

CARGILL FOOD INGREDIENTS

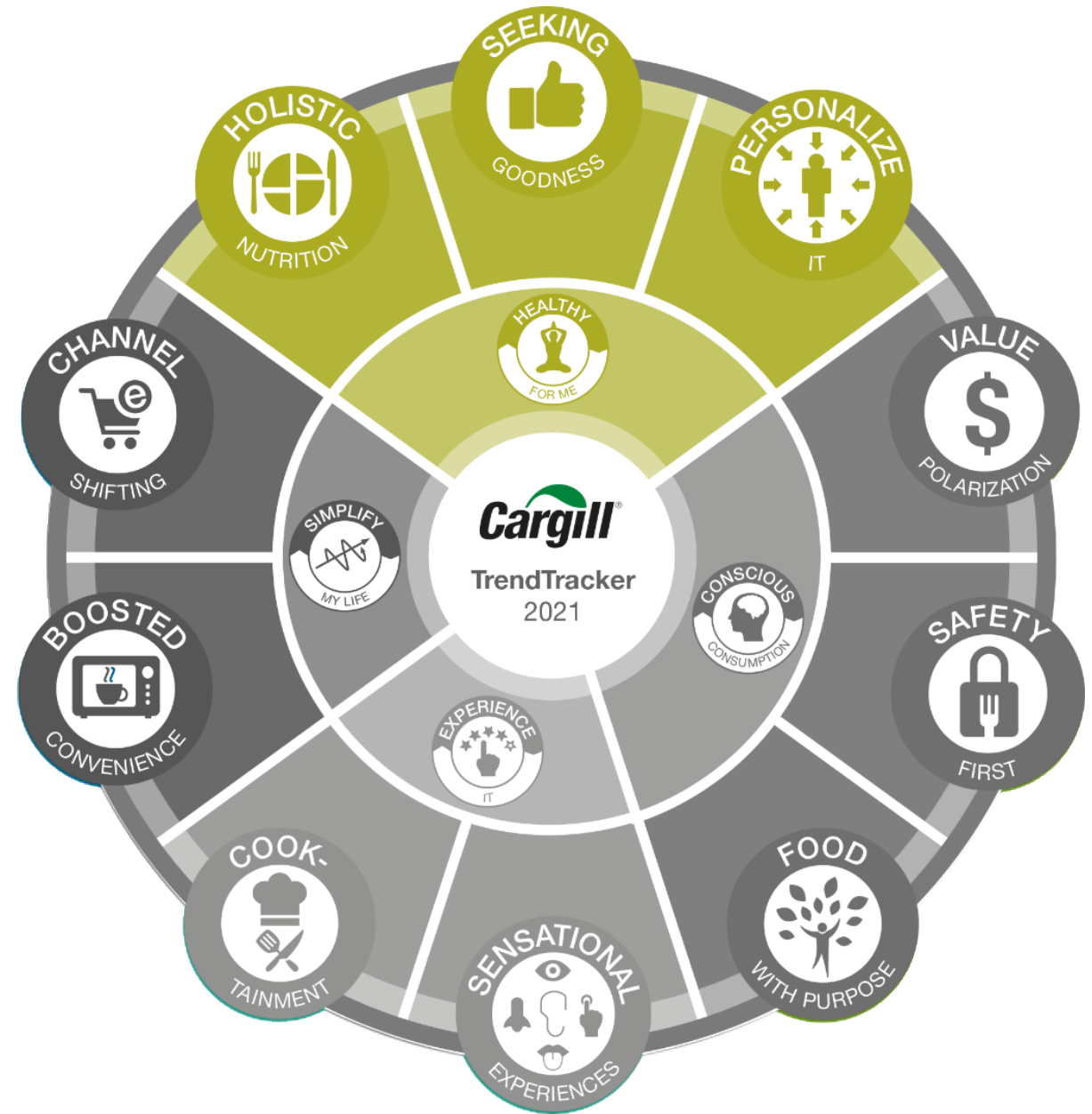
Bringing immune and gut health benefits to food and beverages



TrendTracker

Cargill's Proprietary
Perspective on Global
Food & Beverage Trends

2021



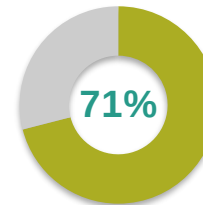
Macro Trend: **HEALTHY** for Me



These days consumers are taking a more holistic, proactive, preventative and personal approach to health. They seek to achieve balance and feel empowered to make their own decisions about what's healthy and what's not. A holistic approach considers not just physical health but also mental stimulation, spiritual nourishment, and emotional wellbeing.



HOLISTIC



"I have taken action to improve my health and wellbeing, considering **physical, mental and emotional** aspects"

% strongly agree/agree (Global)

Source: Innova Consumer Survey, 2020

PROACTIVE

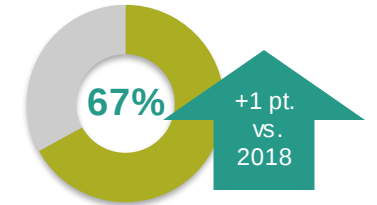


"I **actively look** for products and services that support a healthy lifestyle"

% strongly agree/agree (Global)

Source: GfK Consumer Life, 2020

PERSONAL



"I am **knowledgeable** about health and nutrition issues"

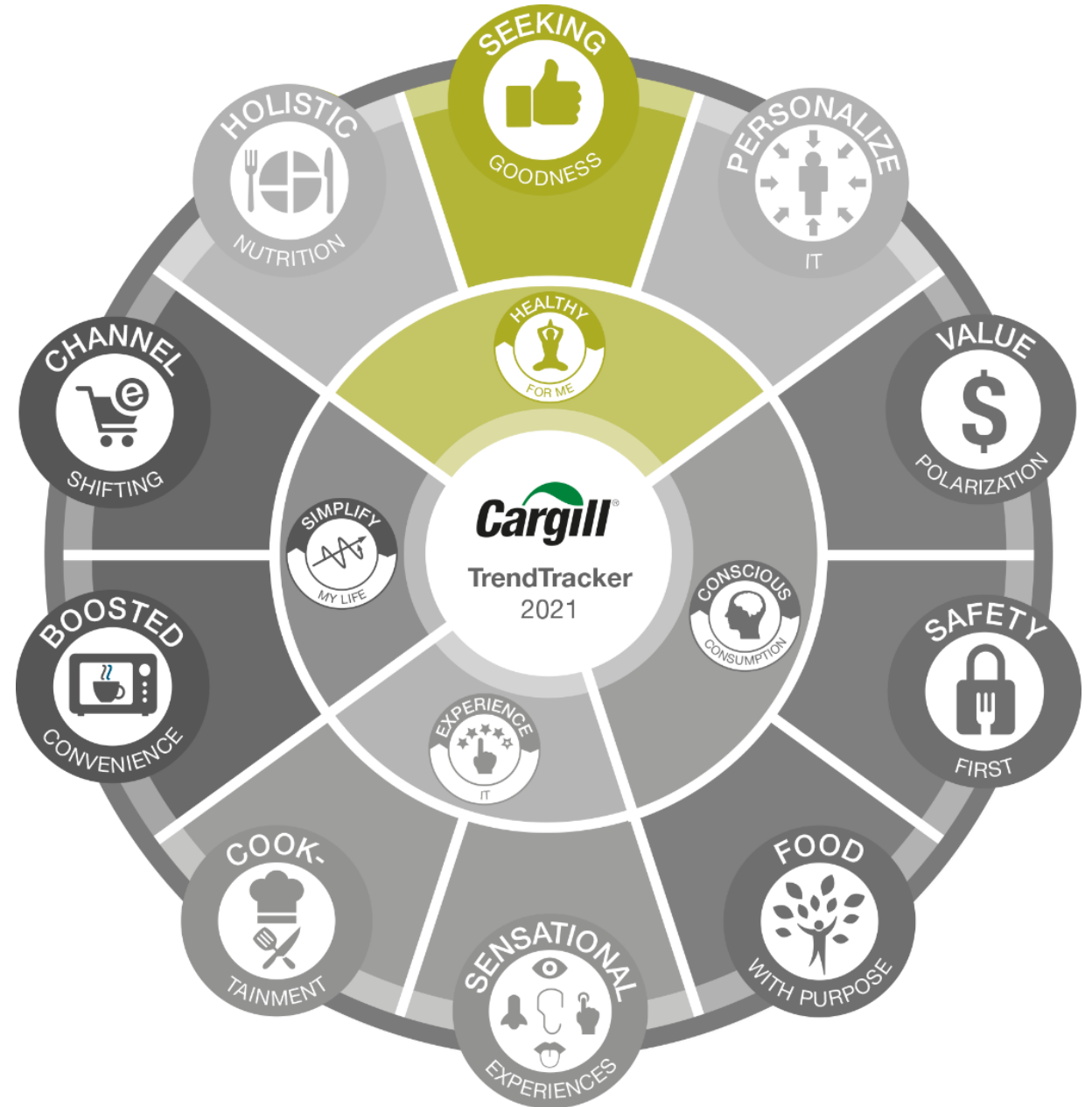
% strongly agree/agree (Global)

Source: HealthFocus International, 2020

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Food & Beverage Trend

SEEKING Goodness

As consumers seek to maintain wellbeing in the wake of the pandemic, they have become even more in tune with functional food & beverages. Many are trying to consume more plant-based products or seeking food with benefits around immunity, gut health, or mental health.

Key themes

Food with
Benefits

Immunity &
Gut Health

Mental
Health

Plant
Popularity

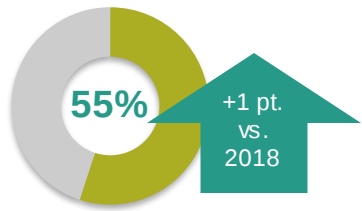




Food with Benefits



Consumers increasingly recognize that food and beverages can help maintain good health or even treat health issues.



“I choose food and beverages that provide **protective, preventative health benefits**”

% always/usually (Global)

Source: HealthFocus International, 2020

7 in 10

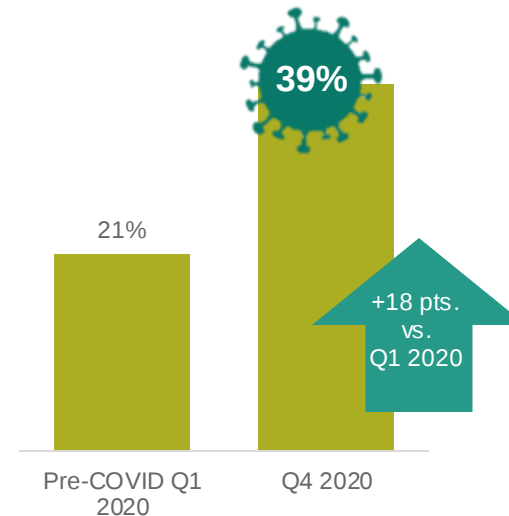
“I believe certain food/beverages/ingredients have **medicinal benefits**”

% extremely/very believable (Global)

Source: HealthFocus International, 2020

“I am willing to pay up to 10% more for food or beverages that provide a **functional benefit**”

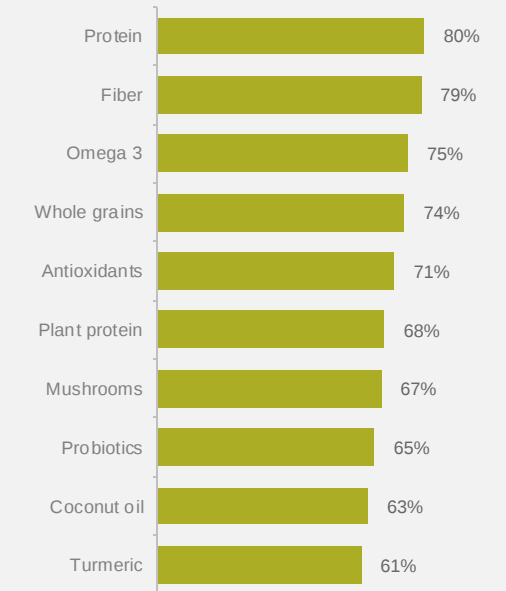
% strongly agree/agree (Global)



Source: HealthFocus International COVID-19 Report, 2020

Top ingredients of interest

% extremely/very interested (Global)



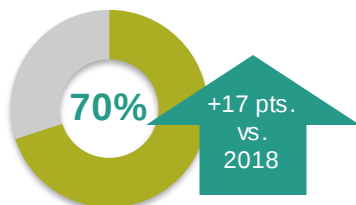
Source: HealthFocus International, 2020



#Immunity & Gut Health



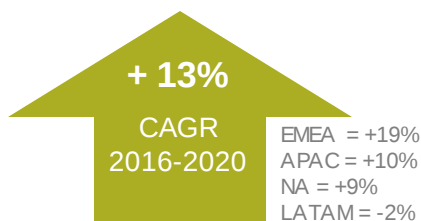
The pandemic has accelerated an already growing interest in immunity-boosting food and beverages. As consumers become increasingly aware the gut plays a role in immunity, products promoting gut health have become even more relevant.



“I have made changes to my diet and lifestyle in the last 12 months to **improve my immunity levels**”

% agree (Global)

Source: FMCG Gurus, 2020



Global new product launches with an **immunity claim**

Source: Innova Market Insights

4 in 5

“My **digestive health** is important to me”

% extremely/very important (Global)

Source: HealthFocus International, 2020



Source: Innova Market Insights

+ 500%

Increase in Google **searches for immunity** in food and drink worldwide

Source: Google trends data, 2020

Innovation in action



Milk drink with prebiotics

Piracanjuba Imunoday Milk Drink Supplement contains Yeast Beta Glucan and is recommended to help proper functioning of the immune system. (Brazil)

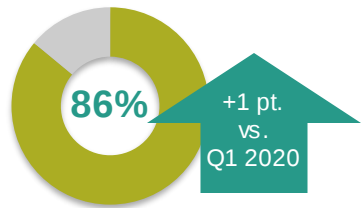
Source: Innova Market Insights



Mental Health



The pandemic has elevated concerns about mental health, driving increased interest in food and beverages that can help consumers manage stress, sleep, mood, and overall mental health.



“My **mental health/ wellbeing** is important to my overall health”

% strongly agree/agree (Global)

Source: HealthFocus International COVID-19 Report, 2020



“Due to COVID-19 situation, I am looking for food and beverages that **help me feel relaxed**”

% a lot more/a little more (Global)

Source: Innova Consumer Survey, 2020

Innovation in action



Relaxing water beverage

PepsiCo launched Driftwell Enhanced Water Beverage. It contains magnesium, a hint of blackberry lavender flavor, and L-theanine – a scientifically-supported ingredient that promotes relaxation. (U.S.)

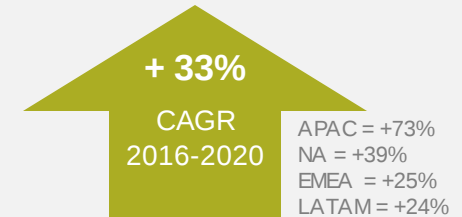
Source: Innova Market Insights

7 in 10

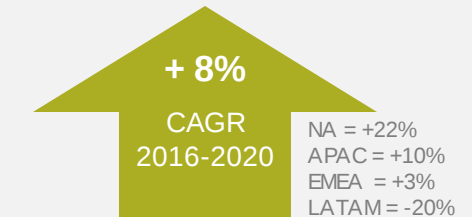
“I believe **my food and beverage choices impact my mood**”

% strongly agree/agree (Global)

Source: HealthFocus International, 2020



Global new product launches containing **CBD/Hemp**



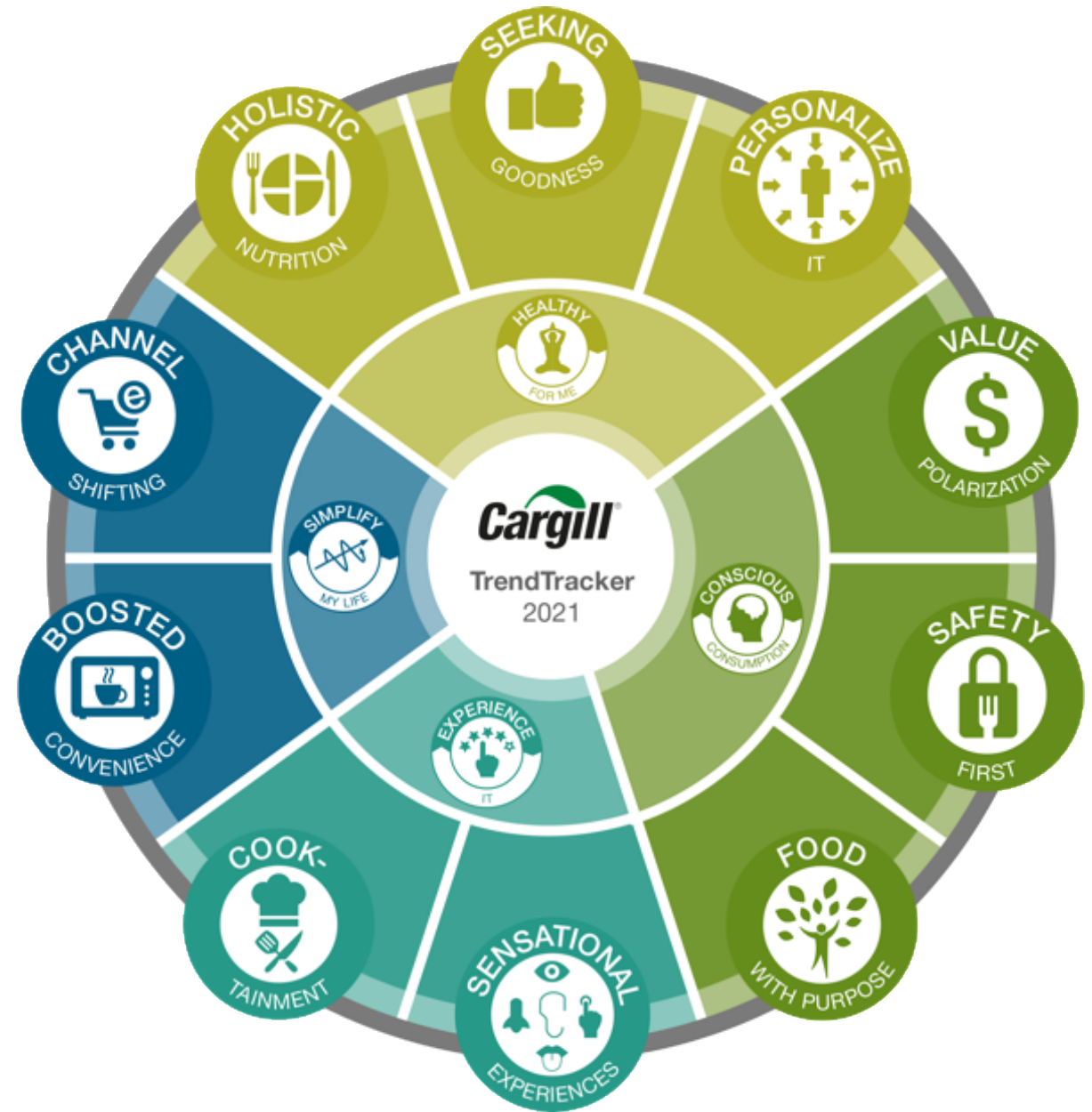
Global new product launches with a **sleep claim**

Source: Innova Market Insights

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Cargill Virtual Event

Functional Focus:

Bringing Immune and Gut Health Benefits to Food and Beverages

October 6, 2021

Functional Focus: Bringing Immune and Gut Health Benefits to Food and Beverages

Topics of the day

- Consumer Attitudes Toward Immune and Gut Health
- Review of Immune Health Innovation Trends
- Review of Gut Health Innovation Trends
- Ingredient Innovation, Postbiotics, and more
- Key Takeaways

About Innova Market Insights

World leader in food ideas and answers



WORLD'S BIGGEST FOOD DATABASE

GLOBAL CONSUMER INSIGHTS

25 YEARS OF TRENDS INSIGHTS

LARGEST COLLECTION OF NEW PRODUCTS ANNUALLY

ENRICHING THE CONSUMER EXPERIENCE
Heightened sensory delivery storytelling and novelty are providing ways for brands to engage with more adventurous, experience-seeking consumers.

TRULY GLOBAL CONSISTENT COVERAGE

Our networks are paid professionals

In-Country Researchers

MARKET SIZING

Immunity and gut/digestive health are very important to consumers

Which of the following health and wellness functions, that a food and beverage product might offer, are **most desirable** to you? (select up to 5)
(USA, Canada & Mexico)

In the recent months, have you **purchased** food/beverages for any of the following functions?
(USA, Canada & Mexico)
(select all that apply)

Boosting immunity

Improving gut/digestive health

26%

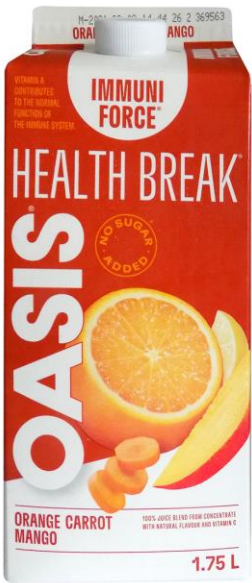
25%

Boosting immunity

18%

Improving gut/digestive health

21%



Contains vitamin A which contributes to the normal function of the **immune system**.



Immuni Force Oasis No Added Sugar Orange, Carrot and Mango Juice

Canada, Jul 2021



“An easy way to get delicious and **healthy fermented vegetables** into your diet.”



Cleveland Kitchen Fermented Garlic Italian Dressing and Marinade

USA, Jun 2021

Sources: Innova Database, Innova Nutrition & Health Survey 2021 (Average of USA, Canada & Mexico)

Growth of immune health claims since 2019 in USA and Mexico

Number of food and beverage launches featuring an immune health claim by country USA, Mexico, Canada (2018-2021YTD**).



Top three categories as a percentage of food & beverage launches tracked with an immune health claim (2021YTD**) and fastest growing categories (CAGR 2018-2020) by country.

CANADA

Top categories	Fastest growing categories
Baby & Toddlers (24%)	Hot Drinks (+58%)
Sports Nutrition (24%)	Sports Nutrition (+41%)
Soft Drinks (21%)	Soft Drinks (+10%)*

MEXICO

Top categories	Fastest growing categories
Baby & Toddlers (34%)	Hot Drinks (+73%)*
Dairy (19%)	Baby & Toddlers (+32%)
Soft Drinks (16%)	NA

USA

Top categories	Fastest growing categories
Soft Drinks (40%)	Snacks (+124%)
Baby & Toddlers (21%)	Ready Meals & Side Dishes (+100%)
Sports Nutrition (13%)	Baby & Toddlers (+59%)

Source: Innova Database
Notes: <10 new products launched in 2020 Aug 2021

*Growth based on
 **2021YTD = Jan 2021 –

Will immune interest last post-COVID? Some factors act as enablers

Research & Regulations

"Biosearch Life eyes Brazilian potential following probiotic ANVISA approval"



June 2, 2021

- Two probiotic strains (LC40 & K8) are approved for commercialization. Both strains are claimed to boost the immune system.

"Blue California and Conagen commercialize fermentation-derived NMN for immunity and healthy aging"



July 21, 2021

- The nicotinamide mononucleotide (NMN) opens new opportunities for health-conscious consumers for supporting energy and longevity.

Opportunities for Applications



USA, Jun 2021



USA, Apr 2021



Mexico, May 2021



USA, Aug 2021

Consumer Intentions

"During COVID-19, which methods did you find to stay healthy that you **plan to continue in the future?**"

"Consuming food or drink that actively improves my physical health (e.g. **immune system**)"

26%

"Taking supplements/herbal remedies (e.g. **for immunity, mood**)"

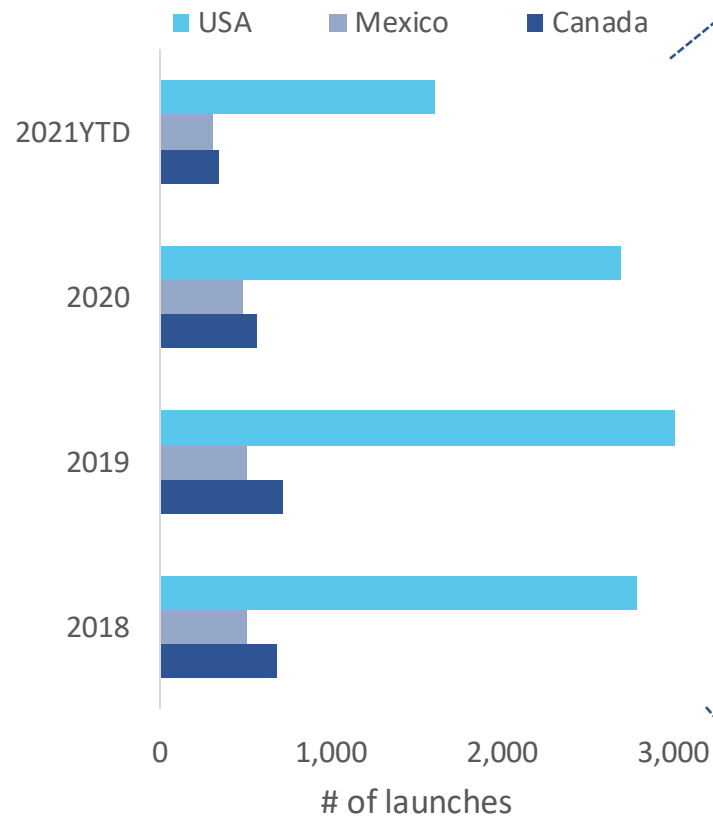
21%

of consumers in USA and Mexico

Sources: Innova Database, [Nutrition Insight](#), [Food Ingredients First](#), Innova Lifestyles & Attitudes survey 2020 (Average of USA and Mexico)

Cereals among the top categories for gut health product launches across countries

Number of food and beverages launches with a gut health related claim* by country (2018-2021YTD**).



Top three categories as a percentage of food & beverage launches tracked with a gut health related claim* (2021YTD**) and the fastest growing categories (CAGR 2018-2020) by country.

CANADA

Top categories	Fastest growing categories
Cereals (25%)	Confectionery (+33%)
Snacks (17%)	Bakery (+24%)
Bakery (15%)	NA

USA

Top categories	Fastest growing categories
Cereals (16%)	Alcoholic beverages (+224%)
Soft Drinks (16%)	Meat, Fish & Eggs (+31%)
Bakery (11%)	Soft Drinks (+26%)

MEXICO

Top categories	Fastest growing categories
Bakery (23%)	Baby & Toddlers (+46%)
Cereals (19%)	Hot Drinks (+24%)
Baby & Toddlers (15%)	Cereals (+14%)

Source: Innova Database

Notes: *Gut health related claim includes digestive/gut health, prebiotics, probiotics, and high/source of fiber claims
Aug 2021

**2021YTD = Jan 2021 –

Fiber remains key for improving digestion and gut health

Which of the following actions have you taken to **improve your digestion/gut health** in the past 12 months? (Select all that apply):



17%

"Eaten a diet richer in fiber"



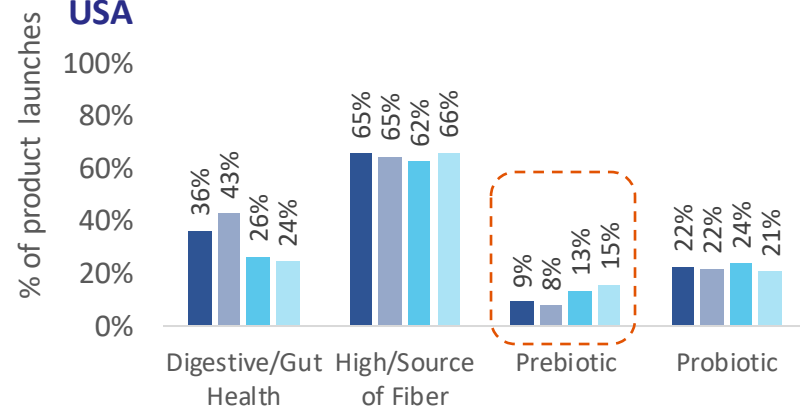
19%



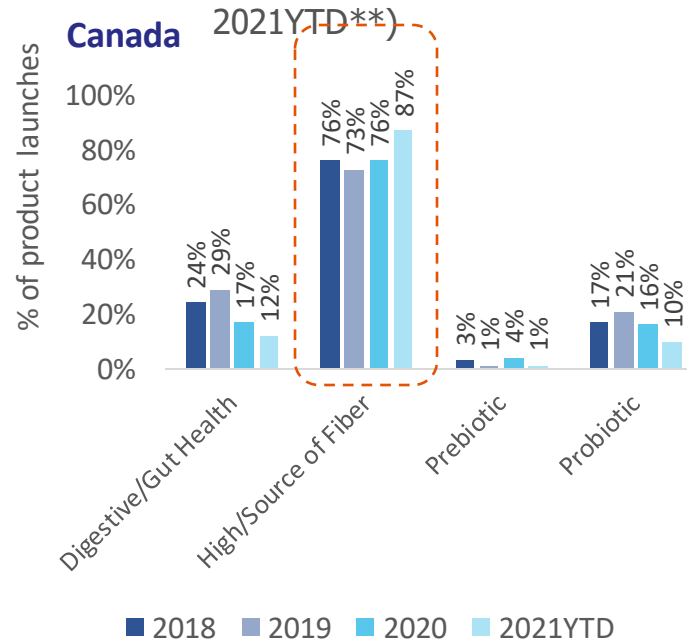
28%

Gut health related claim* as a percentage (%) of total food & beverage launches tracked with a gut health related claim* by country (2018-

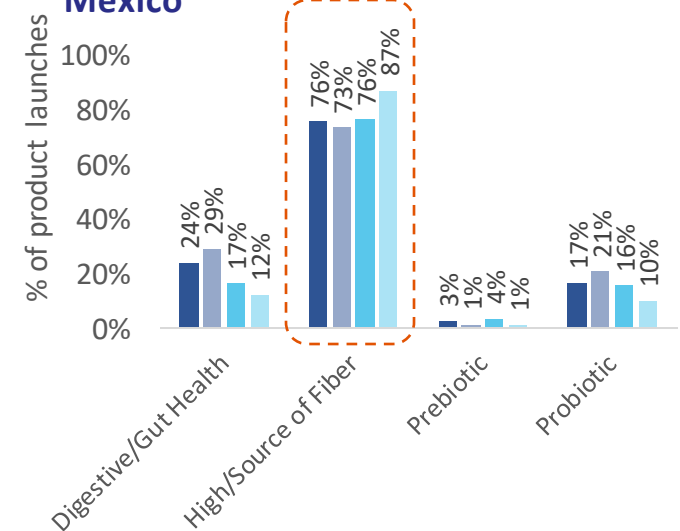
USA



Canada



Mexico



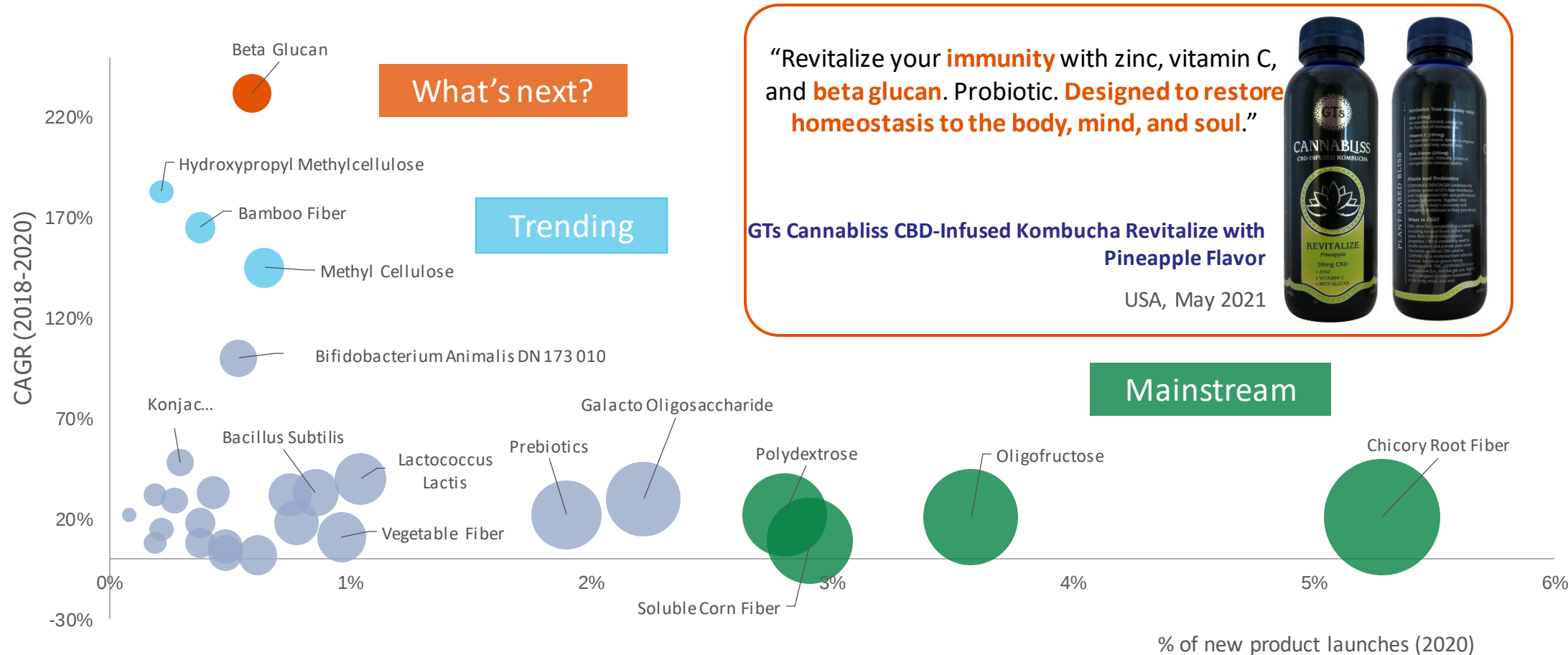
Source: Innova Database, Innova Nutrition & Health Survey 2021

Notes: *Gut health related claim includes digestive/gut health, prebiotics, probiotics, and high/source of fiber claims

**2021YTD = Jan 2021 – Aug 2021

Watch out for beta glucan to support digestive wellness and immunity

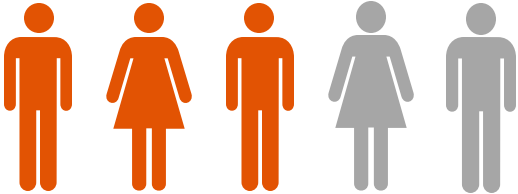
Fastest growing gut health related ingredients* of food & beverage launches with a gut health related claim based on CAGR (USA, Canada & Mexico, 2018-2020) and % of total food & beverage launches with a gut health related claim (USA, Canada & Mexico, 2020)



Source: Innova Database
Notes: Bubble size represents the number of launches in 2020
*Gut health related ingredients include dietary fibers, probiotics, and prebiotics

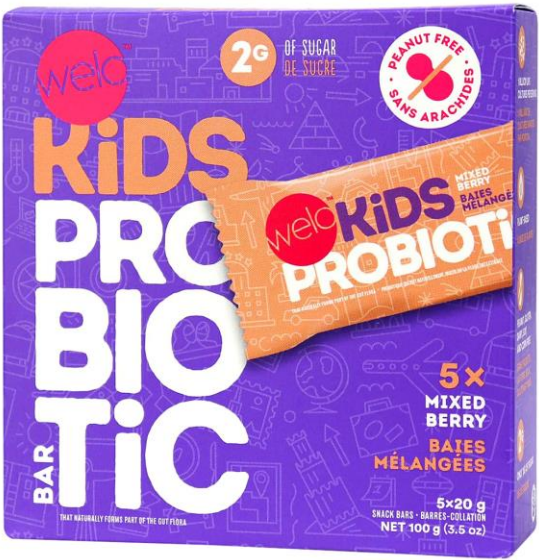
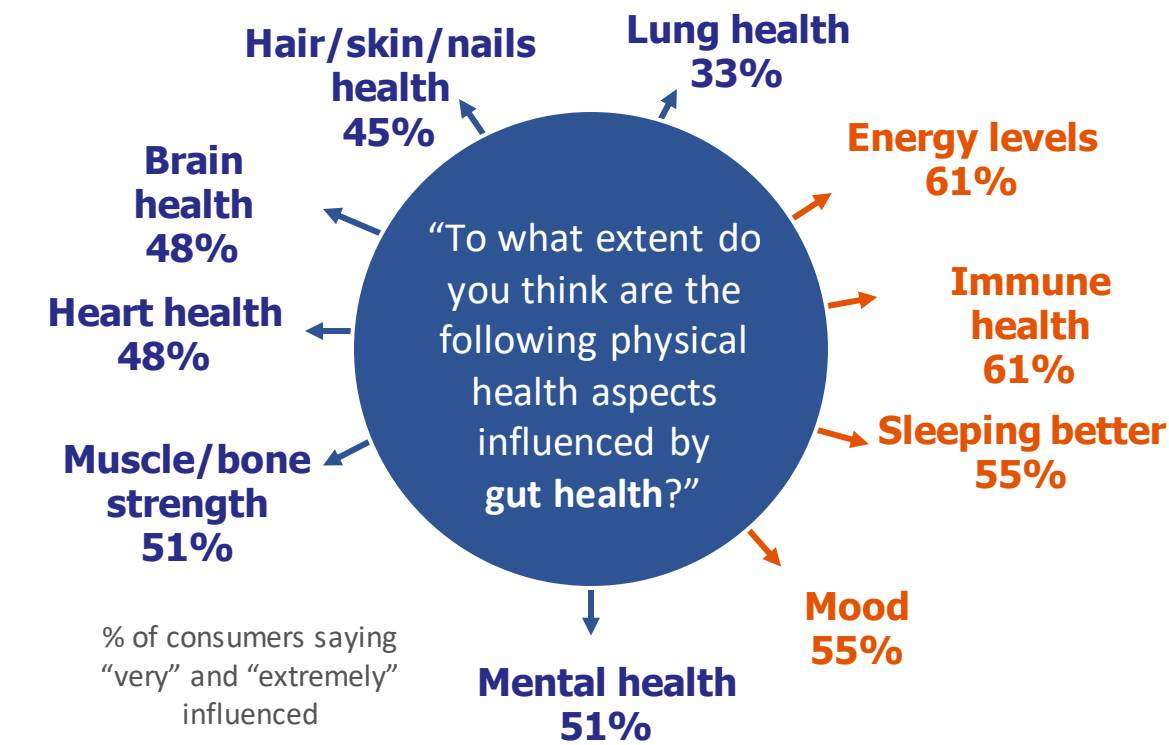
Consumers are aware of the foundational role of the gut on heath

“Gut health is key to achieving **holistic wellbeing**”



3 in **5**

of consumers in USA, Canada & Mexico (strongly) agree



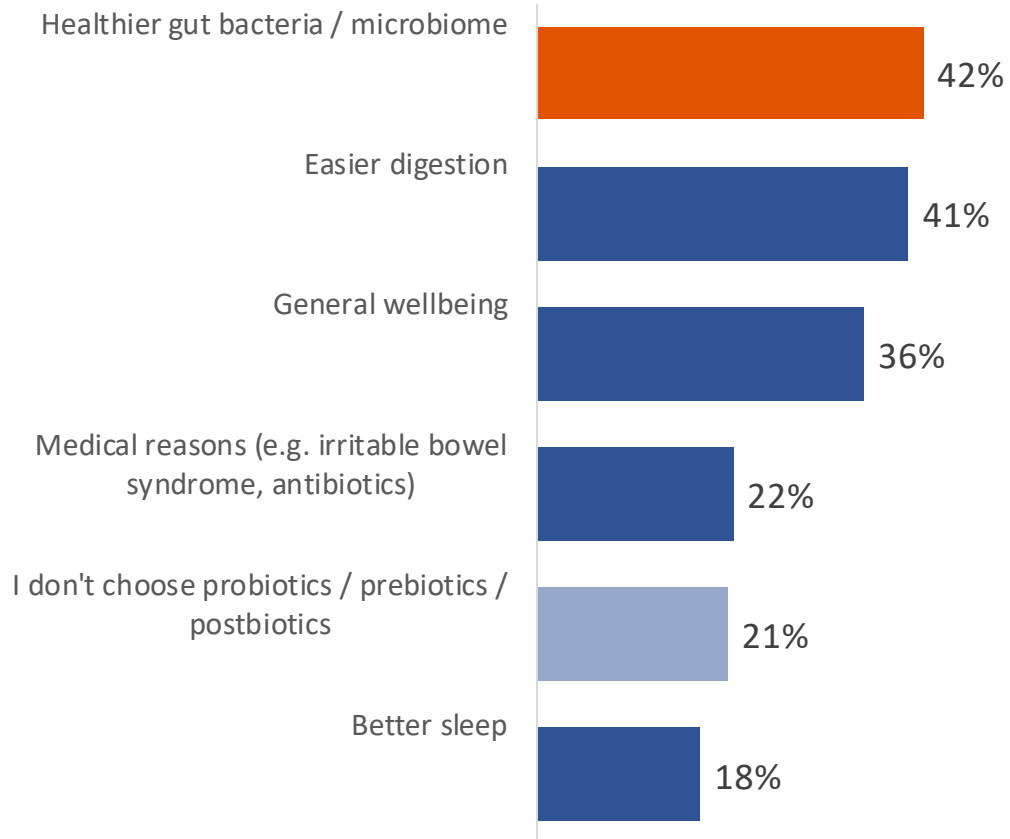
Welo Kids Baies Melangees: Mixed Berry Probiotics Bar
Canada, Jul 2021

“Daily probiotic immunity boost. Prebiotics from chicory root. 1 billion cultures per serving. Plant based. **Probiotics help with: Immunity, sustained energy, digestion, focus, anxiety.**”

Source: Innova Database, Innova Trends Survey 2021 (average of USA, Canada and Mexico)

Consumers are aware that good gut health is key for a healthy microbiome

“What are your main reasons to choose probiotics / prebiotics / postbiotics?” (USA, Canada & Mexico)



Mentions of the word “microbiome” are growing

+55%

average annual growth in food & beverage launches with “**microbiome**” as part of the product description or claims/features fields (USA, CAGR 2016-2020)

“May promote a **balanced and diverse microbiome**.
Good source of gut nourishing prebiotic fiber.”

Lifeway Organic Kefir: Mango

United States, Aug 2021



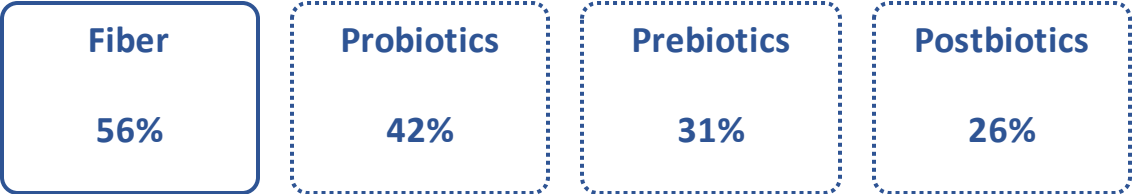
- Fermented full fat milk that contains added inulin.
- A product featuring prebiotics and probiotics which can be considered as synbiotics.

Source: Innova Database, Innova Trends survey 2021 (average of USA, Canada and Mexico)

Almost half of consumers in North America believe that postbiotics are effective

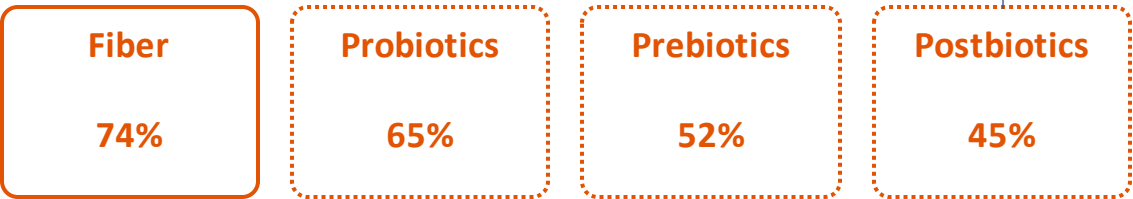
How **familiar** are you with the ingredients related to gut health listed below?

% “extremely familiar” or “very familiar” (USA, Canada, Mexico)



“How **effective** do you think the ingredients related to gut health are?”

% “very effective” or “somewhat effective” (USA, Canada, Mexico)



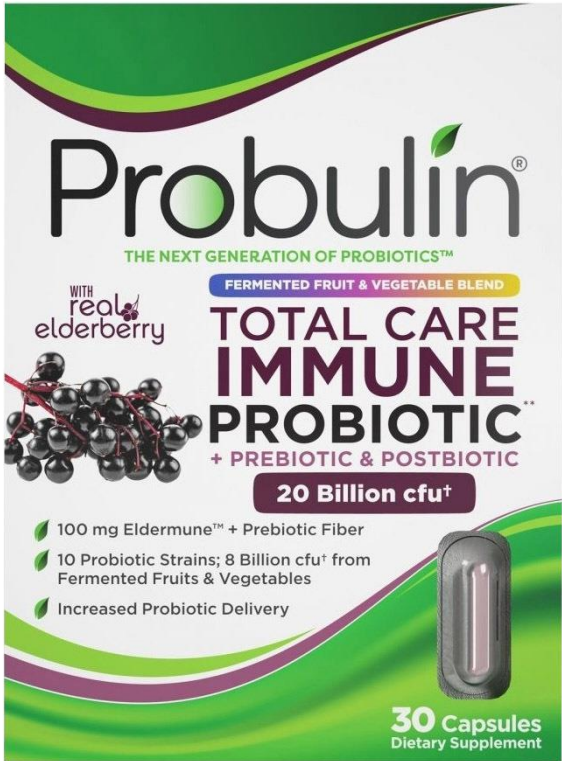
Only one-quarter of consumers is **familiar** with postbiotics, yet almost half believe them to be **effective** for gut health.

Postbiotics increasingly applied in supplements

“Combines the **digestive and immune support** of pre-, pro- and **post-biotics** with the immune boosting power of elderberry.”

Probulin Total Care Immune Probiotic Dietary Supplement: 30 Capsules

USA, Feb 2021



Source: Innova Database, Innova Trends survey 2021 (average of USA, Canada and Mexico)

New innovation directions in the digestive health space

"**Very high in fiber.** Non-GMO Project Verified. Plant-based."



Simplyprotein Chocolate Et Noix De Coco Barre Proteinee: Chocolate Coconut Protein Bar

Canada, Mar 2021

The increased availability of shot drinks

The rise of gut health and plant-based products

Strategies for gut health space

"With probiotics. **Low fodmap.** With 3g dietary fiber. Cinnamon, for stress — a common cause of IBS. Flaxseeds, for digestive health."



Belliwelli The Low Fodmap Fudge Brownie SnackBar

USA, Apr 2021

Bos Gut A Problem Probiotic Rooibos Shot with Apple Cider Vinegar

USA, Jan 2021

Description: Brewed organic rooibos shot with apple cider vinegar, in a 50ml glass bottle. **This rooibos shot combines brewed organic rooibos, a prebiotic superfood, with added probiotics to help promote gut health.**



The development of FODMAP friendly products

Source: Innova Database

Additional opportunities to expand current offerings of gut health products in the USA and beyond

The gut-brain axis is gaining traction



"Turmeric dramatically increases the antioxidant capacity of the body, **boosts brain-derived neurotrophic factor**, and is linked to improved brain function."

Joii Premium Barley Water Beverage for Digestion with Orange Ginger and Turmeric

USA, Jan 2021

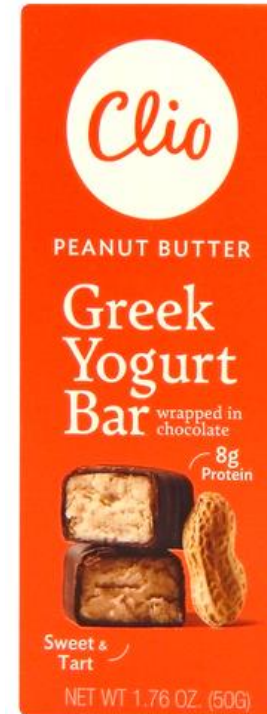


"Happy brain blend: **ginseng for mood, ashwaganda for calm**, cordyceps for energy and MCT of brain fuel. Supports your feel food mood. High in fiber."

Mindright Brain Food Good Mood Superfood Toasted Coconut Happy Brain Blend Bar

USA, Feb 2021

Better-for-you functional, yet indulgence products



"8g protein. **Billions of probiotics**. 170 calories. Gluten free. Certified kosher dairy. Live active cultures [*L. bulgaricus*, *S. thermophilus*]."

Clio Peanut Butter Greek Yogurt Bar Wrapped in Chocolate

USA, Jan 2021

"Chewy caramel filled waffle sandwich that is **prebiotic, high in fiber** and has only 3g of sugar."



Rip Van Wafels Dutch Caramel and Vanilla Waffles

USA, Aug 2021

Source: Innova Database



Cargill Virtual Event

Key Takeaways

Key Takeaways

Immune Health

- The pandemic increased demand for functional food & beverages that support **immunity and wellbeing**.
- **Innovation is broadening** to categories like snacks and ready meals.
- **Ingredient innovation** is also changing, with **beta glucan** among the immune health ingredients that are trending.

Digestive/Gut Health

- Digestive and gut health continues to be **top of mind** for consumers in North America.
- North American consumers are increasingly aware how vital gut health is to **overall health**.
- New food & beverages featuring ingredients and claims that link **gut health to mental and physical wellbeing**, have growth potential.

What's Next?

- Traditionally, dairy products are some of the best well-known sources of probiotics. That is changing.
- The rise of **plant-based foods** is impacting and will continue to impact the immune health and gut health spaces as plant-based options multiply.
- There is a good potential for the addition of **postbiotics** to food & beverage products as consumers seem predisposed to have a positive view of this ingredient.

THANK YOU!

Presenter: Tom Vierhile
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America
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For insight led future growth opportunities

The Innova Database is an online, cutting-edge food & beverage product database - created by a dedicated team of industry-leading food and beverage experts that collect the latest data from more than 90 countries.

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Innova Market Insights

Innova operates the biggest food and drink product database in the world. We pick up and record brands, ingredients, claims, packaging, patents & promotions in every major market.

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CARGILL FOOD INGREDIENTS

EpiCor® Postbiotic Regulatory and Food Applications

Alex Eapen, PhD
Angela Bonnema, PhD





Around the globe

Geographical expansion for use in food and supplements



In our own backyard

GRAS approval in US

No, literally, in our backyard

EpiCor[®] pets!!!



EpiCor® Postbiotic Ingredient



Successful expansion into 7 countries with current movement to enter 2 more. Additional plans for expansion in FY22.



GRAS letter of no questions was successfully obtained in May 2021 (GRN928). Allowing an intended use as an ingredient in a variety of food categories at a level of 500 mg/serving.

Current expansion of this list to additional food categories is in discussion.



Use in animal feed and supplements with immunity and gut health claims has resulted in multiple partnerships with large companies for branded products to be on shelf for consumer purchase.

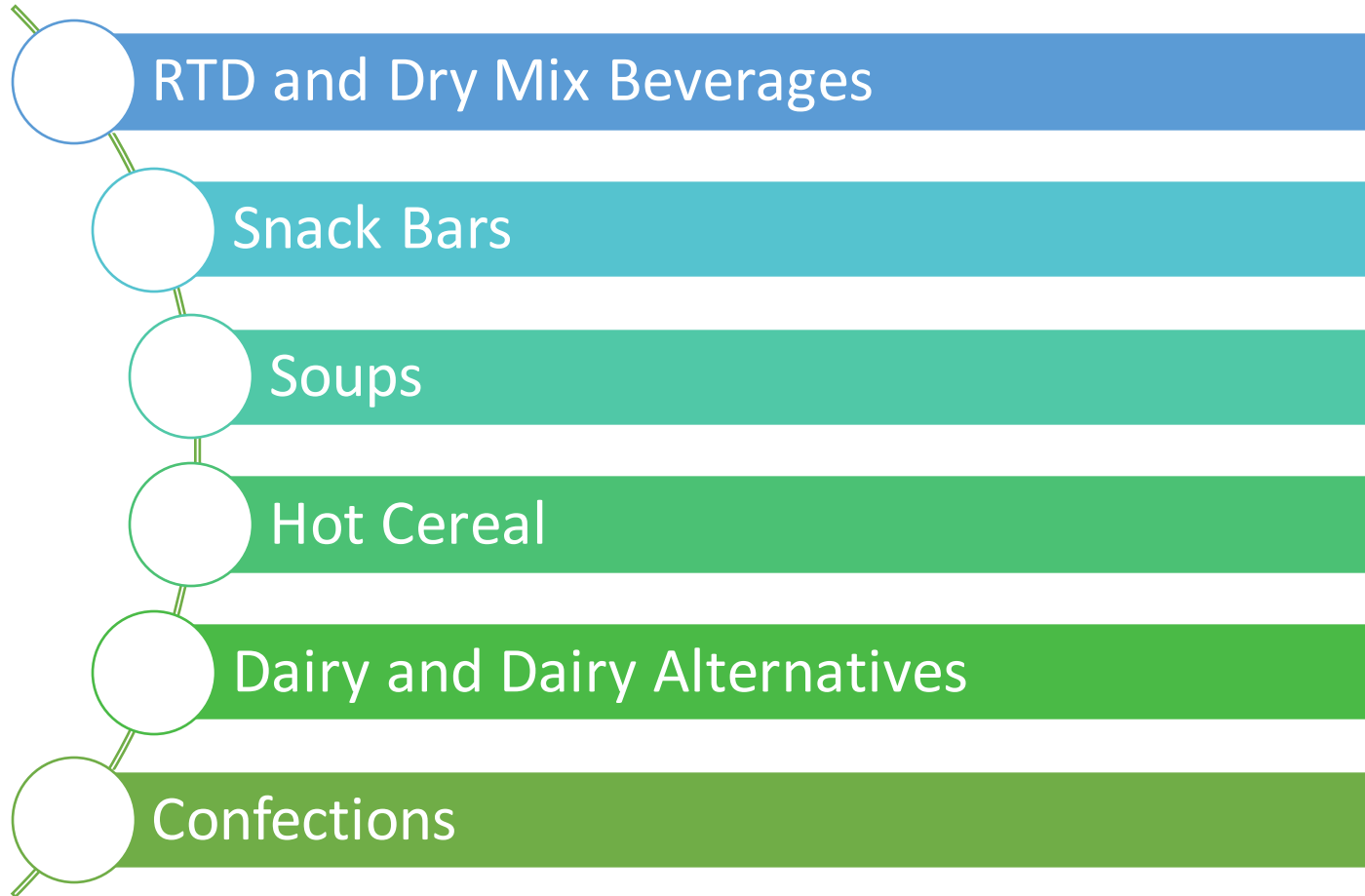
EpiCor® Postbiotic Ingredient



- Postbiotic
- 500 mg / serving added to food and beverage products
- Labeled as “Dried fermentate (made using *saccharomyces cerevisiae*)”
- Brings a rich, brown color
- Unique warm notes, molasses flavor to formulations

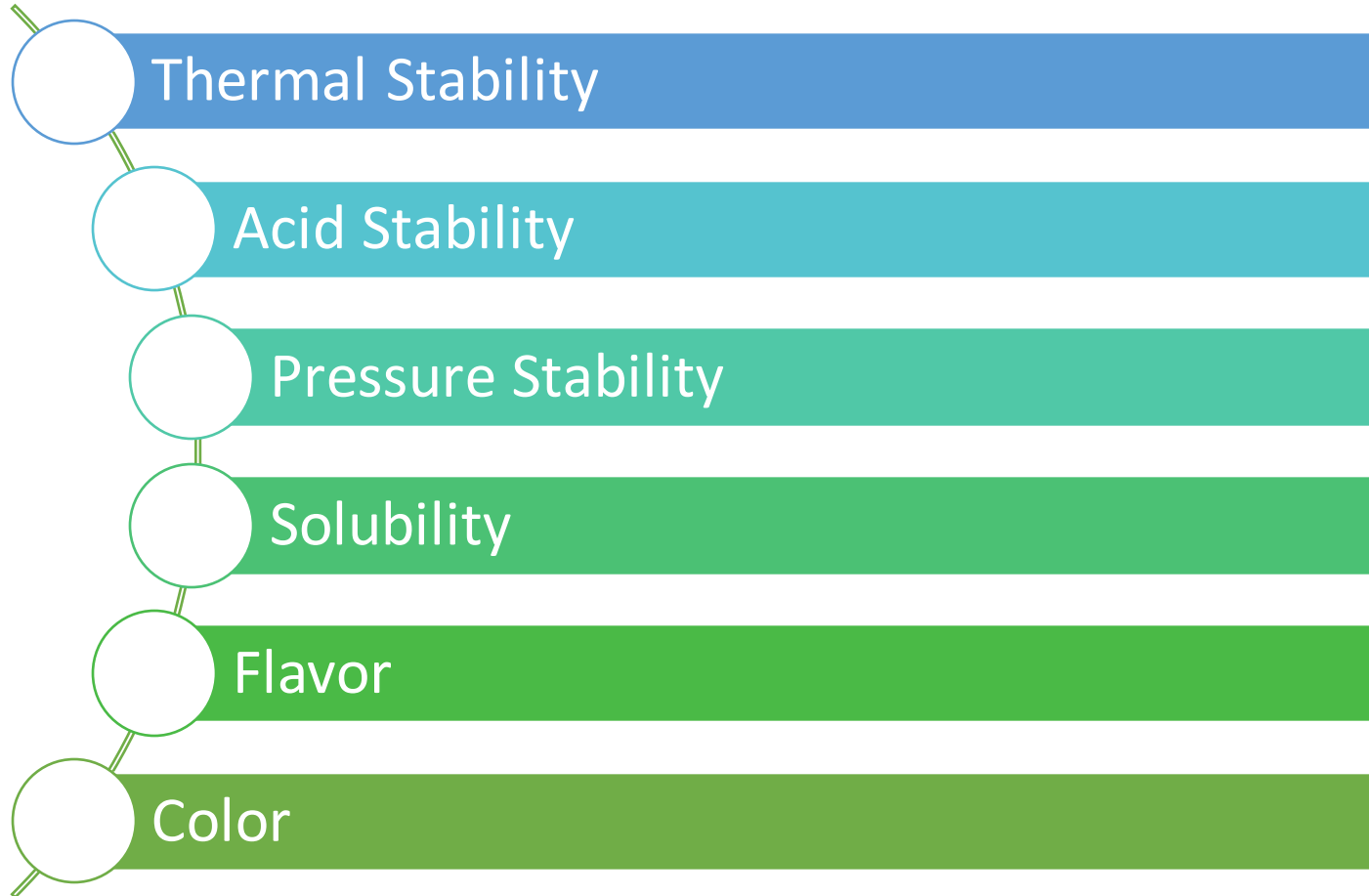


Food and Beverage Applications



- Stability of EpiCor® in food systems across processing parameters
 - Temperature
 - pH range
- Customer support and development
- Co-manufacturing scale-up support

Food Processing and Stability



- Non-aqueous temperatures up to 165°C
- Aqueous temperatures to 150°C
- pH range of 2.5-7
- Pressure tested

EpiCor® would not significantly change due to most processing conditions found in functional food production

- Good solubility for use in RTD and powdered beverages
- Warm flavor notes pair well with ingredients like chocolate, vanilla and dark red fruits.
- Brown tea-like color in solution

EpiCor® Postbiotic in Food and Beverages Highlights



- Postbiotic
- US FDA GRAS for multiple food and beverage categories.
- Product Stability
 - Heat Stable
 - pH Stable
- Immune and gut health benefits to food and beverage formulations
- Applications in pet treats/supplements
- Ongoing global regulatory expansion

EPICOR®

#1 POSTBIOTIC BRAND

a **Cargill** brand

Q & A



**Bringing immune and gut health
benefits to food and beverages**

Bringing immune and gut health benefits to food and beverages



Thank You for Attending!

We hope you enjoyed the presentations.
Contact us to work together to develop ideas
and solutions.

Coming up:

- **11a.m. – 11:45a.m. CST: Break-out Session 2**
Postbiotics - The next evolution in immune and gut health

Thursday, Oct. 7, 2021

- **10a.m. – 11a.m. CST: Healthy Snacking**
Tracking consumer desires in an evolving marketplace
- **11a.m. – 11:30a.m. CST: Break-out Session 3**
Salt solutions for snacking trends
- **11:30a.m. – 12:15p.m. CST: Break-out Session 4**
The role of fats and oils in better-for-you snacks

REFER TO YOUR CONFIRMATION EMAIL FOR ALL MEETING LINKS