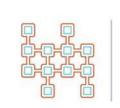


World leader in food ideas and answers



WORLD'S BIGGEST FOOD DATABASE

















Trends and opportunities in food colors

Instagrammability → **Plant based Key Trends Naturalness Cleaner labels** personal appeal alternatives *Top performers include* Bolder and more The value of natural Areas such as organic spice-derived **Opportunities** for NPD colorings for their foods and plant-based ingredients and vibrant colors adds watch for more value on-shelf and the environmental or products are important coloring foods (e.g. ethical benefits spirulina, black carrot of these coming plate growth markets

Source: Innova Market Insights

and red beet)



The role of color in food

An attractive appearance

On-shelf and on the plate



Complementing taste

Matching color to flavor



Instagrammable products

Sharing novel experiences







New generations of digital consumers are living their food lives online

Millennials and Generation Zs are becoming more wedded to online interactions around food



of consumers in 2019 said that they took pictures of their food and drink and shared them online at least once a week



of consumers in 2021 said that they actively **shared their opinions regarding food** on social media

This rose to 44% among Millennials and 37% among Generation Z...



This rose to 43% among Millennials and 40% among Generation Zs...

...but fell to just 8% among Boomers



...but fell to only 19% among Boomers

Retail brands also target foodservice for more opportunities

- The most Instagrammable foods tend to be found in the foodservice market, with restaurants having more scope for experimentation than FMCG brands.
- Although taste is key, more restaurants are recognizing the benefits of colorful products that appeal to the Instagram generation.
 Recognizing this, many retail brands are teaming up with foodservice operators for more colorful and Instagrammable products.



Taco Bell Brisk Dragon Paradise Sparkling Tea

Taco Bell in the US has teamed up with leading iced tea brand, Brisk, to offer Brisk Dragon, the brand's first ever sparkling tea, which is flavored with tropical dragon fruit, raspberry and blackberry flavors. It has a striking, on-trend purple color.



Sonic Sour Patch Kids Slush Float

Sonic Drive-In has teamed up with Mondelēz International to launch a colorful watermelon-flavored slush float drink with an ice cream topping and chewy balls of Sour Patch Kid candies both on top and floating in the drink.

Sweet Frog Cherry Icee and Blue Raspberry Icee Swirl

A frozen yogurt that combines the new Cherry Icee and Blue Raspberry Icee sorbets inspired by the popular retail soft drinks.

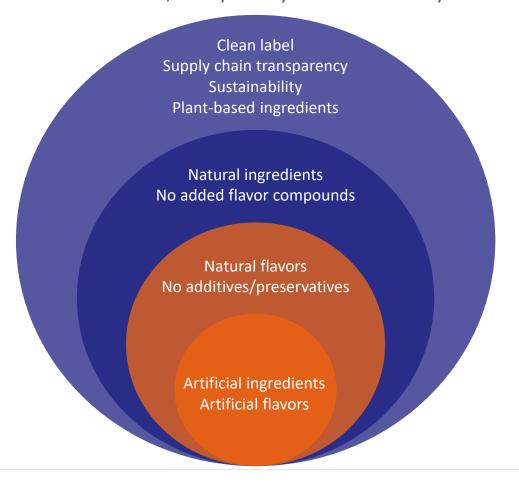


Sources: Innova Market Insights, Taco Bell, Sonic Drive-In, Sweet Frog



Innova's Top 10 Trends spotlight the evolution of ingredients choices

Innova's Top 10 Trends: the evolution of ingredient and flavor choices to include clean label, transparency and sustainability features



The Progression of Color Use

Coloring foods

 The push for "clean labels" is prompting replacement of color compounds with natural ingredients that can make their own contribution to coloring.



Natural colors

 Boosted by growing demands for more natural and traceable foods and beverages.

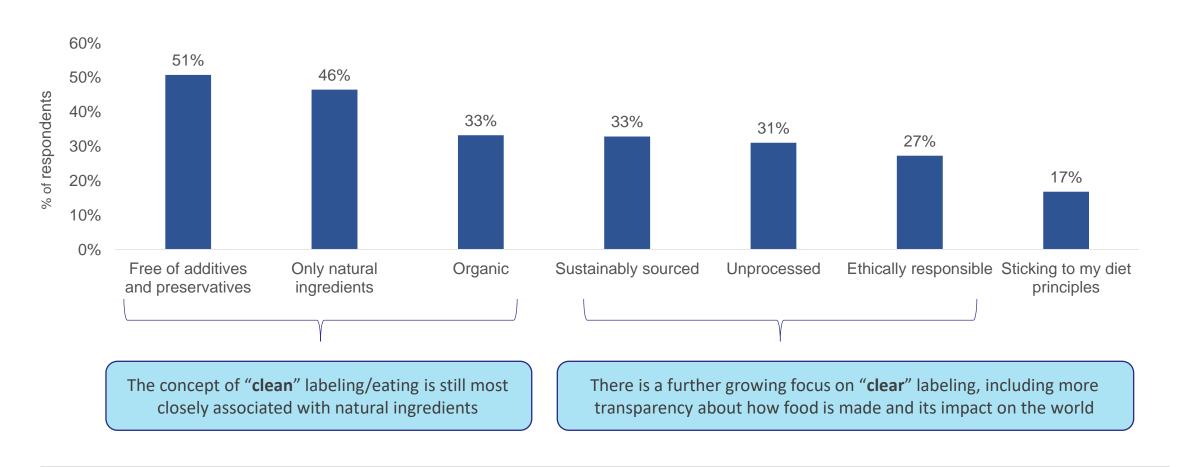


Artificial colors

• Delivered more exciting and vibrant colors to the food and drink market.

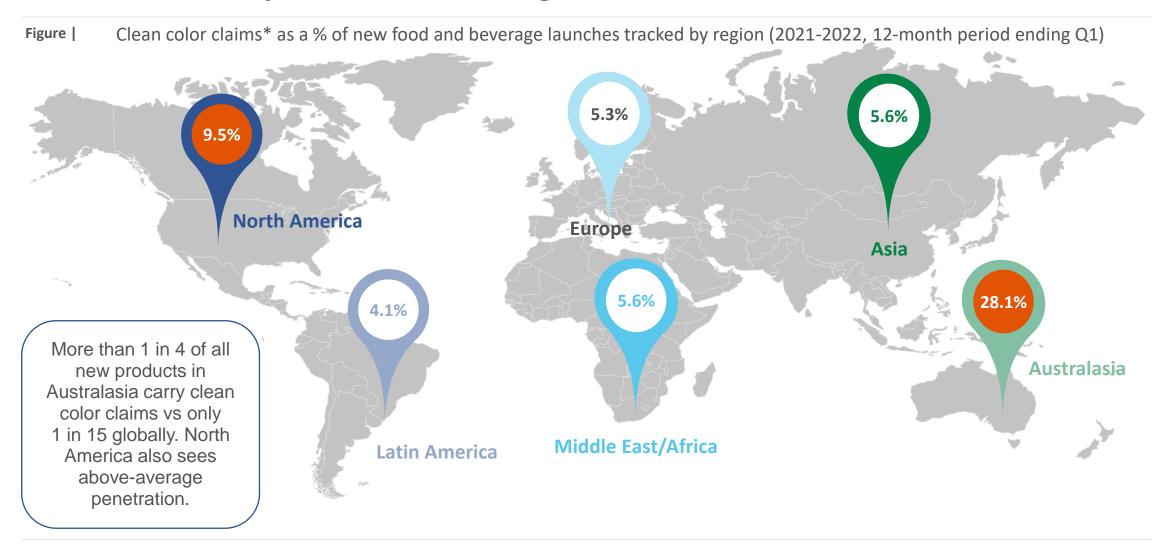
"Clean" eating starts with naturalness

Figure | What does the term "clean eating" mean to you? (Average: 10 countries) (2020)



Source: Innova Health & Nutrition Survey 2020

Australasia is way ahead of other regions in use of clean color claims

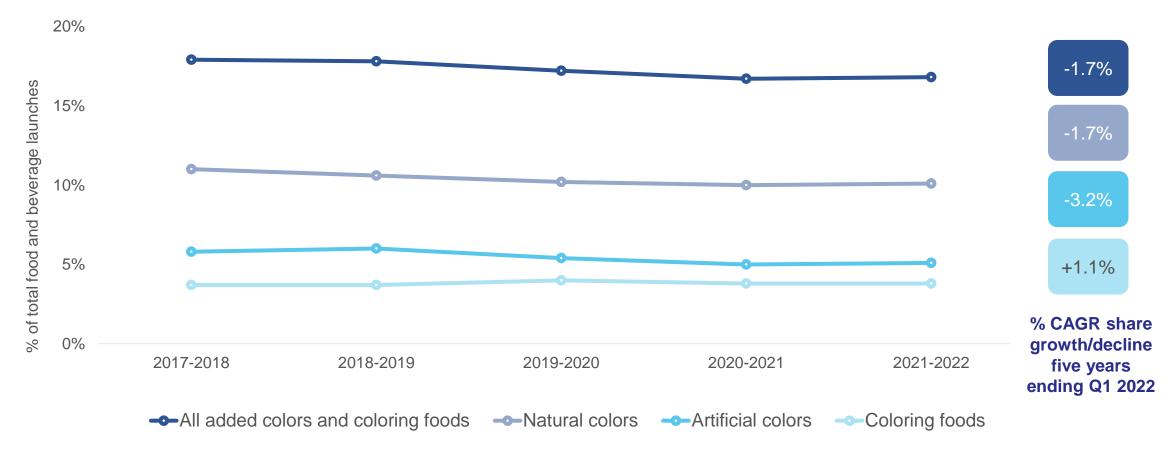


^{*}Based on free text searches of product claims and features for no artificial colors, no added colors and natural colors



Coloring foods is the only area in growth for new product launches

Figure | Global use of added color ingredients as a % of new food and beverage launches tracked (2017-2018 to 2021-2022, 12-month periods ending Q1)



Source: Innova Market Insights

Note: Categories are not mutually exclusive; products may contain more than one type of coloring agent

Fast-growing categories across color choices

Selected fast-growing categories in average annual growth of new food and beverage products tracked with colors (% CAGR 2017-2018 to 2021-2022, 12-month periods ending Q1)

Artificial colors: wide use in energy drinks



+24.8%

Energy drink launches with artificial colors

Monster Energy Ultra Peachy Keen

United States, May 2022

A summer flavor variant, colored with tartrazine (yellow 5) and sunset yellow (yellow 6) colors.

Natural colors: boosted by plant-based



+30.1%

Burger, ground meat & meatball substitutes with natural colors

+46.2%

Non-dairy cheeses with natural colors

Good Catch Plant Based Salmon Burgers

United States, Jan 2022

Frozen plant-based alternative to salmon burgers with annatto extract as an added color.

Coloring foods: strong focus on kid's foods



Coloring foods overlap with flavorings as many are used for taste rather than color.

+15.7%

New cold cereal launches with coloring foods

Kelloggs Special Edition Strawberry Mini Wheats

Canada, Apr 2022

A special edition wheat cereal with strawberry flavor. Contains red beet juice, red radish juice and paprika extract as colors.

Color is key in children's foods and there is still demand for colorings here

Artificial colors still popular for vibrancy

Other products mix natural colors and coloring foods for optimum results



Huer Strawberry Frosty Gummies

Philippines, Apr 2022

Gummy sweets with a strawberry frosty flavor.

The vibrant cerise color comes from use of artificial Allura Red.



Nestle Smarties White Chocolate

United Kingdom, May 2022

A white chocolate version of Smarties chocolate beans in crispy sugar shells. Carries a no artificial colors claim and uses beetroot red, betacarotene, curcumin, spirulina concentrate, safflower concentrate, and radish concentrate.



Katjes Plant Based Rainbow Gummy Candy

United States, Jun 2022

Gelatin free gummies in strawberry, orange, cherry and blueberry flavors. Fruit and vegetable juices are included for color along with spirulina extract.



Color Innovation: Sensient explores blues, purples and greens from butterfly pea

- In September 2021, the USDA approved Sensient's range of colors derived from the **butterfly pea flower**, revered as a holy flower in India where it is used in Ayurvedic medicine.
- Butterfly pea is already popular in the food industry in SE Asia, where it is used to make a tea known as **blue tea** thanks to its vibrant blue color.
- Natural blue colors are hard to come by and the color industry has been focused on innovation in natural blue color. Spirulina has built a strong position here, but better, less expensive alternatives are still desired.





The butterfly pea flower makes a vibrant blue tea

Asian innovators start to experiment with butterfly pea

- Launches of food and beverage with **butterfly pea rose** 5x from 2017-2018 to 2021-2022, albeit from a very small base.
- The focus of development is still on the Asian tea market but there are signs of interest from other markets.



Sunkrisps Instant Rainbow Noodles With Cheese Flavor

Indonesia, Feb 2022



Double Happiness
Breakfast Butterfly Pea
Pancake Premix

Hong Kong (China), Oct 2021

Sources: Innova Market Insights, Sensient Food Colors

Color Innovation: Oterra targets beverage replacement of Allura Red (Red 40)

- In early 2022, Oterra added to its Hansen Sweet Potato range of natural anthocyanin colorings. FruitMax Red 116 WS is a better replacement of bold Allura Red (or Red 40) colors in beverage applications.
- Bolder colors are increasingly popular in beverages, so delivering such colors naturally and effectively has never been so important.





Oterra uses sweet potato to deliver bold reds

Bold reds are achieved both naturally and artificially

- Red 40 or Allura Red remains a popular choice in beverages but demand for natural alternatives is high.
- Suppliers are already turning to fruit- or vegetable-derived ingredients.



Splash Fizz Raspberry And Blackberry Sparkling Beverage

United States, Apr 2022 With Red 40 coloring.

VS

Fever Tree Sparkling Italian Blood Orange Drink

France, Jun 2022

With sweet potato, carrot, safflower and lemon coloring concentrates.



Sources: Innova Market Insights, Oterra

Future directions for NPD: tapping into natural alternatives

Safflower has clear potential as a coloring concentrate

 Safflower concentrates are already used for their coloring properties in food and beverages, although they are rarely referenced as colors. The emphasis is on Europe and Asia, with safflower still not approved as a coloring agent in the US.



Ah Cookie Bites Confetti Cookies

Belgium, Jun 2022

Safflower is listed as a coloring concentrate.



Meiji Mouth Mika Tagumi Innocent Type Lemon Gummies

Japan, May 2022

Listed as safflower color.

EU ban on titanium dioxide will require changes

 Titanium dioxide is still appearing in EU food and beverage NPD in the first half of 2022 but is currently in a "phase out" period and will be banned outright in August. Many products will need to seek alternatives, with a couple of examples here.





Ah Snowman Donuts

Netherlands, Dec 2021

With titanium dioxide, plus beta-carotene and paprika oleoresin colors.

K Classic Spear Mint Sugar Free Chewing Gum

Germany, Nov 2021

With titanium dioxide color.



What's next?
Future directions for NPD

Purple and violet are on-trend

Very Peri is the Pantone color of the year

• In 2022, Pantone announced **Very Peri** as its color of the year. The new color is described as a "dynamic periwinkle blue hue with a vivifying violet red undertone" and blends "the faithfulness and constancy of blue with the energy and excitement of red"



Food industry to explore more purple hues

Increased interest in purple as a natural color has purple yam
 (ube) and purple sweet potato offering natural solutions for this
 hue. At the same time, violet flowers have already been used in
 specialty food and drinks for many years so these could also
 feature more prominently.



Gin Lane 1751 Violet Gin

United States, May 2022

Gin infused with all-natural violet leaf oils.



Sorbetero Purple Yam Ice Cream

Canada, Jan 2022

Ice cream with purple yam purée for a natural purple color.

Health strategies: Plant-based diets can now take precedence over additives

Health is the #1 driver, but health of the environment gains prominence

Figure | Why would you consider 100% plant-based alternatives? (Average: 11 countries) (2021)





Similarly positive views of health and sustainability benefits

Figure | In my opinion, a plant-based diet is... (Average: 11 countries) (2021)



Views around health now include a "healthy planet"

28%

consumers globally

"I include **environmental wellbeing** when thinking about holistic health"

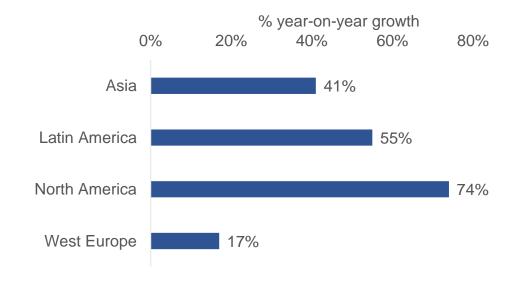
Sources: Innova Trends Survey 2021, Innova Meat, Dairy & Alternative Protein Survey 2021

Plant-based movement to boost demand for natural browns, reds and yellows

The provision of authentic colors is important to establish plant-based alternatives to meat and cheese

Advances in natural browns, reds and yellows will be increasingly important as suppliers seek to deliver products that closely mimic animal-derived variants.

Regional growth in launches of meat substitutes (% year-on-year growth) (2020-2021 to 2021-2022)





Jumbo Plant Based Alternative To Grated Gouda

Netherlands, May 2022

An alternative to grated gouda, with carotenes, olive extract and paprika extract as added colors.

West Europe and North America still represent 71% of all launches of non-dairy cheese, but other regions are showing strong growth.

Presented by Tom Vierhile, Innova Market Insights – tom@innovami.com

THANK YOU!

For insight-led future growth opportunities

The Innova Database is an online, cutting-edge food and 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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