beverages play a very important role in my health and wellness | 62% | 65% | 61% | 60% |
| I am very conscious about calories in my beverages | 49% | 50% | 46% | 53% |
| I like my beverages to do something for me (like provide energy, nutrients or other benefits) | 44% | 55% | 45% | 33% |

Source: The Hartman Group. Modern Beverage Culture 2018 Report.

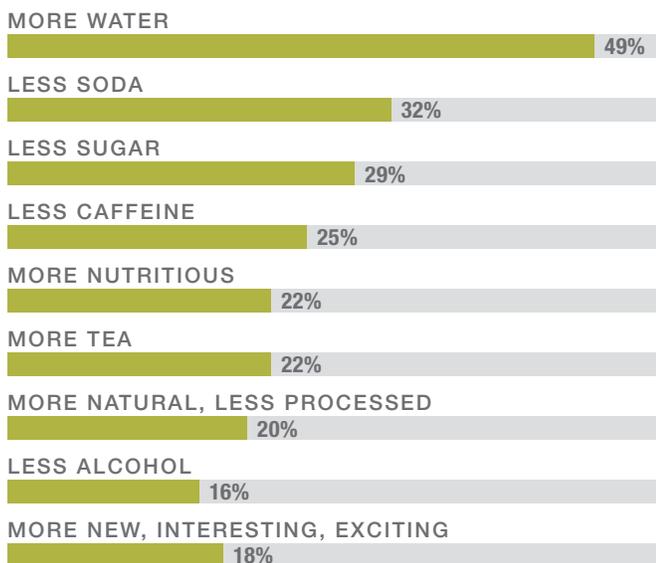
Still, consumers are fairly nuanced in what they want from a beverage. To shed light on these attitudes and behaviors, here's an overview of beverage perspectives by generation:

Thoroughly modern millennials

When it comes to beverages, millennials are definitely ahead of the curve. This is likely because changing norms they were exposed to about food and eating during their youth and early adulthood shaped new ideas about what a beverage should be. This predisposed millennials to explore and be receptive to the more-varied beverage landscape we see today.⁵

On average, 73% of millennials usually have a beverage on-hand, and they are increasingly aspirational about what they drink.

What millennials would change about what they drink



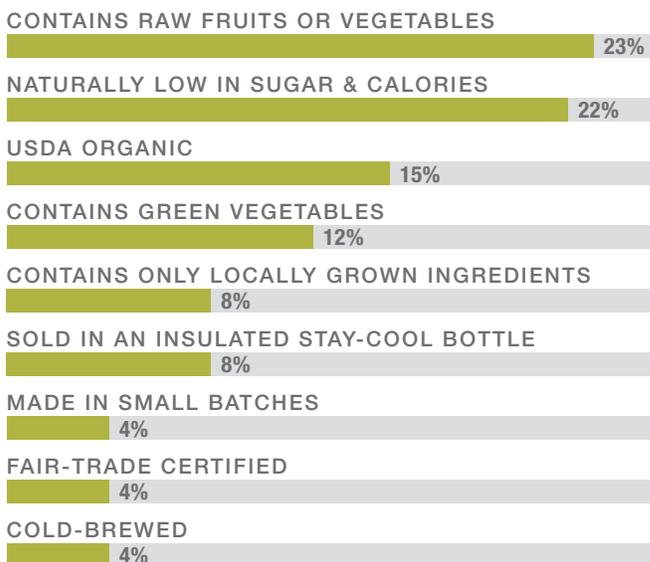
Source: The Hartman Group. Modern Beverage Culture 2018 Report.

Although bottled water is their beverage of choice, millennials are looking for new options. While this represents a big opportunity, interpreting millennial motivations and psyche is not easy. To better understand them, research firm Digsite looked deeper into what connects millennials to particular healthy beverages. Among their findings: more than half say they drink water regularly because they are concerned about sugar, want healthier options, and need to hydrate during a workout. Health was the top motivator in beverage choice, but when push comes to shove, good taste is not optional.⁶

Millennials indicated that they seek beverages to help them feel healthy while drinking. According to the Digsite report, this correlates strongly to “all-natural” products and ingredients. This generation also has a wide range of demands for their future beverages:



New features you would seek out in a healthy bottled drink if available (Top 3 options)



Source: Digsite. “What Hooks Millennials to a Healthy Beverage.”

TAKEAWAYS

Millennials are discerning shoppers who want a good value, so they gravitate toward all-natural products, as opposed to high-cost organics. They drink less alcohol and look for healthier options that may include added benefits, such as hard kombucha or spiked water. Millennials want brands they can trust and like products that are transparent about their background, sourcing and nutritional data. Simple products with fewer, natural ingredients (including natural sugars) and minimal embellishments will resonate.⁷



New kids on the block: Gen Z

Just when you might have thought you had millennials figured out, along comes Generation Z. This is the generation born from 1997 onward—with the oldest among them turning 24 in 2021. With nearly 86.5 million members, it is already the largest generation by a significant margin.⁸

Acceptance of healthier beverage choices is easy for Gen Z, because they grew up in the wellness foodie culture developed by their parents.⁹ Because they are just reaching adulthood, little is known about this generation, but they do seem to be taking the demands set by millennials a step further. For example, a study by Berenberg Research predicts Gen Z’ers will consume about 10% less alcohol per capita by age 49 than millennials, noting concerns about health, hangovers and being shamed or judged on social media if they drink too much.¹⁰

Gen Z is also more likely to support companies that share their values, and they try to support brands that make a difference. Brands will need to show a commitment to sustainability and equality to gain this generation’s trust. When it comes to food and beverage products, they see personal and planetary health, including ethical treatment of animals, as one and the same. They are educated when it comes to diet and health; they are adept at reading product labels and understanding nutrition facts.¹¹

TAKEAWAYS

Overall, Gen Z is only beginning to form opinions about brands and products they purchase. What we know about this generation is that they are diverse, open-minded, adaptable and socially responsible; listening to this group will be important. They will be increasingly influential in the beverage space, so brands should focus on business models that are sustainable, equitable and accepting.¹² This dials down to messaging that provides a strong story and speaks to their desires and concerns.



Gen X rising

As they rise to maturity, Generation X is now taking the baton from Baby Boomers as the next generation of responsibility: they now carry the burdens of mortgages, retirement savings and paying for their children’s college. Now in their prime earning years, their views have also been colored by some hard knocks due to economic setbacks during the Great Recession of 2007–2009.¹³

As a whole, Gen X is industrious, self-reliant, hard-working and pragmatic. They are also digitally savvy, financially responsible and socially conscious.

When it comes to beverage choices, they are embracing many of the same ideas as their kids (the millennials and Gen Z).



63% say they always have a beverage on hand



8.3 different types of beverages they regularly drink



Nearly 1 in 3 uses beverages as a snack instead of food

Source: The Hartman Group. Modern Beverage Culture.

TAKEAWAYS

Gen Xers are now in a place of influence when it comes to product consumption. They may challenge brands because they are cautious, pragmatic and responsible. To reach Gen X, beverage brands should focus on both value and quality, thinking outside the box for ways to help make their lives easier, with convenient, time-saving and child-friendly products. They are relatively easy to reach through both traditional media as well as online. Like their kids, Gen Xers are concerned about the environment and will consider beverage products that benefit communities and the environment.¹⁴

Trends: The quest for a better beverage

Baby boomers—Active at any age

Baby boomers, the leaders of the counterculture, were at the forefront of modern demands for individual choice, freedom from traditions and the demand for fresh, less-processed, organic foods and beverages.¹⁵ As they reach retirement age, they are the most active generation of seniors to-date.¹⁶

Boomers are now redefining what it means to be 60+. They are health-conscious and increasingly looking for products that help them age well. So, like younger generations, they are embracing ideas of hydration and are receptive to products that will help them maintain quality of life as they age.

Boomer beverage facts



58% say they always have a beverage on hand



7.1 different types of beverages they regularly drink



Nearly 1 in 3 uses beverages as a snack instead of food

Source: The Hartman Group. Modern Beverage Culture.

Interestingly, baby boomers still like their beer and wine, and they are drinking more than other generations—both older and younger¹⁷—which doesn't necessarily hold with their desire for healthy beverages. Nevertheless, more than 60% of this generation say they seek products with simple, recognizable ingredients and more than half want foods and beverages with as few additives as possible.¹⁸

TAKEAWAYS

Boomers, as well as their younger counterparts, are experimenting with specialized approaches to foods and beverages—from avoiding dairy to trying the keto diet.¹⁹ But this generation is also breaking ground on what it looks like to stay active as they get older. They are paving the way for younger generations to embrace healthy aging with beverages that support both physical and mental well-being.



Millennials may be driving beverage trends, but most people across the generational continuum are embracing ideas of health, wellness and function in beverages. This is prompting a whole new way to think about these products . . . and leading to many changes in the sector.

Beyond health: It's about function

Consumers are increasingly taking responsibility for their health and well-being through diet and lifestyle. Better-for-you, more healthful beverages have become a new baseline, with plant-based, alternative dairy drinks and fermented beverages gaining solid momentum. But as both foods and beverages are progressively sought-after remedies for long-term health, consumers are also seeking products for specific conditions, such as supporting healthy blood sugar levels and weight management.²⁰ This is big for beverages, where, according to Innova Market Insights' Top 10 Trends 2020 report, one in two global consumers say they have increased their intake of functional beverages in the past year.

As such, function has become a key trend in beverage innovation, with new products already touting a boost to mood, supporting cognitive function, or promoting sleep or immune support.²¹ It comes down to consumers wanting solutions to the challenges of everyday life, from combating tiredness and stress to bolstering immunity and digestive health. They need good nutrition packed in a convenient format.

These demands are not likely to diminish. Strong growth has already been shown for beverages that address improved bone strength (+27%), heart (+27%), brain (+15%) and immune health (+9.9%), according to Innova Market Insights data.²² What's more, Innova predicts that consumers will double-down on function, looking for beverages that



offer even more targeted nutritional benefits. The next generation will use a combination of ingredients to create drinks that address multiple needs, such as energy and gut health, or overall wellness from vitamins and minerals, plus cognitive support from botanicals.

Alcohol: A mindful makeover

Perhaps one of the most unlikely beverage segments to see a healthy makeover is alcohol. As consumers, especially those under age 40, take a more moderate stance on alcohol consumption, brands are working to provide beverages with all the great taste consumers expect from a beer or cocktail, with fewer calories and lower alcohol. This includes new low-sugar spirits and malt-based canned beverages.

Responsible indulgence is a key driver of this trend, but it is not just about low alcohol content. Young consumers, in particular, have new ideas about what types of alcohol they prefer. The youngest drinkers are now choosing spirits like mezcal, sparkling wine and hard seltzer over traditional beers and wines.²³ Interestingly, these better-for-you drinks often tout attributes like low sugar and carbs and gluten-free above low alcohol content.

Young consumers are also looking for new experiences and flavors from alcoholic beverages, which is giving rise to hybrid drinks, such as hard kombuchas, coffee stouts and even beer/wine combinations. Innovation in novel formats, craftsmanship and authentic stories will help drive the rise of these drinks.

Make beverages personal

Beyond healthier options, most consumers today also expect beverages to help create balance in their lives, like helping

them get through a busy day, or managing family and career demands.²⁴ So it's not surprising they look to beverages for more than nutrition.

But these desires are highly personal, and what's important for some may not resonate for all. It might be about convenience, lifestyle balance, comfort or even new taste and texture experiences. Having a deep understanding of customers and creating products and messages around specific goals will feel personal. Beverages that can help individuals feel better in the moment will support this concept, and consumers will curate a suite of products that they feel best addresses their individual needs and lifestyles.

Sustainable sense

The beverage segment has long faced accountability for environmental and sustainability standards, and this is only ramping up as consumer awareness and expectations around these issues grow. Nearly 90% of global consumers expect brands to invest in sustainability.²⁵ This increasingly means beverages are expected to contain sustainably-sourced ingredients.

Packaging waste, particularly from plastics, is also of high concern, and the beverage category has had a large impact on the creation and growth of plastic packaging materials.²⁶ More than half of global consumers now say they are willing to pay extra for products from companies devoted to solving plastic waste issues, according to Innova's Top Trends report, so this will continue to support initiatives to address these problems in beverage packaging, such as rPET and reusable bottles.

Ingredient initiatives

No matter what beverage segment a brand is in, the right ingredients, with strong functionality, versatility and a sustainable story, are critical to meet the demands of today's beverage consumers. Product taste is consistently a top priority, but many consumers are now exceptionally savvy about the ingredients used, and more or less, they want them to be natural, familiar and functional.

Sweet spot

Sugar content is a case in point. About three in four consumers are still trying to limit or avoid sugar, but they also want products that contain familiar ingredients. That makes label-friendly alternative sweeteners critical in beverage formulation. Stevia-based sweeteners, for example, are a great beverage solution. They are sustainably sourced from the stevia plant, which contain sweet components called steviol glycosides, such as Rebaudioside A. New generations of these sweeteners produced via fermentation containing Reb M and Reb D (the sweetest components), can now reduce calories by up to 100% in certain applications.

Erythritol, a sugar alcohol that is naturally present in berries and certain vegetables, is another solution that has strong interest in beverage applications. Ample research shows that this zero-calorie sweetener has no impact on the human body metabolically, systemically, or in the microbiome, and it is available as non-GMO project verified. Erythritol is increasingly paired with sweeteners like stevia because of its sugar-like aftertaste that helps mask off-notes from steviol glycosides when used at high levels.

Chicory root fiber is another ingredient used in reduced-sugar products to modify texture and add bulk. Chicory root fiber is also a well-researched prebiotic fiber that supports healthy gut bacteria and bone health,^{27,28} making it a solid added-value option in beverages.



Plant positive

Plant-based ingredients are an increasingly good strategy in beverage formulations. More than half of consumers say they now use products with plant-based ingredients,²⁹ and a majority view them as more healthful.³⁰ There is now a wide array of ingredients from fruits, vegetables and other botanicals that can add value and function to products. That said, consumers are especially receptive to plant-based proteins in beverages, now accepting a variety of sources, including pea, chickpea, soy, quinoa and flax.³¹

Peas, in particular, have seen growing usage in beverage applications, providing strong protein content, as well as versatility, clean taste, smooth-and-creamy texture and a sustainable, label-friendly perception.

Another way of incorporating the value in beverages is through fermentation. One of the newest options is a whole-food fermentation, or postbiotic (a bioactive compound produced by food-grade microorganisms during fermentation) called EpiCor® from Cargill. It is made using a proprietary process that creates unique beneficial metabolites and has been included in published studies supporting immune health effects.³² Unlike probiotics, postbiotics are not live organisms, so they are stable in product applications, even those requiring high heat or various pH levels.



Conclusion: Finding symmetry

In the end, it's clear that younger generations are altering the food and beverage landscape—and innovative beverage products are at the forefront. At the same time, each generation does have specific preferences for the products they drink, but there are also many common denominators. Brands will need to target these areas of convergence as they navigate the fragmented and fast-paced beverage space. Here are a few points of generational alignment:

Authenticity is important for consumers across generations. Whether a product is about taste, health, ingredients or experience, brands must develop a strong, authentic story and tell it well.

Packaging matters, especially with beverages, so brands need to break ground in developing product packaging options that solve plastic waste problems.

The focus on health is here to stay. As they become empowered to take control of their health and wellness, consumers are embracing ideals of holistic living at younger ages—they may have different priorities, but the endgame is to lessen the effects of aging, stay healthy and fit, and prevent future health issues. They'll adopt a comprehensive approach to achieving those goals. Choosing great beverage is only the beginning.

Learn about Cargill solutions for next-generation beverages at cargill.com/beverages and cargill.com/labelfriendly.

References

- 1 The Hartman Group. "Modern Beverage Culture," 2018.
- 2 Research and Markets. "Functional Beverage Market—Growth Trends and Forecast (2019–2024)." June 27, 2019. <https://www.prnewswire.com/news-releases/208-billion-functional-beverage-market---global-growth-trends-and-forecast-2019-2024-consumer-inclination-toward-non-alcoholic-beverages-300876065.html>
- 3 Statista. "Market Size of Non-Alcoholic Beer Worldwide from 2016 to 2024." Sept. 18, 2020. <https://www.statista.com/statistics/1091389/non-alcoholic-beer-market-size-worldwide/>
- 4 Drinks International. "IWSR Releases Low/No-Alcohol Report." Feb. 8 2019. https://drinksint.com/news/fullstory.php/aid/8190/IWSR_releases_low_no_alcohol_report.html
- 5 Ibid, Modern Beverage Culture.
- 6 Digsite. "What Hooks Millennials to a Healthy Beverage." <https://www.digsite.com/blog/online-communities/research-reveals-what-hooks-millennials-healthy-beverages>
- 7 Ibid, Digsite.
- 8 Dimock, M. "Defining Generations: Where Millennials End and Gen Z Begins." Pew Research. Aug. 17, 2019. <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>
- 9 The Hartman Group. "Gen Z: A Developing Story, But Here's What We Now Know." Aug. 7, 2018. <https://www.hartman-group.com/newsletters/2122857872/gen-z-a-developing-story-but-heres-what-we-now-know>
- 10 Berenberg Research Gen Z Study. In: "Millennials are Dragging down Beer Sales—but Gen Z Marks a Turning Point that will Cause an Even Bigger Problem for the Industry." *Business Insider*. Feb. 21, 2018. <https://www.businessinsider.com/millennials-gen-z-drag-down-beer-sales-2018-2>
- 11 Ibid, The Hartman Group, Gen Z.
- 12 Hodgson, A. "Gen Z: The New Wave of Consumers." Euromonitor. May 21, 2018. <https://www.euromonitor.com/generation-z-the-next-wave-of-consumers/report>
- 13 Pew Research. "Defining our Six Generations." <https://www.livingfacts.org/en/articles/2019/defining-our-six-generations>
- 14 Ha, L. "Gen X: A Small but Mighty Generation." Euromonitor Blog. November 19, 2018. <https://blog.euromonitor.com/generation-x-a-small-but-mighty-generation/>
- 15 The Hartman Group. "Wired Youth and Wise Elders: Consumers Younger and Old are Reshaping Food Culture—and the Food Industry." September 20, 2016. <https://www.hartman-group.com/newsletters/692944828/wired-youth-and-wise-elders-consumers-young-and-old-are-reshaping-food-culture-and-the-food-industry>
- 16 Ibid. Pew Research, Defining our Six Generations.
- 17 Achenbach, J. "Study Shows Baby Boomers are Drinking at Alarming Rates." *Chicago Tribune*. April 20, 2018. <https://www.chicagotribune.com/lifestyles/health/ct-baby-boomers-alcohol-20180420-story.html>
- 18 Ibid, The Hartman Group, Wired Youth and Wise Elders.
- 19 Ibid.
- 20 The Hartman Group. "Health and Wellness 2019: From Moderation to Mindfulness." <https://www.hartman-group.com/infographics/1256822017/food-or-beverage-as-a-remedy-for-health-conditions>
- 21 Innova Market Insights. "Top Ten Trends 2020 Report: Soft Drinks."
- 22 Innova Market insights. "Functional Beverages Tap into Consumer Demands for Convenience, Sleep Support and Immune Health." May 2020.
- 23 YPulse. "These Five Stats Show Why Millennials are Changing the Alcohol Industry." June 10, 2019. <https://www.ypulse.com/article/2019/06/10/these-5-stats-show-why-millennials-are-changing-the-alcohol-industry/>
- 24 Ibid, Innova Market Insights Functional Beverages. May 2020.
- 25 Ibid, Innova Market Insights Top 10 Trends.
- 26 Euromonitor International. "Examining Sustainability Challenges in the Non-Alcoholic Drinks Industry 2019."
- 27 Healy, G; et al. "Habitual Dietary Fiber Intake Influences Gut Microbiota to an Inulin-type Fructan Prebiotics: A Randomized, Double-Blind, Placebo-Controlled Human Intervention Study." *British Journal of Nutrition*, 2018. Jan;119(2):176-189.
- 28 Scholz-Ahrens, KE; et al. "Prebiotics, Probiotics and Synbiotics Affect Mineral Absorption, Bone Mineral Content and Bone Structure." *Journal of Nutrition*. 2007 Mar;137(3 Suppl 2):838S-46S.
- 29 The Hartman Group. "Food & Technology 2019 Report." <https://www.hartman-group.com/infographics/330315825/whos-buying-plant-based-foods>
- 30 HealthFocus International. "Navigating the World of Plant." 2019.
- 31 Cargill Proprietary Insights. "Consumer Attitudes and Usage of Plant Protein." Dec. 2018.
- 32 Embria Health Sciences. EpiCor Safety and Research. <https://www.epicorimmune.com/what-is-epicor/safety--research/>



Bringing the best out of better-for-you beverages

Power up your products with plant-based colors

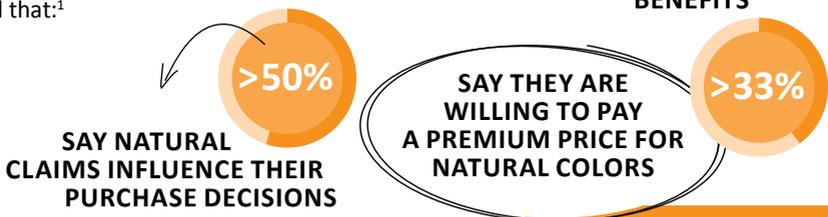
GROWING COLORS

EXBERRY[®]

Better-for-you beverages are booming

With consumers increasingly focused on their health, promoting beverages' better-for-you credentials can be a highly effective way to boost their appeal.

A 2021 survey on soft drink consumers in Asia-Pacific found that:¹



Even so, it remains vital that drinks look and taste appealing. Studies have found that color influences judgment of beverages' flavor and aroma, while the depth of the color may also affect the intensity of flavor perception.²

EXBERRY® Coloring Foods are the ideal choice to maximize beverages' visual appeal while maintaining their better-for-you credentials.

What sets EXBERRY® Coloring Foods apart?

EXBERRY® Coloring Foods are concentrates made from edible fruits, vegetables, and plants using only water and gentle, physical processes such as pressing and chopping. Due to the way they are made, they are considered to be food ingredients rather than food additives throughout much of the world, qualifying for completely clean and clear label declarations.



**HALAL,
KOSHER,
VEGAN-FRIENDLY
AND NON-GMO**



Top trends in better-for-you beverages

The experts at EXBERRY® by GNT have selected the top 3 most exciting trends in better-for-you beverages – along with tips on how color can help.

1 Less stress with botanical beverages

With nearly three-quarters of consumers worldwide saying they experience stress at least some of the time³, botanical beverages are primed for growth. In Asia-Pacific, 43% of consumers believe botanicals can improve stress levels and 41% say botanical flavors would make them increase their consumption of beverages.¹ Some of the most appealing options for these shoppers include hibiscus (59%), ginger (55%), and lavender (53%). EXBERRY® can be used to deliver striking shades to complement botanical flavors in products ranging from iced teas to vitamin waters.

2 Clean energy in demand

Stress and pandemic fatigue are driving demand for energy support in Asia-Pacific.⁴ The region's consumers say that two of the most effective ways to ensure that energy drinks have premium status are 100% natural production (67.3%) and the use of new and novel flavors (56.3%).¹ EXBERRY® can be used to complement exciting flavors such as yuzu, watermelon, and mango with intense shades while maintaining a natural ingredient list.

3 Juicing up the immune system

Since the pandemic, a quarter of consumers say they have become more concerned about their immune health.⁵ Fortified juice drinks can help manufacturers cater to the growing demand, with Asia-Pacific consumers widely associating ingredients such as vitamin C (69%), iron (64%), and vitamin D (62%) with immune health.⁶ Studies show color can play a hugely important role in ensuring consumer acceptance of juice drinks.⁷ EXBERRY® can boost flavored juice drinks' appearance by helping them to maintain the same shade and remain appetizing throughout the shelf life.



Discover the EXBERRY® advantage

Available in shades from across the whole rainbow, EXBERRY® concentrates are valued worldwide for their ease of use, brilliance, performance, and the vertical integration of the supply chain, which ensures full traceability, year-round availability, and price stability.

Find the format you need

To address the diverse needs of food and beverage manufacturers, the EXBERRY® color range is available in both liquid and powdered formats. For select, specialized applications, GNT has developed a portfolio of micronized powders and oil dispersible varieties of EXBERRY® colors. Additionally to support the growing trend for organic ingredients, GNT offers a certified organic line of EXBERRY® products that align with EU standards.

POWDERS

- ✓ LONG SHELF LIFE AT AMBIENT TEMPERATURES
- ✓ SUITABLE FOR USE IN INSTANT BEVERAGES
- ✓ ALSO AVAILABLE AS MICRONIZED POWDERS

LIQUIDS

- ✓ EASILY SOLUBLE OR DISPERSIBLE
- ✓ MANY SHADES AVAILABLE
- ✓ EASY CLEANING OF EQUIPMENT



Here to help

Making the switch to EXBERRY® is simple. Our experts are available to assist customers through each step of the commercialization process, from color matching and stability testing all the way through to regulatory support and upscaling. Contact your nearest GNT affiliate today and find out how EXBERRY® can help your products reach their full potential.

How is EXBERRY® described on the label?

Food legislation varies from country to country.

In Australia, New Zealand, India, and China, EXBERRY® Coloring Foods could be described on ingredient lists as ‘coloring food (concentrate of carrot and blackcurrant)’ or simply ‘concentrates (carrot and blackcurrant).’

In Indonesia, they could be listed as ‘fruit and/or vegetable concentrate (radish and carrot)’ or ‘concentrate (radish and carrot).’

In Thailand, they are classified as color extracts from parts of plants, with label declarations including the name of the raw materials and the part used, such as: ‘Natural color: color extracts from carrot root.’

Contact GNT for information on Coloring Food regulations in your region.

COLORED
WITH FRUIT
& VEGETABLES



Sources: ¹ FMCG Gurus ‘Global & Regional - Non-Alcoholic Beverages survey’ (Q4 2021) ² Spence, C. ‘The Crucial Role of Color in the Perception of Beverages’ Beverage Impacts on Health and Nutrition: Second Edition (2016) ³ FMCG Gurus ‘Top Trends for 2022’ (2022) ⁴ Mintel ‘Nutrition watch: energy claims in APAC’ (2021) ⁵ Innova Market Insights ‘Immune health concerns here to stay’ (2021) ⁶ FMCG Gurus ‘What next for the immune health market: Understanding consumer attitudes post COVID-19’ (2021) ⁷ Spence, C. ‘On the psychological impact of food colour’ Flavour (April 2015)





Florencia Moreno, MSc.

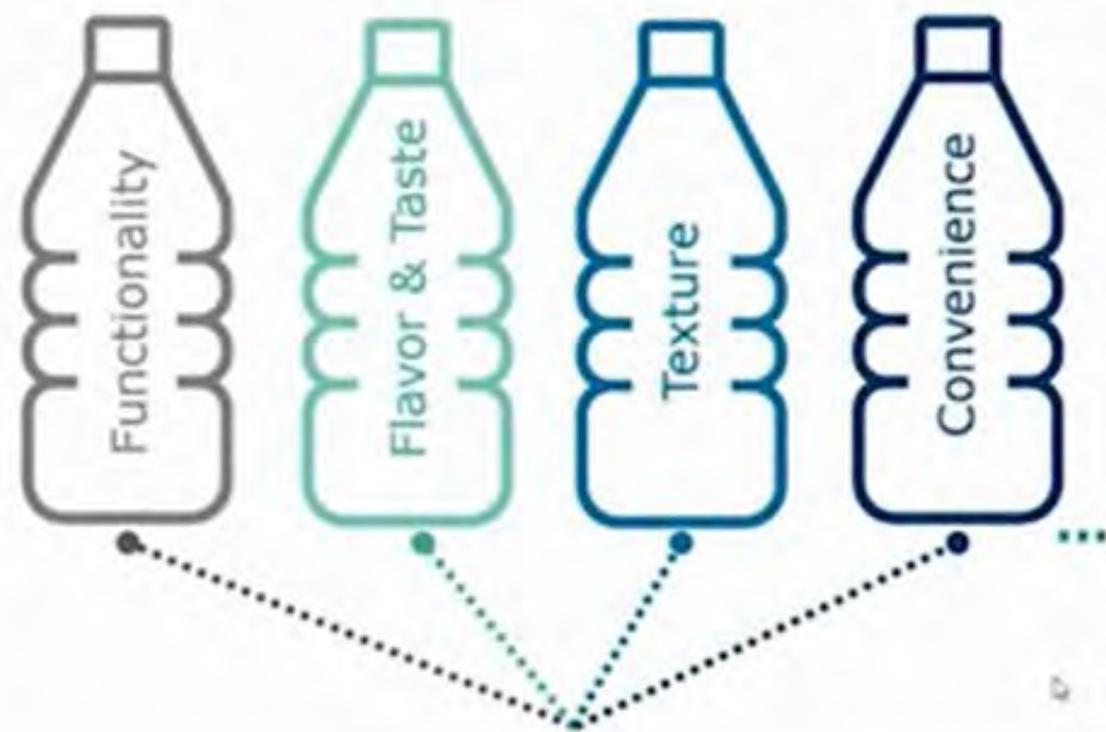
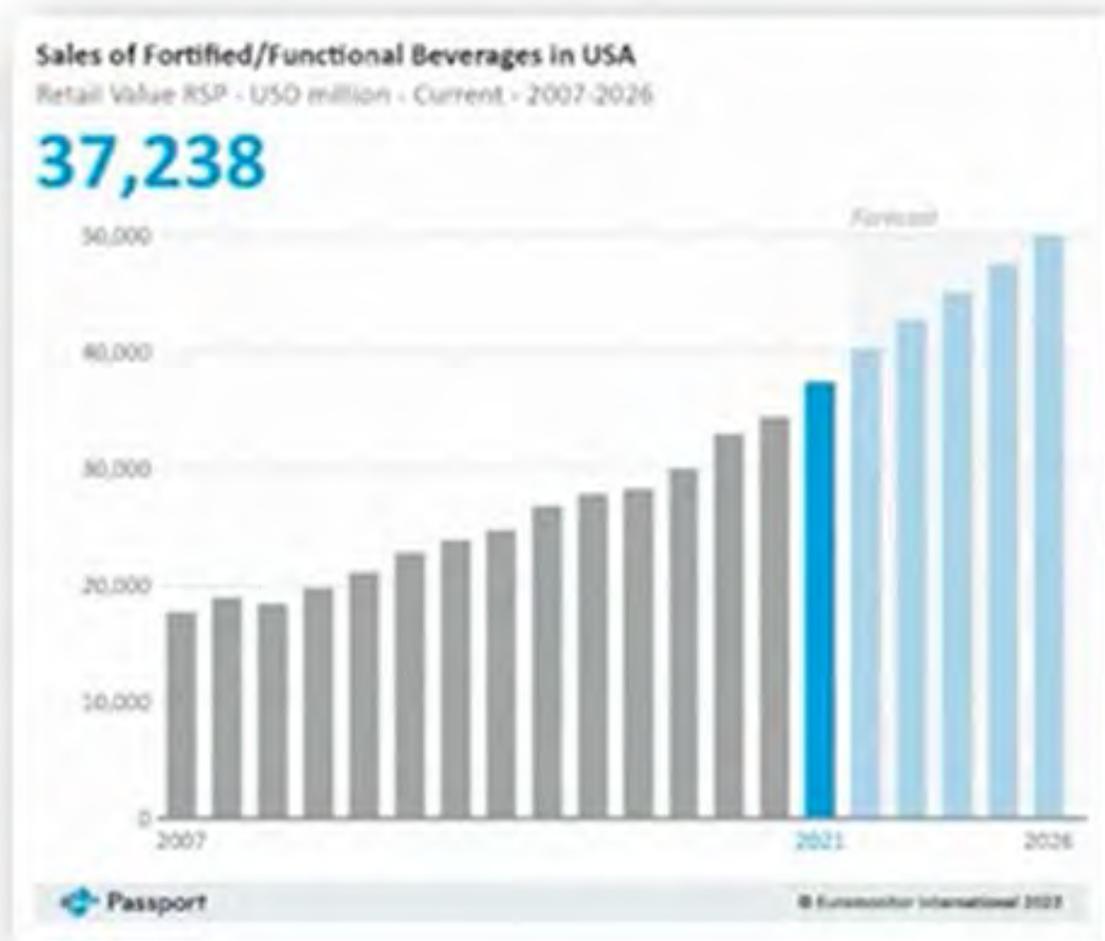
Global Business Development Manager Health & Nutrition
Rousselot

Healthy Beverage Trends

Giving your beverages a healthy makeover with collagen peptides

Florencia Moreno Torres
Global Business Development Manager H&N

Rousselot
Health & Nutrition



FINDING THE SWEETSPOT

Voice of the consumers...

What factors do you pay the most importance to when buying beverages*? (US,2020)



63%
Flavor



51%
Cost



19%
Health Aspects

**Beverages=Juice & Juice Drinks, Carbonated Beverages, Iced Tea*

**Multiple choices possible*

Voice of the industry...

Trends impacting consumer health industry sales:



44% see **blurring lines between health & nutritional products in traditional beverages** (Global)

Nutraceutical & functional ingredients within Functional Beverages launches tracked (US)



- Collagen **+60%**
- L-Theanine **+50%**
- Ashwagandha **+34%**

Low market saturation & fast growth

Holistic benefits

Application versatility

PEPTAN®
THE GLOBALLY LEADING COLLAGEN PEPTIDES INGREDIENT BRAND*



Backed by science



Quality & safety



Convenient



Premium brand



Full range

*Nutriingredients State of the Industry Survey 2020



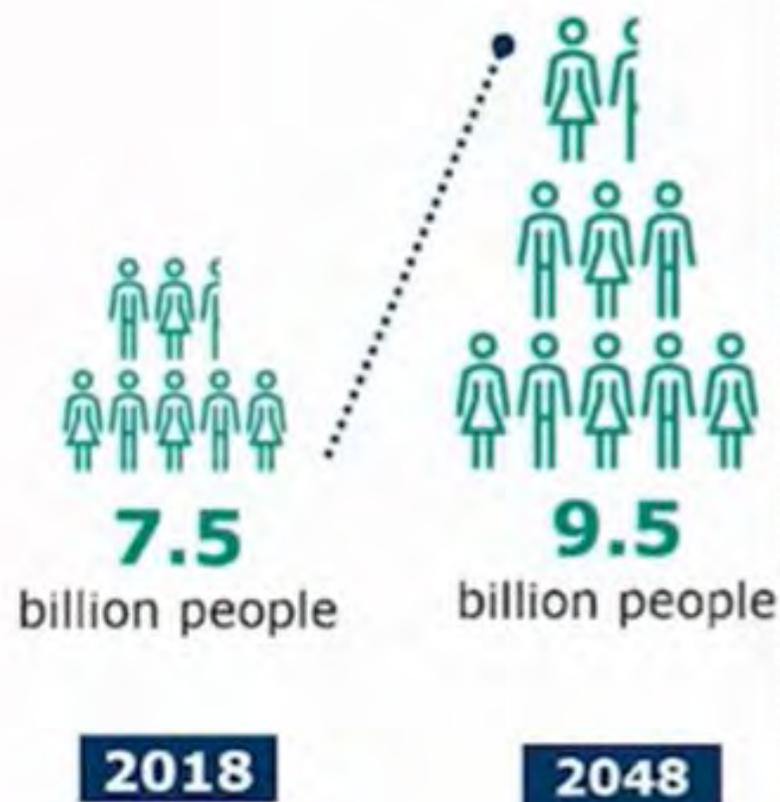
Collagen product innovations

From shots to powders...beers and waters!



Sipping functionality across ages





78-year-old graduate fulfills lifelong dream of earning college degree

She is a grandmother, great-grandmother and now a college graduate.

By Eric Reed and Henry Thomas
London 2017 | 20:00 - 21:00 GMT



Quenching the thirst of aging consumers

- ✓ Easy to drink/swallow
- ✓ High Protein
- ✓ Holistic approach:
 - Nutrition
 - Mobility benefits (*joint & bone*)
 - Anti-aging benefits (*beauty from within*)
 - Active lifestyle benefits

*INSPIRATION
FOR
INNOVATION*



Gist
(US)



Starbucks: Baya
(US)



RGT
(US)



nouri
(US)



Odyssey
(US)

Peptan

Holistic approach across ages!



Want to know more?

Get in touch!

Peptan.com





Ingredion

Be what's next™



Pour on the benefits: How nutritional beverages are evolving

Today's nutritional beverages are evolving to serve an ever-wider range of health-conscious consumers — and from promoting gut health to reducing sugar, exciting new opportunities are waiting to be explored. To help you chart your path forward, read on for highlights from our recent proprietary research studies.

Nutritional beverages: The right fit for a health-seeking world

The megatrend is well established: Consumers are looking to their foods and beverages to provide added healthful benefits — including enhanced protein, reduced sugars and immunity support. As the category expands beyond its traditional weight management role, nutritional beverages are especially well positioned to keep filling these new and important needs.

Top five benefits most likely to drive consumption of nutritional beverages (by index)¹:

- ✓ Supports overall health
- ✓ Supports healthy immune system
- ✓ Supports digestive health
- ✓ Excellent source of protein
- ✓ Improves gut health



Where nutritional beverages stand out¹

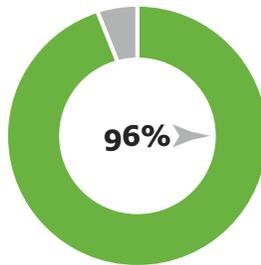
Compared to other foods and beverages, consumers are more likely to turn to nutritional beverages for:



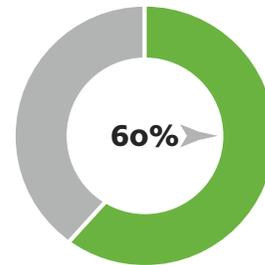
- Protein
- Weight management
- Keto-friendly diets

Immune/digestive health takes the spotlight

Ingredion's proprietary 2021 study of U.S. consumers finds the global pandemic has intensified interest in immunity-promoting benefits of good digestive health.



of U.S. consumers perceive a link between digestive health and overall immunity¹



feel digestive health has become significantly/somewhat more important in the past year¹

Reducing sugar: A weighty concern

Weight management continues to be an important factor of health-seeking consumers. Baby Boomers are the age group most likely to prioritize reduced sugar in their weight-loss efforts.

59%

of Baby Boomers rank reducing sugar intake as #1 weight-loss strategy²

Sugar-related features most desired by nutritional beverage consumers¹



Sources:

1. Ingredion proprietary research, 2021

2. Euromonitor International: Consumer Health: Health by Generation — Understanding Healthy Lifestyles

Position for success in a competitive landscape

As new product launches reveal, the nutritional beverage market is branching into new directions — and finding new ways to deliver for the varied needs of different age groups.

Popular health claims in new product launches

Enhanced protein, fiber and low sugars are highlighted most often in the category's new product launches — far above the total food and beverage market.

Health claims as percentage of total launches tracked, 2019-2020 YTD³

| Label claim | Adult nutritional beverages | Total food and beverage |
|-----------------------------|-----------------------------|-------------------------|
| High/good source of protein | 52% | 12% |
| High/good source of fiber | 23% | 5% |
| No added sugar | 9% | 4% |

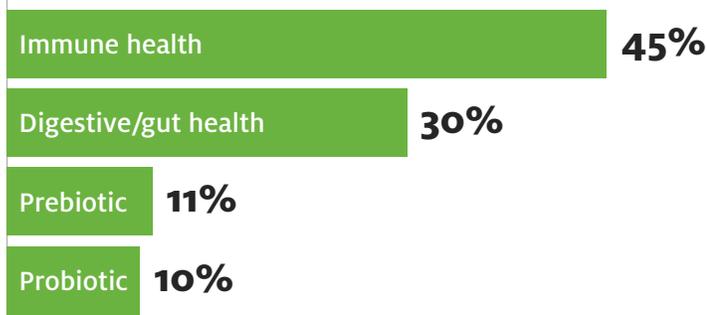
Immune health support: Rising fast and coming on strong

↑ **9.9%**

CAGR, 2015-2019 in U.S. nutritional beverage launches addressing immune health⁴

Top immunity-related claims

Top immunity-related claims in 2021 U.S. nutritional beverage product launches⁴



Targeting key product benefits by lifestage

Nutritional beverage consumers desire different functionalities/claims depending on their age, creating new opportunities for differentiation.⁵

Baby Boomers

Low/no sugar
High fiber
Low fat
Low sodium

Generation X

Low sodium
Low carb
Low/no sugar

Millennials

High protein
Vitamins/minerals

Generation Z

Low calories
Vitamins/minerals



Bottom line: The increased consumer focus on health and wellness creates great opportunity to stand out with products that offer the benefits consumers seek, as well as the taste and texture attributes they want. As you imagine the possibilities, consider these tips:

Enhanced protein is beginning to mainstream (43% of NPLs)

Keep an eye on **sugar content** — especially when targeting older consumers

To get ahead of the immunity trend, think **digestive and gut health**

Sources:

3. Innova Market Insights, 2020

4. Innova New Products Database, 2021

5. Innova Trends Survey, 2019



Formulate for nutritional beverage success with Ingredion expertise

Reduce the sugars. Boost the protein. Enhance immunity with fiber and prebiotics. With Ingredion, you gain a partner who helps you deliver the balanced benefits consumers seek — with the tastes and textures that keep them coming back.

Make your nutritional beverages even better for you

Take advantage of our end-to-end capabilities and innovative ingredient solutions to pack in the advantages consumers seek:

- **Enable high/good source of protein claims** with plant-based protein concentrates and isolates
- **Enhance digestive health and immunity support** with resistant starches, prebiotic fibers and 100% animal-free, fermentation-derived pepsin — the world's first nature-identical porcine pepsin replacement
- **Reduce the sugar** with our comprehensive toolkit of low/no-sugar sweeteners, including stevia and allulose, plus functional build-back (FBB) solutions

Deliver optimal taste and texture, protect stability

From optimizing texture and taste profiles to ensuring the best shelf stability, we can help solve your challenges to:

- **Achieve desired thickness and mouthfeel** with starch-based texturizers and hydrocolloids
- **Improve stability** and reduce risk of gelation or ingredient separation
- **Reduce off-notes** from enhanced protein with plant-based flavor-masking solutions

Accelerate innovation with ingredient systems

Developing the most on-trend nutritional beverage products takes special knowhow and capabilities. With food systems experts from Ingredion, you've got a consultative, problem-solving partner who brings it all together for you. Drawing from our synergistic ingredient systems, we'll develop a custom solution that delivers on your precise needs — and makes the journey simpler, faster and more certain.



Create healthy results in nutritional beverages

Contact the nutritional beverage experts of Ingredion

[ingredion.com](https://www.ingredion.com) | 1-800-713-0208



Ingredion.

Be what's next.

We bring people, nature, and technology together to make life better.



Pour on the benefits: How nutritional beverages are evolving

Today's nutritional beverages are evolving to serve an ever-wider range of health-conscious consumers — from promoting gut health to reducing sugar, exciting new opportunities are waiting to be explored.

To help you chart your path forward, read on for highlights from our recent proprietary research studies.

Nutritional Beverages

The right fit for a health-seeking world

The megatrend is well established: Consumers are looking to their food and beverages to provide added healthful benefits to meet their lifestyle priority of achieving holistic health — this includes claims such as enhanced protein, reduced sugar, low calorie, low fat, natural and more sustainable products in the market.

As the category expands, nutritional beverages are especially well positioned to keep filling these new and important needs, especially with novel applications such as meal replacements and sugar-reduced products for weight management.

Top four* product claims most likely to drive consumption of beverages:

- ✓ High in fibre
- ✓ High in protein
- ✓ Added calcium
- ✓ Lower calories

Where nutritional beverages stand out

Compared to other foods and beverages, consumers are more likely to turn to nutritional beverages for:

- ✓ Gut health
- ✓ Added protein needs
- ✓ Natural ingredients
- ✓ Sugar-free options

'Better-for-you' trend takes the spotlight

Ingredion's proprietary 2021 study of Asia Pacific consumers indicated that a large majority is willing to **pay more*** for products that have certain 'better-for-you' health claims on the packaging.

84%

of Asia Pacific consumers are willing to pay more for products with **Digestive Health & Immunity** claims

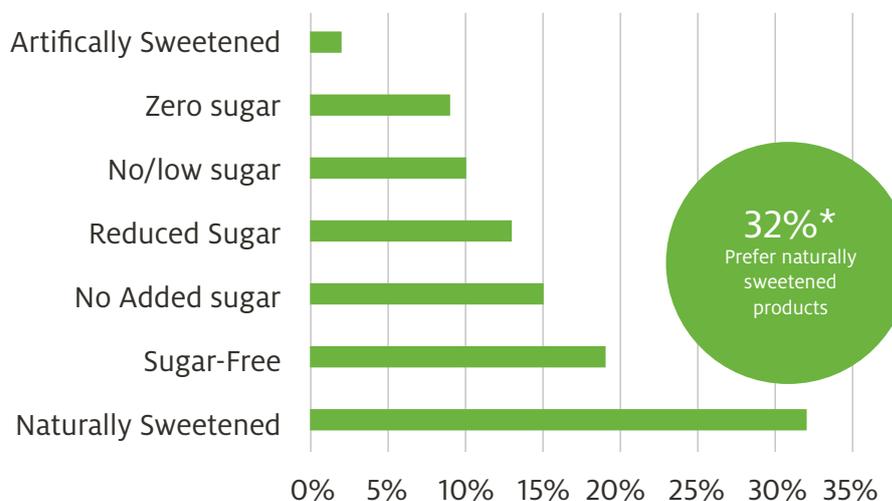
78%

of Asia Pacific consumers are willing to pay more for products with **High Protein** claims

Reducing sugar: A weighty concern

Weight control is one of the top reasons that consumers opt for reduced sugar products, but preference is prevalent for naturally sweetened options.

Importance of sugar claims, in order:



*2020 ATLAS Proprietary Consumer Insights Program

Bottom line: The increased consumer focus on health and wellness creates great opportunity to stand out with products that offer the benefits consumers seek, as well as the functional attributes they want.

Formulate for nutritional beverage success with Ingredion expertise

Reduce the sugars. Boost the protein. Enhance immunity with fibre and prebiotics. With Ingredion, you gain a partner who helps you deliver the balanced benefits consumers seek — with the tastes and textures that keep them coming back.

Make nutritional beverages even better for you

Take advantage of our end-to-end capabilities and innovative ingredient solutions to pack in the advantages consumers seek:

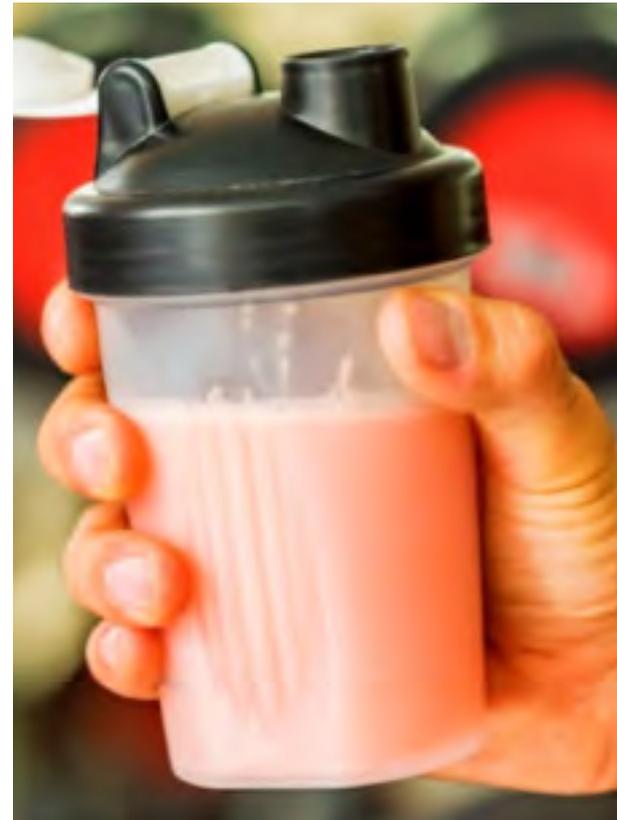
- **Enable source of protein claims** with plant-based protein concentrates and isolates
- **Enhance digestive health and immunity support** with resistant starches and prebiotic fibres
- **Reduce the sugar** with our comprehensive toolkit of low/no-sugar sweeteners, plus functional build-back solutions

Deliver optimal taste and texture, protect stability

From optimising texture and taste profiles to ensuring the best shelf stability, we can help solve your challenges to:

- **Achieve indulgent texture with desired thickness and mouthfeel** with starch-based texturisers and hydrocolloids
- **Improve stability** and reduce risk of gelation or ingredient separation
- **Reduce off-notes** from enhanced protein with plant-based flavour-masking solutions

Developing the most on-trend nutritional beverage products takes special knowhow and capabilities. Tap on Ingredion's wide portfolio of solutions and decades of experience to co-create winning nutritional beverages for the Asia Pacific consumer.



Ingredion.

Be what's next.

Ingredion Singapore Pte Ltd

21 Biopolis Road, #05-21/27, Nucleos,
Singapore 138567
T: +65 6872 6006

Create healthy results in nutritional beverages with consumer-preferred textures

Contact the nutritional beverage experts of Ingredion

apac.ingredion.com
apac@ingredion.com



Kerry Tastesense™

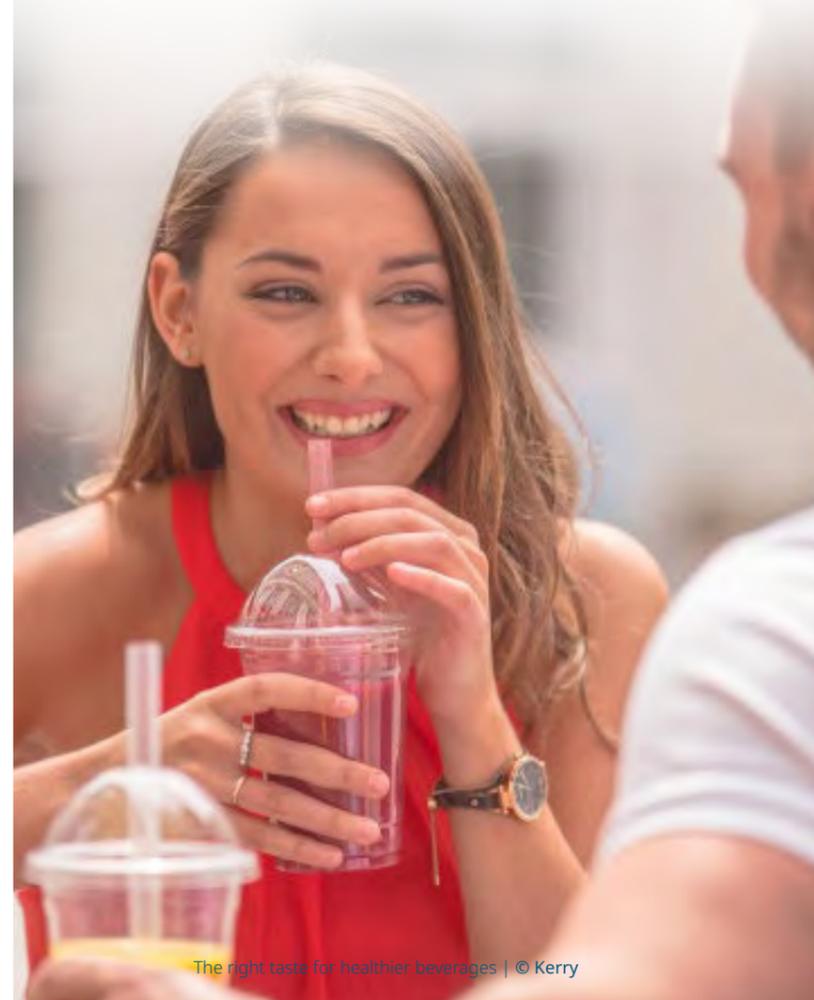
The right taste for healthier beverages

Using taste modulation
technologies in optimal
ways to formulate tasty
healthy beverages



Executive Summary

Today's consumers want to live a life healthier for themselves, and the planet. Often, this begins by choosing healthier food and beverages with reduced sugar and healthier credentials, challenging manufacturers to respond to demands without sacrificing the tastes consumers have come to love. The COVID-19 pandemic has accelerated this shift in consumer behaviour, with evidence that co-morbidities such as obesity and diabetes can lead to more severe COVID-19 outcomes.



The right taste for healthier beverages | © Kerry

The beverages industry has taken major actions to answer to these growing consumer expectations as shown in the following pages:



Reducing the sugar content of beverages, with a **44% increase in low/reduced sugar products** in beverages since 2015. (Mintel 2019)



Developing a number of new nutritional beverages that are expected to have a **steady growth of 2.9%** in value from 2019 to 2022. (Innova 2020)



Expanding the range of dairy alternative beverages, offering drinks that are **perceived as healthier by 71% of consumers** and are better for the planet due to the avoidance of the outsize carbon emissions associated with animal products.



Creating low or no alcohol alternatives to alcoholic beverages without switching to soft drinks. Indeed, in the last 5 years, the world has discovered new beverages such as hard seltzers in the US and the low/no alcohol spirits increasingly available in Europe.

Nevertheless, product developers know that the creation of these delicious drinks does not come without taste challenges. This is why we reached out to our beverages application team to capture their recommendations on delivering healthier beverages without compromising taste.

What emerges from reading their tips and tricks is that there is no one-size-fits-all solution. Rather, it is their holistic application of Kerry Tastesense™ technologies that delivers delicious drinks with natural flavours to rebalance the sweetness of the product, mask undesirable off-notes, and bring back the syrupy, mouthcoating, creamy sensation expected by consumers using our mouthfeel solutions.

At the end of this report, you will discover Kerry's portfolio of modulation solutions that can support and inspire your journey in delivering tasty, healthier beverages to your consumers.



Contents

| | |
|---|----|
| Executive Summary | 1 |
| The rise of healthy beverages | 3 |
| Delivering healthy beverages without compromising on taste | 9 |
| Kerry Taste solutions to develop flavoursome, healthy beverages | 15 |
| Conclusion | 17 |



The rise of healthy beverages

Today's modern consumers are more informed than ever before. From the comfort of their own homes, they now have instant clickpad access to a myriad of information. As a result, increasing numbers of consumers are demanding tastier, healthier, more convenient and more sustainable beverages. The beverage industry has undergone a remarkable evolution in recent years to take initiative and respond to these accelerating public expectations.

Along with calling for beverage manufacturers to meet or exceed a range of stringent new standards, consumers are demanding that beverages retain the tastes they have come to love. The rising insistence on natural products with clean labels presents a rigorous challenge to producers given that the quest to

simultaneously fulfil the growing list of demands often quickly comes face-to-face with the biggest impediments to success: taste and mouthfeel issues. In short, those changes that improve the nutritional value of a product, such as reduced sugar, alternative proteins, or such added actives as vitamins, mineral, or fortifications, can end up delivering compromised taste and/or mouthfeel following formulation changes. This reality is further complicated by the fact that sustainability in manufacturing practices has become a key demand of a growing number of consumers (according to Innova (2020), up from 65% in 2018 to 87% in 2019).

The pages that follow detail the results of an investigation into the evolution of the beverage market. At the same time, Kerry's applications team offer recommendations about the best ways to formulate healthier beverages while retaining appealing taste and mouthfeel, and, ultimately, foster customer brand loyalty.

The sugar revolution

One of the most noticeable industry changes in developing healthier beverages has been the push to reduce sugar content.

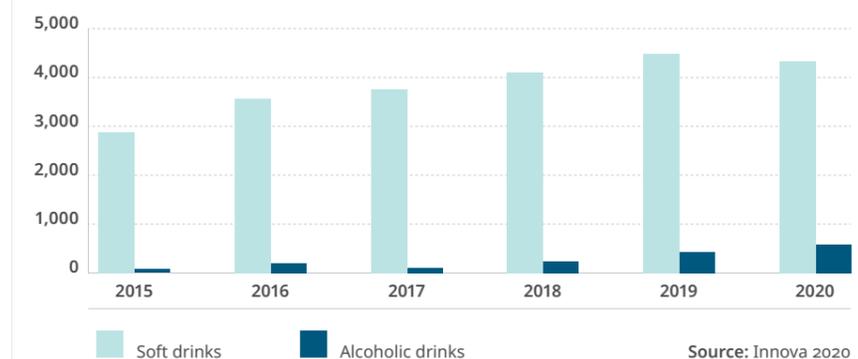
Indeed, consumer's willingness and desire to curtail their sugar intake continues to heavily influence the industry as a whole, with sweetened-beverage taxation policies precipitating a hasty change in direction for manufacturers across the globe.

In the US, taxing soft drinks as a health strategy remains limited to a few cities and districts. However, in striking contrast, Mexican markets have been employing such tax disincentives since as early as 2014; now, the heat is rising even further in Mexico as it implements an updated labelling mandate (effective October 2020) that uses prominent black octagons to show excess sugar content. Likewise, Brazil has passed a law giving companies 24 months to implement labelling changes that point out high sugar levels with conspicuous magnifying glass graphics.

Moving forward, other LATAM countries are poised to implement similar policies. Overall, more than 35 countries worldwide have now implemented 'sugar taxes', with new initiatives, such as in Poland, entering the scene on a regular basis. Taxation specifics, however, show wide variations between countries in terms of both cost and content levels that trigger the tax. For example, while in some countries only beverages with 5g or more of sugar per 100ml are taxed, other jurisdictions have applied the duties to products with as little as 1g of sugar per 100ml. This puts even more pressure on the beverage industry, in particular the soft drink segment.

Below (Fig. 1) is a representation of the evolution of products featuring claims of 'no added sugar', 'reduced sugar', 'low sugar', and 'sugar free', according to WW (2020 year: January–November).

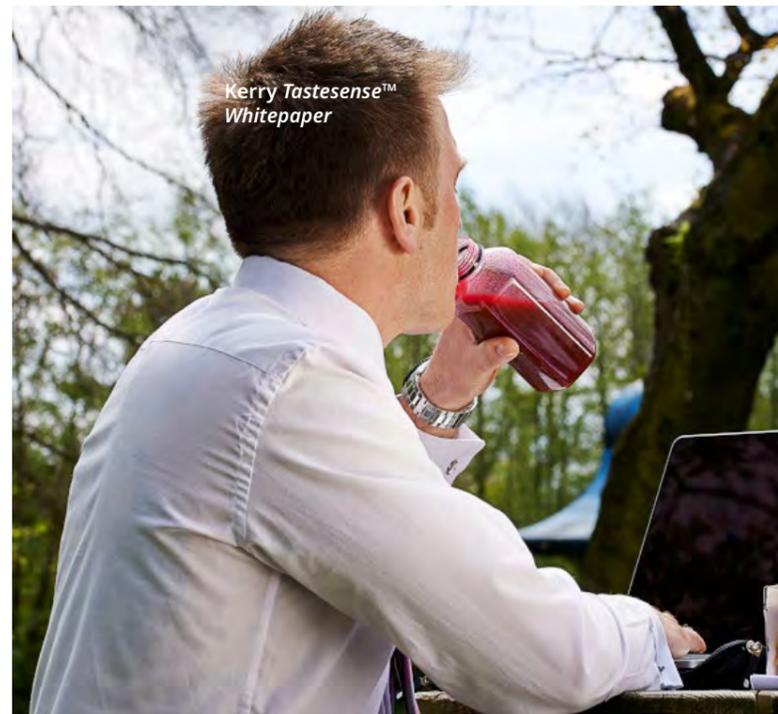
Fig. 1: Global new product launches per year: No added sugar, Reduced sugar, Low sugar, Sugar free



More than 35 countries worldwide have implemented 'sugar taxes'

35+






Many consumers claim they struggle to find nutritional beverages with an appealing taste.

Similarly, as the next chart (Fig. 2) illustrates, average sugar content has been decreasing gradually across all regions over time for beverages as a collective category (Innova 2020).

Low sugar content is one of the main beverage purchase drivers across all categories. Consumers the world over cite health concerns as the main motivator for decreasing their carbonated beverage consumption, with 30% cutting back; of note, 55% of this cohort cites their view of carbonates as “unhealthy” as their motivating reason (Innova 2020).

The nutritional beverage evolution

The nutritional beverage market has seen steady growth, as illustrated in the graph below (Fig. 3). Today, nutritional drinks are a key and growing preference for those making health-related lifestyle adjustments.

While these nutritional beverages are often rich in proteins or minerals that can improve physical performance and provide an energy boost, many consumers claim they struggle to find such products with an appealing taste. Moreover, with many novel protein sources now being utilised, taste challenges are emerging for producers struggling to maintain traditional (e.g., chocolate, vanilla, etc.) flavour appeal.

Fig. 2: Evolution of average sugar content (g/100ml) for beverages tracked, split by region (Global)

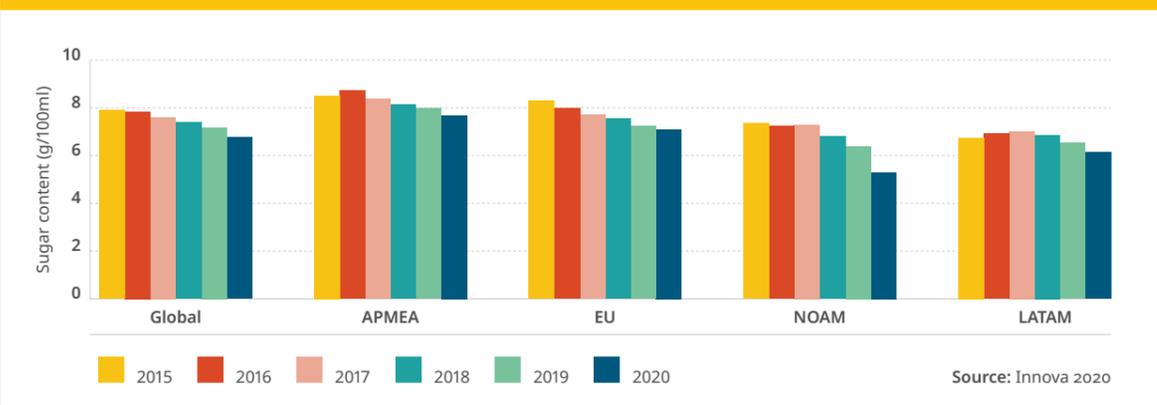


Fig. 3: Sports Drinks in Global – Total Market Value (Retail – M\$) and Market Volume (Retail & Out-of-Home Consumption – '000s Tonnes), 2010 – 2022F



Value in Million \$ (2019 – 2022 CAGR)

2.90%

Volume in '000s Tonnes (2019 – 2022 CAGR)

2.68%

The boom in alternative dairy beverages

As consumers become more aware of the outside carbon footprint attached to animal products, many have taken to moving away from dairy in an effort to reduce their own environmental impact.

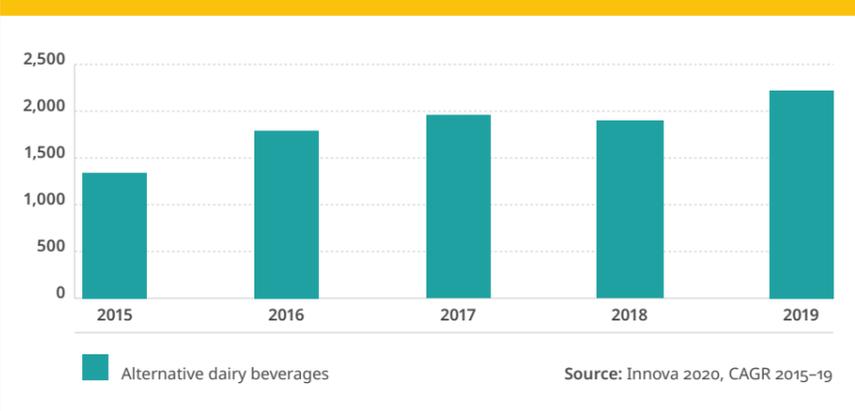


Additionally, plant protein beverages are perceived as healthier: 71% of consumers view plant protein as “healthy”, compared to 42% who view animal-derived protein in the same way (Kerry Proprietary research—US n=1800, 2018). More than one-half of protein users now report “dairy-free” as their most important consideration when purchasing protein products (Kerry Proprietary research—US n=1800, 2018). This escalating trend has led plant-based claims in beverages to enjoy an impressive growth of 55%+ (Innova 2020, CAGR 2015–19).

The share of new product development (NPD) globally of alternative dairy products also grew steadily between 2015 and 2019, as shown in the chart below (Fig. 4).

Besides personal health, a remarkable 62% of protein consumers cite sustainability and animal welfare as important factors in their purchasing decisions. This is adding to the attractiveness of plant-based protein options, many of which have strong sustainability stories and can claim a lower carbon footprint than their animal-derived equivalents (Kerry proprietary research—US n=1800, 2018).

Fig. 4: Share of new product development (NPD) globally of alternative dairy products



62% of protein consumers cite sustainability and animal welfare as important factors in their purchasing decisions

62%

The new normal: moderation in alcohol consumption

While consumers are searching for lower-alcohol beverages, many are not ready to make the switch to soft drinks. Rather, what they desire is a similar sensory experience in term of taste, smell, and mouthfeel to alcohol-based equivalents.

Overwhelmingly, health is the main reason cited by consumers for decreasing their alcohol intake, with the trend leading global NPD of alcohol-free drinks to rise steeply between 2018 and 2019 by 32% and record a GAGR of 26% over the period 2015–19; this is versus 4% and 14%, respectively, for the overall alcoholic beverage category (Innova 2020).

In the graph below (Fig. 5), market growth in low-/no-alcohol beverages is unmistakable (Innova, January–November 2020). Beer markets have led the way in the category, with several brands now firmly rooted. Recently, we have also seen a growing number of companies and new entrants targeting the low-/no-alcohol spirit market since the launch of Seedlip in the UK with the segment now expanding in Europe and the rest of the world. Hard seltzers,

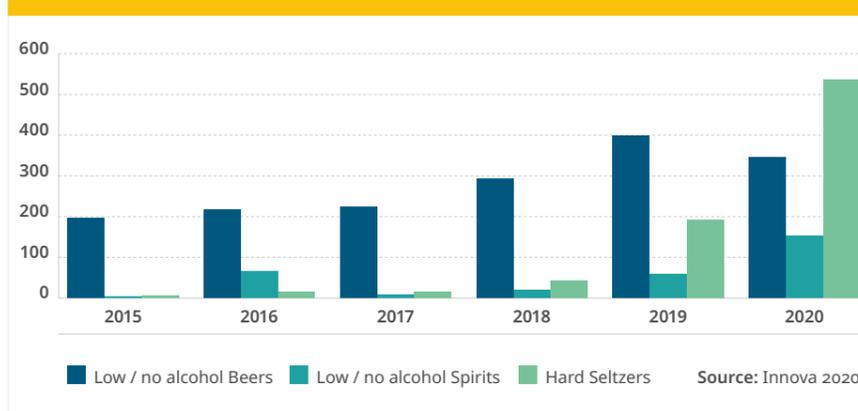
on the other hand, were introduced in the US in 2013, and are now beginning to spread worldwide (primarily in the UK and Australasia).

No-/low-alcohol content and bold flavours are key factors powering the growth exhibited in this chart. Furthermore, given their ‘healthy halo’ reputation, botanicals have enjoyed swift emergence for use in such beverages to improve taste, giving them a starring role in the pursuit of wellness. According to Innova, global consumers are choosing no-/low-alcohol beverages for a range of reasons: taste (24.8% of consumers), health (13.2%), and relaxation properties (18.2%).

However, all of these healthier beverages come with formulation challenges in the maintenance of customer-preferred flavour. In the next few pages, we investigate those challenges and provide ideas on how best to approach various hurdles.



Fig. 5: Global new product launches per year low in alcohol



NPD of alcohol-free drinks to rise by 32% between 2018 and 2019

32%

Delivering healthy beverages without compromising on taste

Reducing the sugar level in refreshing beverages

Sweeteners and Challenges

There are several approved sweetener systems that can be used to support sugar reduction or removal (i.e., zero sugar/no added sugar products). The key sweeteners used globally are sucralose, aspartame, acesulfame K, stevia, and, to a smaller degree, sodium cyclamate. Manufacturers in the United States are also using erythritol. Each sweetener brings its own challenges, generally in the form of either off-notes or a negative perception amongst consumers.

Stevia, for example, which delivers sweetness from a natural source, is becoming more prevalent in the 'refreshing beverage' market. However, it must contend with off-notes and sweetness sensation issues not present in sugary beverages, such as the prevalence of bitter and liquorice off-notes and the delayed onset of sweetness perception versus sugar, along with unappealing mouthfeel. These main problems occur when stevia is used alone, i.e., without other sources of 'calorific' sweetener.



Several approved sweetener systems can be used to support sugar reduction.

Sugar reduction challenges

There are several key challenges that need to be considered when reducing sugar:

- Poor mouthfeel: the extent of this problem depends on the degree of sugar reduction
- Lack of sweetness sensation: upfront and general sweetness profile can be negatively affected
- Lack of flavour: sugar drives flavour delivery, with its removal therefore sometimes producing unsatisfactory results
- Increased perception of acidity: since sugar balances out acid perception, reducing its content can change the equilibrium of a final product

Application techniques to support sugar removal or reduction

Using a combination of techniques, it is possible to employ certain application 'tricks' when reducing or removing sugar in order to support a holistic approach to taste. With the inclusion of sweeteners or functional materials, product perception can be greatly improved. Possible options include:

1 Using natural flavour systems to change the perception of a product through cleaner labels. These systems can modulate sugar to deliver a sensation of higher sweetness while delivering improved mouthfeel. Using these systems, a product with up to 30% (3°Brix) reduction in sugar can be achieved. A sugar reduction of up to 50% (5°Brix) can be achieved when combined with sweeteners. Final outcomes depend, of course, on the specific product type and the starting sugar content

2 Reducing acidity to balance out and improve perceived sweetness when implementing a sugar-reduction programme

3 Partial replacement of citric acid in a formulation with malic or lactic acid. Citric acid has an intense but short-lived acid perception, whereas both lactic and malic acid deliver a longer, lingering acid perception that can overlay unwanted off-notes derived from sweeteners or other functional ingredients

4 Employing masking systems. With the ability to be declared as natural flavourings, these are invaluable in helping to mitigate the sensation of off-notes, especially when using sugar-alternative sweetener systems. These systems make use of flavour technologies that create a very targeted and complex sensory signal, triggering a lower perception of off-notes.

5 Increasing the perception of sweetness through flavour tonality choices, lowering the impact of the chosen sweetening system; for example, vanilla extract will increase the perception of sweetness. Additionally, vanilla also imparts some masking properties; lime is another such example

The goal, as always, is to deliver great-tasting, innovative products that drive customer preference, extend brand loyalty, and foster repeat purchasing.

"Tastesense™ Sweet and Mouthfeel modulators combine to tackle the multiple challenges faced in delivering a sugar-reduced beverage equal in quality to the full-sugar version."

LESLIE CHAN
RD&A SCIENTIST BEVERAGE NA

"Products developed with Tastesense™ Sweet should be left standing for 24 hours as the beverage will become more balanced, meaning that while having the same brix level, the sweetness sensation will be higher."

KELVIN ABRAHAM
NPD MANAGER, BEVERAGES,
SUB SAHARAN AFRICA



Developing tasty nutritional beverages

Nutritional beverage challenges

This beverage category comes with a range of taste challenges that are mostly dependent on the various ingredients within the formulation, the most common being protein used for enrichment purposes. Depending of their source materials, extraction processes, and degree of hydrolysis, these ingredients can present distinct bitterness, astringency, chalkiness, and metallic aftertastes, to name a few. Dairy proteins—considered superior due to their amino acid profiles—predominate in this market, being the most accepted in terms of both taste and texture. However, with manufacturers increasingly seeking to offer dairy-free options, more plant-based alternatives are being launched with even more pronounced challenges that must be surmounted.

For instance, depending on the plant origin, issues can include strong green, beany, oily, and/or vegetal off-notes. Furthermore, pronounced texture impacts—e.g., powderiness and grittiness—can be present and affect flavour release or harm taste perception. For nutritional reasons, a few more complete clinical and nutritional beverages are now utilising different sources of fat—ingredients with the potential to present animalic, marine, and rancid notes depending on the origin and concentration. The list of possible complications doesn't end here: adding vitamins, minerals, and other substances such as caffeine can also accentuate bitter, metallic, and chalky sensations, and the high-intensity sweeteners often used in nutritional beverages to reduce the calories derived from sugar have a range of taste consequences—e.g., metallic, astringent, and with strong lingering aftertastes—that can have a marked impact on a product's final taste profile.

Application techniques to address the above challenges:

Taste optimisation of such challenging products must be completed in steps:

1

First, precise ingredient selection is critical to reducing undesirable taste and texture characteristics in base recipes.

For example, depending on the format, the process, and desired parameter of the beverages, different sources of protein will be required. In addition, stabilisers must be chosen carefully in order to address the occurrence of any powdery sensations and particle suspension (when required). These texture systems can further assist in bringing more 'roundness' in terms of mouthfeel, thereby improving flavour delivery. Finally, high-intensity sweeteners can be rebalanced with the use of modulation flavours so as to reduce any lingering or metallic aftertastes

2

After finalising the base formulation, the remaining off-notes and undesirable tastes must be removed to foster the most neutral taste achievable. To do this, carefully researched masking flavours can be of great help. These are created as a result of a strict selection of active molecules that target the beverage components responsible for the identified taste challenge and, once applied, easily reduce metallic notes and astringency. Sweetness modulators can also help in attaining taste neutrality courtesy of their ability to rebalance bitterness and enhance the 'roundness' of the flavour profile. Finally, in the case of plant-based beverages, vegan dairy flavours and their characteristic components can be useful in masking vegetal notes. The association of all of these technologies can help in formulating an optimally neutral nutritional beverage

3

The final step in beverage formulation is to select the most appropriate characterising flavour(s). Indeed, choosing tonalities that correspond to the profile of the neutral base will finish harmonising the final result. Tropical fruits are an excellent example as they can be highly useful in addressing any sulfuric notes in a base, while red fruit profiles may be better on astringent bases. Brown notes such as coffee could complement a slightly bitter beverage

Overcoming the taste challenges of dairy alternatives

Challenges and formulation of dairy alternatives

Alternative dairy beverages represent a growing market that is not without its own thorny taste challenges. Similar to nutritional beverages, the main issues spring from the selected plant source; while cereals tend to deliver 'cardboardy', rancid, and toasted notes, legumes will more often be characterised by their green, beany, and metallic flavours. Since they have a direct impact on the peptides, the extraction method and processes are crucial in optimising the taste profile and ameliorating perceived bitterness. Secondly, similar to nutritional beverage products, flavour selection and synergy can aid in addressing remaining off-notes, while flavour modulators and dairy inclusion are pivotal to the neutralisation of any vegetal off-tastes in the base. Ultimately, the final profile of a beverage will depend on the chosen scheme; for example, to reinforce an oat taste, some biscuit or cereal flavours could be selected, either alone or in association with fruit or brown notes.



Extraction method and processes are crucial in optimising the taste profile.

"Tastesense™ Masking directly attacks the bitterness and off-notes that occur when formulating a dairy-alternative solution."

LESLIE CHAN
RD&A SCIENTIST BEVERAGE NA



Developing pleasing low-alcohol hard seltzers

Hard seltzer formulation challenges

Starting from launch in 2013 to reach \$2 billion in annual sales, hard seltzers are highly popular and their growth does not appear to be slackening.

Hard seltzers are alcohol-infused waters of between 4% and 5% ABV. They contain little (<5g per litre) to no sugar or sweeteners. All hard seltzers have one marketing strategy in common: every product—no matter the ABV, single pack size (can or bottle), or sugar content—clearly states a calorie <99 kCal/serving on the label.

With a low sugar level and extremely low pH (typically 3.0–3.4), these products are highly acidic. This negative trait is exacerbated by the ‘spirit burn’ that accompanies such acidity. Additionally, hard seltzers, being heavily charged with water, have little to no body.

From launch in 2013 hard seltzers have reached \$2 billion in annual sales

\$2 billion



Application techniques to address the challenges in this emerging category:

1 First and foremost, there is a need to enhance and rebalance the taste and sweetness of the product using a natural flavouring system

2 Taste solutions are critical in hard seltzers to attain a better balance of the liquid such that it works with both the acidity and the alcohol. The boosted sweetness perception lifts the flavour and carries it across the palate as a fuller flavour tonality. Hard seltzers that are not formulated to address these challenges typically present as hollow, flat, and incomplete

3 For hard seltzers, sugar reduction and mouthfeel solutions will often be complementary, providing additional mouth coating/texture upon ingestion. These technologies are generally used at between 0.1% and 0.4%, with a dosage of 0.1% enough to give perceived mouthfeel of about 30g of sugar equivalence. In combination with sugar reduction solutions, a fruit flavour can be lifted such that it will be perceived favourably on the tongue. Use of the optimum combination of modulators results in a finished beverage that is far less hollow or flat



Reducing alcohol in beers

The pitfalls of low-alcohol beers

One of the most formidable challenges in the production of low-/no-alcohol beverages is the lack of the syrupy, mouthcoating sensation that alcohol delivers. Innovation has become crucial as consumers, not ready to turn to products that more closely resemble soft drinks, continue to seek better equivalent-to-alcohol beverages. In this longer-term view around market needs, enterprising solutions are required to meet and exceed challenges. Also emerging in the retail landscape is an increase in flavoured beers and ciders with organic certification.

Application techniques to address mouthfeel challenge in no-/low-alcohol beers:

1 Solutions to modulate the sweetness sensation are used extensively across the brewing industry, sometimes at remarkably low levels. They are also employed to enhance mouthfeel and reduce astringency in zero-alcohol beers. The dosage in such applications tends to be between 0.01% and 0.02%, modifying the sweetness sensation to enhance the overall flavour

2 Mouthfeel solutions are likewise used to improve the body of zero-alcohol base liquids. A combination of sugar reduction and mouthfeel taste solutions yield the best results



3 Flavour-masking technologies are sometimes needed to hide off-notes due either to poor-quality alcohol or malt bases, and, when used in conjunction with mouthfeel solutions, deliver excellent results

4 In the organic beer market, “organically suitable” sweetness modulation systems are worth investigating. When added to a beer or cider recipe matrix, these can provide both improved flavour tonality and a boost in perceived sweetness

“Tastesense™ is a natural flavour solution that modifies the sweetness and flavour profile, providing for great taste in sugar-reduced beverages, enabling consumers to enjoy the pleasing taste and mouthfeel delivered by sugar, yet without the negative labelling impact.”

1 Tastesense™ restores sweetness and mouthfeel sensations in alcohol applications and can be fortuitously identified as “Natural Flavours”.

2 Tastesense™ enables sugar reduction and aligns with the “better for you” and calorie-reduction product claims.

3 Tastesense™ is a natural solution that utilises proprietary taste modulation technologies to address the flavour, aroma, and aftertaste challenges of alcoholic beverages.”

CHIKA EZEANI
BREWMASTER NA

Kerry Taste solutions to develop flavoursome, healthy beverages

At Kerry, our application teams are highly qualified to help deliver tasty and healthier beverages, responding optimistically to the possibilities new consumer demands create.

We can be counted on to provide high-performing flavour solutions specially designed to tackle the challenges that come from adapting formulations to address consumer's health goals, and adding market-leading value at every turn. Working together with our customers, we create opportunity to outpace the market, shaping initiative into excellence.

Indeed, Kerry's abundant expertise in selecting natural ingredients based on functionality, e.g., sweetness, mouthfeel, and masking, combined with our innovative scientific approach which links sensory inputs with research into volatile and non-volatile taste components, underpinned by a proven ability to scale up natural processes, allows us to deliver great natural taste solutions with cleaner labels.

We are a transformative partner in creating great taste for better nutrition.

Staff numbers working in beverages application within Kerry

| | |
|-----------------|----|
| Europe & Russia | 29 |
| North America | 21 |
| APMEA | 45 |
| LATAM | 14 |



"With consumers increasingly wary of their sugar intake, Kerry's Tastesense™ portfolio is an excellent aid in sugar reduction, delivering on sweetness, masking, and mouthfeel challenges in ways that enhance the overall taste experience. Tastesense™ solutions increase sweetness sensation, add mouthfeel, and mask off-notes from high-intensity sweeteners, protein aftertastes, and generally optimising overall product attributes."

RENATA IBARRA SR.
RDA DIRECTOR, BEVERAGE NA

Kerry's portfolio also incorporates a variety of extracts and flavours, as well as nutritional and functional products, that ensure the very best beverages for your customers.



| | Tastesense™ Sweet | Tastesense™ Masking | Tastesense™ Mouthfeel |
|-------------|---|---|---|
| DESCRIPTION | A range of taste solutions that improve the taste of reduced- or low-sugar products. This technology could also provide other benefits in beverages (long lasting, better mouthfeel, increased juiciness, etc) | A range of taste solutions that foster consumer acceptance when fortification, sweeteners, or plant-based ingredients have been added | A range of taste solutions that improve the mouthfeel of low-fat, low-sugar, low-alcohol, or plant-based products |
| RANGE | <ul style="list-style-type: none"> A traditional selection of liquid and powder solutions allowing for a sugar reduction of up to 30% (3°Brix) while maintaining a natural flavouring declaration A range allowing for sugar reduction up to 50% (5°Brix) when combined with stevia with the following declaration: Natural Flavouring, Steviol glycosides; (E960) A range free from stevia derived materials. These are suitable for use when there is a preference for non-stevia-derived modulators A new portfolio of 'Natural X flavouring' options that deliver sweetness and a well-characterised tonality profile especially designed for the upcoming European organic regulation. | <ul style="list-style-type: none"> Taste solutions that mask the undesirable off-notes of sweeteners such as stevia, sucralose, acesulfame K, etc. Taste solutions that mask the notes linked to the use of plant proteins such as pea, soy, whey, etc. | <ul style="list-style-type: none"> Body and syrupy mouthfeel solutions for sugar reduction Body and syrupy mouthfeel solutions for low-/no-alcohol beverages Body, mouthcoating, mouthfeel solutions for plant protein Fatty, creamy mouthfeel solutions for reduced-fat products |
| FORMAT | Liquid and powder | Liquid and powder | Liquid and powder |

Conclusion:

Moving toward healthy beverages

Nowadays, consumers want it all: beverages need to be tasty, healthy, and convenient. Creating such products come with multiple challenges in terms of maintaining the taste and texture that consumers love, and that will drive repeat purchasing.

As a world leader in taste and nutrition, Kerry is ideally positioned to support the beverage industry in this journey. Kerry's extensive portfolio of solutions that deliver consumer-preferred tastes in products that have been nutritionally optimised or adapted to meet quickly evolving public demands are used every day by our applications teams around the world, helping to support our customers in their quest to offer new and improved beverages sure to capture consumer interest. In this way, we collaborate with our customers to achieve and exceed multiple definitions of sustainability in the face of global challenges: market sustainability, consumer sustainability, and, of course, environmental sustainability.

Authors:

Celia Ridet
Senior Technologist Europe & Russia

Mark Allen
RDA Senior Manager Europe & Russia

Paul Villis
RDA Director Europe & Russia

Otis Curtis
Global Portfolio Director Tastesense™

Coralie Garcia Perrin
Global Marketing Director Sweet Taste

**For further information, contact
coralie.garciaperrin@kerry.com or
otis.curtis@kerry.com**

About Kerry Taste & Nutrition

Kerry, the Taste & Nutrition company, offers solutions that nourish lives all over the world. From humble beginnings as an Irish dairy co-operative, Kerry has grown into a large international food industry leader, with offices in 32 countries, 151 manufacturing facilities and more than 26,000 employees globally, including over 1,000 food scientists. We bring to the table our strong food heritage, coupled with over 40 years of experience, global insights, and market knowledge, culinary, and applications expertise, as well as a range of unique solutions that anticipate and address our customer's needs.

For more information
visit [Kerry.com](https://www.kerry.com)

151
manufacturing facilities

26,000+
employees

1,000+
food scientists

KERRY

KERRY



 nellson®

FUTURE FORECAST

THE FUTURE IS PLANT-BASED

Demand for plant proteins is growing by leaps and bounds, even in areas previously dominated by dairy proteins. Just four years ago, our customer requests for dairy-based vs. plant-based proteins came in at an 80%/20% ratio. **Today, the demand for plant-based products has doubled**, with 40% of customer requests for plant-based protein ingredients vs. 60% dairy.



FROM THE EXPERTS AT NELLSON

Our experienced R&D teams have extensive experience sourcing, formulating and manufacturing plant-based ingredients. We use a collaborative approach in our one-on-one partnerships with customers. We are at the ready, with solutions and samples to achieve the product you are targeting and consumers desire.



PLANT-BASED NUTRITION BARS

There is a growing interest (and often, unmet need) for plant-based options in the sports nutrition space, a category traditionally dominated by dairy proteins due to their sensorial and nutritional advantages. We understand how to formulate to meet amino acid profiles using plant proteins—which often means pairing ingredients to achieve the desired nutritional profile and peak performance.

- **Fruits, nuts and seeds contribute flavor, naturally**
- **Botanicals and/or superfoods reinforce nutritional benefits**





PLANT-BASED NUTRITIONAL POWDERS

Today's innovative plant-based proteins provide flexible options and added functionality beyond their nutritional benefits. Some even contribute creaminess or sweetness, so you don't have to rely on gums or heavy use of sweeteners to impart pleasing taste and texture.

Now, in addition to pea protein, you can choose from a variety of plant proteins:

- Pumpkin Seed
- Almond
- Barley
- Sunflower
- Oat
- Fava Bean



FOCUSED ON THE PRODUCT—AND THE PLANET

Consumer demand for plant-based ingredients exists side-by-side with their demand for environmentally responsible packaging options. We search for ways to reduce packaging material or utilize recyclable or compostable substrates, to reduce environmental impact while maintaining the integrity of food in terms of food safety and shelf life.



IN-DEMAND, PLANT- BASED IS PRECIOUS

As everyone clamors for plant-based options, our supply chain strength and vendor relationships serve our customers well. We work closely with key, trusted suppliers to identify viable options and evaluate alternative replacements, when necessary. Our brand partners benefit from:

- Strategic procurement to leverage purchasing power
- Category sourcing expertise
- Solid network of market contacts



***TASTY SOLUTIONS
WITH COLLAGEN
FOR ELDERLY
NUTRITION***



Today's aging population looks for functional foods that taste great, are convenient and easy to consume. We embrace this demand: the exceptional sensory and functional properties of Rousselot Health & Nutrition solutions make them ideal for integration in senior diets.

Visit and contact us
www.rousselot.com/health

DARLING INGREDIENTS' HEALTH BRAND

Rousselot
Health & Nutrition

Health & nutrition needs evolve as we age

Aging population is rising globally

By 2030,
1 in 6 people will be:



By 2050, people older than 60 years will nearly double



People are living longer. For the first time in history, most people can expect to live into their 60s and beyond.

Dancing Independence
Dancing Joint Health
Working Protein Boost
Mobility Enjoyment Nutrition
Bone Health Quality of life
Healthy Aging Prevention
Prevention Independence
Quality of life Working
Protein Boost Joint Health
Prevention Nutrition
Working
Bone Health
Healthy Aging
Quality of life
Prevention
Exercising Working
Socially active



THE MARKET IS SHIFTING ITS APPROACH TO CATER TOWARDS THE NEEDS OF THIS FAST-GROWING SEGMENT

Proper nutrition is key for senior's quality of life

Challenges in Elderly Nutrition



30% of older adults do not eat an adequate protein amount

- > Reduced appetite
- > Dental issues
- > Impaired taste
- > Swallowing problems
- > Financial constraints

RISKS

- > Deteriorating muscles
- > Compromised mobility
- > Slower recovery from illness
- > Loss of independence

Benefits of collagen protein enrichment



- ✓ Support the increasing protein need of the growing elderly population
- ✓ Increased protein intake is known to help maintain muscle mass in combination with exercise^{1,2}
- ✓ Protein as a preventative supplement for mobility-related issues
- ✓ Scientifically observed benefits:
 - Relief of joint discomfort³
 - Bone maintenance⁴

A versatile collagen solution

Elderly Nutrition Issue

Solution & Applications

Innovate and formulate
with Rousselot H&N
Portfolio

Decreased taste
perception

.....

Taste increase or products
with increased flavoring

.....

- > Premixes
- > Flavorings
- > Toppings
- > Sauces
- > Soups

Swallowing and
chewing problems

.....

Products that are easy to
chew or swallow,
reducing suffocation risk

.....

- > Purees
- > Drinks
- > Thickeners
- > Mousses
- > Jellies

Physical disabilities

Convenient formats
for healthier, tastier foods

- > Easy-to-prepare meals
- > Meal delivery



Reptan



ProTake

Collagen solutions for Health & Nutrition

Rousselot® is the global leader in collagen-based solutions. Our Health & Nutrition division is dedicated to providing solutions that improve people's health. We offer proven efficacy, safety and quality; innovative ingredients, anticipating consumer needs; trust-based co-innovation; and value addition in every phase of product development.

Peptan



Collagen peptides for a healthy lifestyle

The scientifically documented and world leading collagen peptides brand². Available with porcine, bovine, and fish origin, including a sustainable marine fish option, certified by MSC.

ProTake



Unlocking application potential with hydrolyzed collagen

Creating reformulated or redesigned foods and beverages with increased collagen content, reduced fat and sugar as well as improved texture and taste.

Application versatility **Peptan ProTake**



Fast, superior cold- and warm-water solubility



Neutral in taste and odor, even at high concentrations



Transparent in solution



High stability in a wide range of pH values



Heat resistance



Rousselot's Global Sensory Program draws together insight from our lab analysts and sensory panels to test our products in a scientific, objective and standardized manner. The Sensory Lab is the go-to resource for any questions or ideas you may have about sensory performance.

Global Health & Nutrition network



11 Plants and Quality Control Laboratories



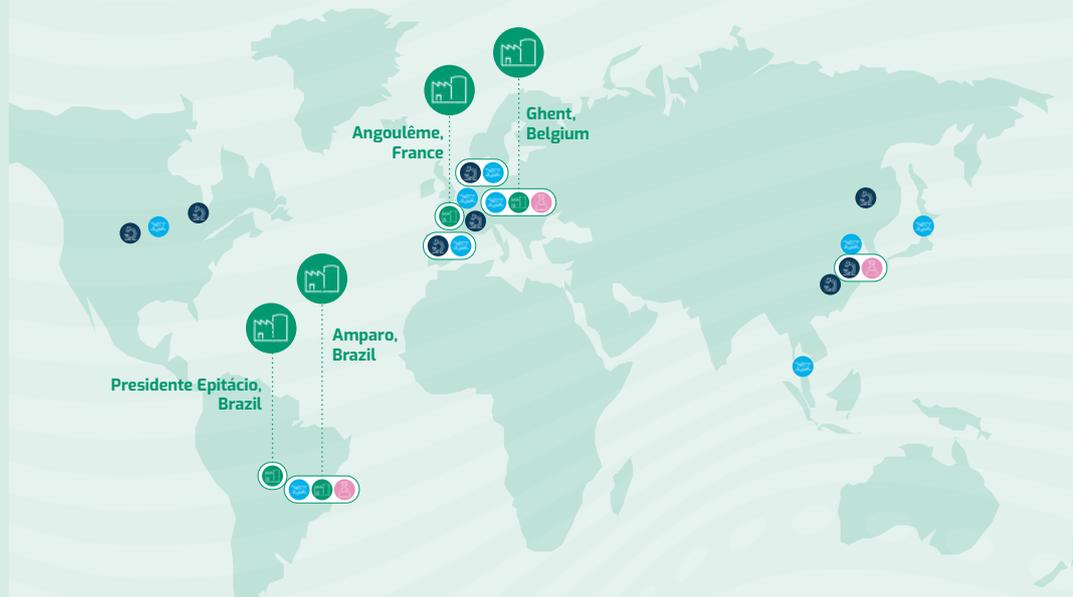
4 Health and Nutrition production plants



9 sales offices



3 application labs in Ghent, Belgium; Wenzhou, China; Amparo, Brazil



MEETING THE UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS

We produce solutions that promote the well-being and health of people. We are committed to ensuring safe products of excellent quality and we apply strict policies and the highest standards in our production processes.



***GET INSPIRED BY OUR
RECIPES FOR THE
ELDERLY NUTRITION
MARKET***





COLLAGEN JELLY

*With Peptan P
Collagen Peptides*

Discover Peptan's multiple benefits in this dazzling jelly. This high protein dessert contains 5% Peptan collagen peptides, which are recognized to support an active lifestyle. Each serving contains the Daily Recommended Intake of 8 g of Peptan.



Recipe

(for 100 kg of finished product)

| | |
|---------------------------------------|---------------|
| (a) Rousselot® 250 PS | 1,5 kg |
| Peptan® P collagen peptides | 5 kg |
| Sugar (sucrose) | 12.3 kg |
| Citric acid monohydrate | 0.3 kg |
| Red beet juice powder (Diana Food) | 0.4 kg |
| Strawberry flavour (Metarom) | 0.5 kg |
| (b) Water | 80 kg |

Nutritional Facts

| | For 100g | For one portion 160G |
|----------------------|-------------------|-------------------------|
| Energy | 76 kcal 321 kJ | 118 kcal 502 kJ |
| Fat | 0 g | 0 g |
| of which – saturates | 0 g | 0 g |
| Carbohydrate | 13 g | 20 g |
| of which – sugars | 12 g | 20 g |
| Protein | 5.9 g | 9.5 g |
| Salt | 0.07 g | 0.12 g |

Process

1. Blend all dry ingredients (a): collagen peptides, gelatin, sugar, citric acid monohydrate, red beet juice powder and (strawberry) flavor.
2. Dissolve the blended powders in half the freshly boiled water.
3. Stir until complete dissolution.
4. Add the other half cold water and keep stirring.
5. Pour into molds and store at low temperature until set (typically 24 hours at 4°C).



HIGH PROTEIN PUMPKIN SOUP

*With Peptan P
Collagen Peptides
and chestnut flour*

High in protein and fiber, low in sodium, and fat-free, this is the perfect soup for older adults. Thanks to the combination of Peptan, milk, and chestnut, this soup is well balanced in amino acids (score 1.0*) and helps maintain muscle mass, bone health, and body hydration. Its high fiber content contributes to digestive comfort.



Recipe

(for 100 kg of finished product)

| | |
|--------------------------------------|---------------|
| Pumpkin flakes (Diana Naturals) | 36 kg |
| Skimmed milk powder | 25.3 kg |
| Peptan® P collagen peptides | 9.2 kg |
| Nutriose FB06 (Roquette) | 9.2 kg |
| Carrot juice powder (Diana Naturals) | 5.5 kg |
| Onion juice powder (Diana Naturals) | 2.8 kg |
| Sub4salt (Jungbunzlauer) | 1.4 kg |
| Potassium chloride | 1.2 kg |
| Ground nutmeg | 0.1 kg |
| White pepper | 0.1 kg |

Nutritional facts of pumpkin soup

| | For 100g | For one portion 160G |
|----------------------|-------------------|----------------------|
| Energy | 70 kcal 298 kJ | 187 kcal 792 kJ |
| Fat | 0 g | 0.8 g |
| of which – saturates | 0 g | 0.4 g |
| Carbohydrate | 12 g | 31 g |
| of which – sugars | 6.4 g | 16 g |
| Fiber | 2.4 g | 6.1 g |
| Protein | 4.4 g | 11 g |
| Salt | 0.27 g | 0.69 g |

Process

1. Blend all the powders together.
2. Add 200 ml of hot water to 55g of instant soup while stirring.
3. To be eaten warm.



HOT CHOCOLATE DRINK

With Peptan P Collagen Peptides

Peptan is an easy ingredient to formulate in high-protein drinks. This hot and creamy chocolate milk drink boosts essential protein intake for older adults. Peptan is compatible with many other nutrients and can be used in powder blends for instant drinks.



Recipe

(for 100 kg of finished product)

| | |
|------------------------------------|-----------------|
| Peptan® P collagen peptides | 31.55 kg |
| Semi-skimmed milk powder | 41 kg |
| Sugar (sucrose) | 14.2 kg |
| Cocoa powder (100% cocoa) | 12.62 kg |
| Vanilla flavor (Taiga) | 0.63 kg |

Nutritional facts

| | For 100g | For one portion 160G |
|----------------------|---------------------|----------------------|
| Energy | 400 kcal 1686 kJ | 129 kcal 542 kJ |
| Fat | 8.9 g | 2.9 g |
| of which – saturates | 5.2 g | 1.7 g |
| Carbohydrate | 33 g | 11 g |
| of which – sugars | 32 g | 10 g |
| Fiber | 3.8 g | 1.2 g |
| Protein | 45 g | 14 g |
| Salt | 0.90 g | 0.29 g |

Process

1. Blend the powders together.
2. Pour 32g of powder in 100ml fresh boiled water and stir.
3. Serve hot.



GOOD4BONE DAIRY SHOT

*With Peptan P
Collagen Peptides*

This delicious, fresh, high-protein, probiotic drink packs in everything good for bones! Together with calcium and vitamin D, this drink can help support bone health. And, Kefir offers digestive health benefits. Each shot contains 15% of RDA in calcium and vitamin D.



Recipe

(for 100 kg of finished product)

| | |
|--|-------------|
| Liquid semi-skimmed milk | 92.5 kg |
| Peptan® P collagen peptides | 5 kg |
| Sugar (sucrose) | 2 kg |
| Dry vitamin D3 (DSM) | 0.3 g |
| Tricalcium citrate-4-hydrate (Lohmann) | 0.02 kg |
| Kefir-ferment* | 0.5 kg |

*Lactic acid bacteria & yeasts

Nutritional facts for 100g of product

| | |
|----------------------|----------|
| Energy | 129 kcal |
| Fat | 1.5 g |
| of which – saturates | 0.9 g |
| Carbohydrate | 6.4 g |
| of which – sugars | 6.4 g |
| Protein | 7.7 g |
| Salt | 0.15 g |
| Calcium | 117 mg |
| Vitamin D | 0.75 µg |

Process

1. Disperse Peptan, sugar, calcium and vitamin D into the cold milk under stirring.
2. Pasteurize at 95°C for 6 minutes.
3. Cool down to 20° - 25°C.
4. Add the kefir-ferment.
5. Fill in airtight pots and place them in the dark at room temperature for 24 hours.
6. Place them in the fridge at 4°C for 24 hours for an after maturation.
7. Stir well the fermented milk obtained and store in small 100ml bottles in the fridge at 4°C.

Contains allergens: milk

ProTake

HIGH PROTEIN PANCAKE

*With Rousselot®
ProTake P*

These delicious pancakes made with ProTake are high in protein and low in fat. They are perfect to boost protein intake and increase satiety for older adults. One pancake contains just 22 calories.



Recipe

(for 100 kg of finished product)

| | |
|------------------------------|---------------|
| (a) Pastry flour | 19.1 kg |
| Skimmed milk powder | 7.5 kg |
| Rousselot® ProTake P | 3.8 kg |
| Whey protein isolate | 3.8 kg |
| Vanilla sugar | 2.6 kg |
| Baking powder | 0.4 kg |
| Soybean lecithin | 0.2 kg |
| Salt | 0.2 kg |
| Vanilla flavor | q.s. |
| (b) Semi-skimmed milk | 84.5 kg |

Nutritional facts of pumpkin soup

| | For 100g | For one portion 160G |
|----------------------|--------------------|-------------------------|
| Energy | 173 kcal 733 kJ | 22 kcal 94 kJ |
| Fat | 1.9 g | 0 g |
| of which – saturates | 0.9 g | 0 g |
| Carbohydrate | 25 g | 3.5 g |
| of which – sugars | 11 g | 1.5 g |
| Protein | 14 g | 2.0 g |
| Salt | 0.53 g | 0.07 g |

Process

1. Blend (a) all the powder ingredients in a bowl.
2. Make a well in the center and pour in (b) the milk. Mix until smooth.
3. Heat a lightly oiled frying pan and pour the batter on it. Bake until the pancake colors brown-gold.
4. Eat warm.
5. Final moisture content: 55%

Contains milk, soy, gluten

Rousselot
Health & Nutrition

Rousselot Health & Nutrition can help you with virtually any product requirement or innovation you have in mind, offering:



Transparency



Full traceability



High standards of quality and safety



Committed to the environment and to our clients



Global support and expert advice

About Rousselot Health & Nutrition

At Rousselot's strategic segment dedicated to health and nutrition, we are committed to developing innovative ingredients answering today's demand for solutions offering proven efficacy, full safety, and premium quality. Our customers can rely on best-in-class products backed by trusted science, as well as on our expert support in formulation, product development, and regulatory advice. Our range of products includes Peptan, the leading collagen peptide brand worldwide, Peptan II_m, and ProTake, and offers "A world of health benefits for the consumer" for a healthier *tomorrow*.



Disclaimer All rights reserved. No part of this brochure may be reproduced, distributed or translated in any form or by any means, or stored in a database or retrieval system, without the prior written permission of Rousselot. Rousselot alone retains the copyright to the entire content of this brochure and the intellectual property rights to all designations of our products stated in this brochure and intellectual property rights to the products themselves. Nothing in this brochure constitutes a license (explicit or implicit) of any of Rousselot's intellectual property rights. The duplication or use of product designations, images, graphics and texts is not permitted without Rousselot's explicit prior written consent. Rousselot makes no representation or warranty, whether expressed or implied, of the accuracy, reliability, or completeness of the information, nor does it assume any legal liability, whether direct or indirect, of any information. Use of this information shall be at your discretion and risk. Nothing herein relieves you from carrying out your own suitability determinations and tests and from your obligation to comply with all applicable laws and regulations and to observe all third party rights. This product is not intended to diagnose, treat, cure, or prevent any disease. You should always consult your medical provider when using the product together with medical treatments, diets or fitness programs. The uses and claims for Rousselot's products recommended in the brochure should be adapted to the current local regulatory environment. This statement has not been evaluated by the Food and Drug Administration. Formulations comply with EU regulations. Always consult the local requirements regarding labelling outside EU. ©Rousselot. This recipe cannot be reproduced, distributed, translated and used without prior permission of Rousselot.

peptancollagen

PeptanbyRousselot

RousselotHealth

Rousselot

Rousselot Headquarters

Rousselot B.V.
Kanaaldijk Noord 20
5681 NM Son
The Netherlands

+31 499 364 100

collagen@rousselot.com

peptan.com

rousselot.com/health

Rousselot
Health & Nutrition

Be better in BEVERAGE

Clean label, better-for-you beverages are easier to create with Sweegen's Taste Modulation technology and Signature Stevia sweeteners. For the health-conscious consumer, our ingredient technologies meet the market demand for improved taste, healthier choices, and cleaner, simpler ingredients.

Beverage e+

Bestevia® e+ Stevia Sweetener is created with a taste profile closer to sugar. It is label friendly with high solubility, heat stable, and no aftertaste for sugar-reduced beverages.

Juice e+

Bestevia® Taste Solution with e+ Stevia Sweetener features our proprietary natural flavor technology to deliver authentic sweetness and the superb mouthfeel associated with full-sugar juice beverages.

CSD e+

Bestevia® Taste Solution with e+ Stevia Sweetener is formulated with our proprietary natural flavor technology to deliver a sweetness profile closer-to-sugar for sugar reduced carbonated beverages with no sacrifices.

Spirits e+

Bestevia® Taste Solution created with a taste profile closer to sugar, plus a clean label, high solubility and no aftertaste. For satisfying, sugar reduced RTD alcoholic beverages, seltzers, and cocktails.



Energy e+

Bestevia® Taste Solution with e+ Stevia Sweetener with our proprietary natural flavor technology delivers a sustained sweetness profile and subtle masking properties for nourishing, closer-to-sugar high-energy drinks and beverages formulated with functional ingredients, such as vitamins, minerals, and caffeine.

We customize solutions with regional regulatory guidelines in mind and have Bestevia® Taste Solutions specifically for North America, Europe, LATAM and APAC.



Nature Based



Non-GMO



Easy to Use



Cost Effective



Label Friendly

Sweegen

www.sweegen.com

FOLLOW US

