

PRESCOUTER

2022

Clean Label Flavors

Expert insights into clean labeling trends
and examples of clean label flavor solutions





Flavor is a key driver for consumer preference and purchase intent. Clean labeling is no longer a “nice-to-have” but a “must-have” to meet consumers’ growing demand.

The clean label movement has been one of the biggest trends in the food & beverage industry. Consumers are focusing more on eating healthy, and this trend has been further accelerated over the past two years due to the COVID-19 pandemic. According to the International Food Information Council’s (IFIC) June 2021 survey *From “Chemical-sounding” to “Clean”: Consumer Perspectives on Food Ingredients*, 64% of consumers in the United States say they try to choose foods made from clean ingredients.

Although there is no regulatory or legal definition for “clean label,” it is characterized by the ways consumers perceive it and how food companies market their products. Food & beverage companies are always looking for flavors that will appeal to consumers. In general, clean label flavors are often perceived as flavors that do not contain any unfamiliar complex chemical names, preservatives, or anything artificial.

In this Intelligence Brief, we explore the current direction of clean label flavors, highlight some commercially available approaches that signal “clean” to the consumers, and interview a Food Scientist and a Flavorist who are working closely with clean label flavors and ingredients to understand misconceptions in the clean label space as well as identify areas of opportunity.

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What is clean labeling?

Simply put, consumers want to buy foods and beverages with short lists of natural ingredients. It has been found that, globally, more than half of the consumers mention that they actively seek food products with natural claims.

The pandemic has also helped encourage people to eat healthy. With more people eating home cooked meals, the scrutiny of product labels is more likely to intensify. Moreover, consumers' attention towards responsible sourcing of food ingredients has also increased. Consumers have now started associating clean labels to a healthier lifestyle and concerns for the planet.



U.S. Consumers

- 22%** Not artificial or synthetic
- 16%** Organic
- 15%** Fresh
- 14%** Something they know is nutritious
- 14%** Natural



Global Consumers

- 51%** Free of additives and preservatives
- 46%** Only natural ingredients
- 33%** Organic
- 33%** Sustainably sourced
- 31%** Unprocessed
- 27%** Ethically responsible
- 17%** Sticking to my diet principles

Figure. Specific attributes that the U.S. and global consumers say they want to see in clean products. Source: [Ifit](#)

Understanding Clean Label Purchases

(% of consumers who cite the following reasons for choosing foods and beverages with clean ingredients)

- 25%** To seek out health benefits
- 21%** To avoid possible harmful effects of consuming chemical-sounding ingredients
- 18%** To avoid possible harmful effects of consuming unfamiliar ingredients
- 18%** I want to be familiar with what goes into the foods and beverages I choose
- 17%** I think they are more nutritious
- 1%** Other

Source: International Food Information Council, 2021

Figure. Understanding consumer sentiment of clean label purchases (% of consumers who cite the following reasons for choosing foods and beverages with clean ingredients)

Expert Insights:



Stefan Bucher

Principal Food Scientist

The clean label movement has been around for years. Has the perception of clean labeling changed over time?

“Yes, it has been around for a long time, so I don’t think it has ‘changed’ that much. But I think it has added new fields. Probably the most recent is the plant-based field, which requires a set of additives that were not that common a few years ago. The plant-based field has changed the type of additive. For instance, something like Carboxymethyl cellulose or CMC which was not a preferred type of gum, because of the complicated name, now is very common. However, the ‘natural sector’ saw that as an opportunity to develop fibers of previously unusual sources with very novel properties (increase water holding capacity, etc.). Examples, like citrus fibers, potato fiber, insoluble oat fibers, etc. Even something like ‘modified starch’ is being scrutinized more heavily. The general perception is that a complicated name may mean something artificial and therefore unhealthy. ‘If I don’t know it, if I haven’t heard it, how can it be natural?’”

Drivers for Clean Labeling



Before the pandemic, immune health claims were gaining popularity. The **COVID-19 pandemic** has accelerated this trend and caused consumers to be more mindful of their relationship with **diet and health**. It has increased customers' considerations of holistic health, wellness, and immunity.

In the 2020 New Hope Network NEXT Data and Insights Survey, the majority of consumers reported that they placed more importance on personal health (77%) and environmental or planetary health (67%) during the pandemic than they did in 2019. This trend and demand for better-for-you ingredients are expected to continue well beyond the pandemic as part of an ongoing move to healthier and more sustainable lifestyles.



The desire for **transparent labeling** is related to consumers' growing concerns around **sustainability** and **ethically sourced** goods. Consumers want to easily read the label to understand what they are putting in their bodies.

In a 2020 research report from FMI, The Food Industry Association and Label Insight, consumers identify a brand or manufacturer as transparent if it provides a complete list of ingredients (62%), the description of ingredients is in plain English (53%), it provides certifications, such as USDA organic (48%), and it provides in-depth nutritional information (47%).

Natural extracts dominate the natural food flavors market and are projected to reach US\$1.85 billion by 2025.

- Drivers of the food flavors market include a growing demand for clean label and organic products, a strong growth in the food and beverage Industry and technological advancements in production.
- The natural extracts segment is the fastest growing segment in the food flavors market at a CAGR of 5.3%.
- The largest market of natural extracts was Asia Pacific in 2019. It is projected to grow from 433.9 million to 579.6 million from 2019 to 2025.
- The market for natural extract is driven by various advancements flavor extraction techniques from natural sources.

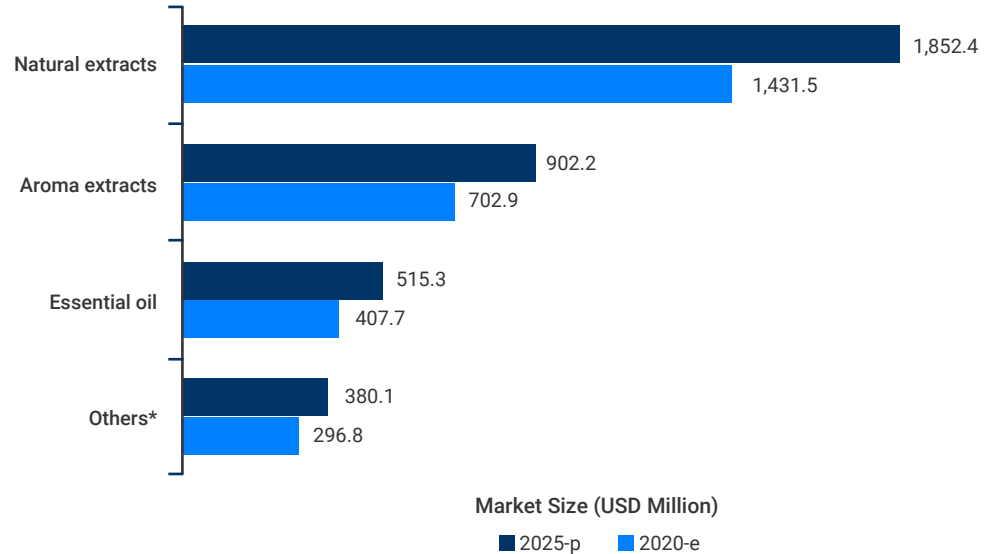
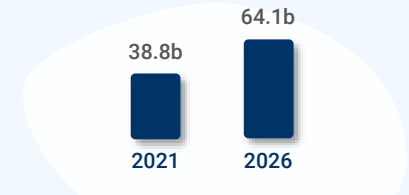


Figure. Natural food flavors market by type, 2020 vs 2025. Others include spices and microorganisms.
Source: [Markets and Markets](#)

As the demand for clean label products increases, the global natural and organic flavors market is expected to grow at a CAGR of 5.7% from 2018 to 2026 and reach US\$11.3 billion by the end of 2026.



Global value of the clean label market from 2021 to 2026. Source: [Market Data Forecast](#)



A global demand for clean label products is propelling the natural and organic flavor market to grow.



Fruits and fruit juices are a key source for natural and organic flavors. The segment dominated the market at 41.9% in 2018 and is expected to maintain its dominance by 2026.



The Asia Pacific natural and organic flavor market is projected to be the fastest growing market from 2018 - 2026. The North America and Europe market is significantly growing due to an increase in the global volume of natural and organic flavors.

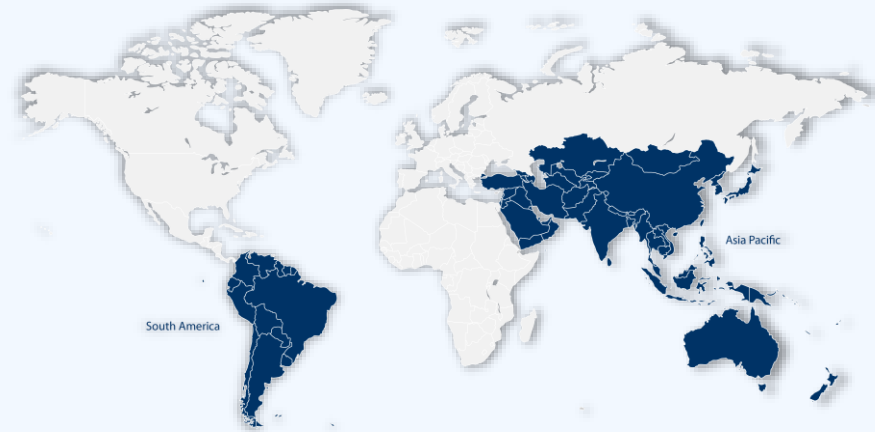


Figure. Natural food colors & flavors market size (CAGR%), 2020 - 2025. Source: [Markets and Markets](#)

Source: [PERSISTENCE Market Research](#)

Expert Insights:



Laura A. Arias

Principal Flavorist & R&D Manager

What are some common mistakes that companies make when they try to launch a clean label product?

“Pre-COVID-19, self-care typically surrounds the realm of people with time and money to spare. But with lockdowns, adapting to working from home and uncertainty, self-care has risen exponentially, and it is critical for consumers to cope with daily stressors. Self-care prioritizes one's health and wellness in a holistic and preventive way. It is becoming mainstream and a lifestyle choice that makes it a long-term need, accelerated by the pandemic. Brands have a role to play as consumers take on new approaches and gain comfort from new methods of self-care. This is true even post-COVID-19, giving potential for brands to deliver products that support good-quality sleep, beauty and skin benefits, and mental well-being. Because of this, it is common to see many brands focusing on critical ingredients like flavors, of which you can find as artificial or natural. Very often, they forget to remove or reduce ingredients like sugar, sodium, and fat that can negatively affect the consumer's health, thinking that these are natural ingredients so they can achieve a clean label product. The flavor houses identify this as a challenge and work as an important ally to developers on product design.”

48% of consumers seek out **natural flavors** at least some of the time.



Figure. Top 5 ingredients consumers do not prefer in the corresponding food and beverage products

According to the [2019 clean label study report](#) by Kerry, 67% of consumers found it crucial for food ingredients to be something they already use. Nearly 50% perceive foods or beverages as natural if they contain fewer ingredients in them. Above is the list of ingredients that consumers do not prefer in their foods and beverages. In 5 out of 6 of the food and beverage categories, “Artificial flavors” is ranked in the top 3 ingredients that consumers do not prefer.

Similarly, IFIC’s 2021 survey found that 48% of consumers seek out food products that contain natural flavors at least some of the time.



Figure. **Clean ingredient purchase drivers** (% of consumers who seek out foods that contain the following at least some of the time)

The strategies and information provided in this report are an example of the insights clients rely on PreScouter for.

PreScouter is helping companies implement more sustainable practices throughout the entire product lifecycle, while ensuring the safety of products for consumer health, through the services listed on the right.



PreScouter's Proven Track Record

500+

Clients Worldwide

5000+

Challenges Conquered

150K+

Hours of Research



"Working with PreScouter is like having a secret information drawer. When you need perspective and insight you can open the drawer and, presto, you have what you need."

Rowena Pullan, Strategic Innovation Leader, VP Wellness R&D at Pfizer

PreScouter's research consultancy has helped drive strategic planning and specific solution development decisions for some of the most sustainable and prominent companies in the world, for years.

1

Identifying novel biobased and/or natural sources with similar or better efficacy compared to currently sourced ingredients.

2

Assessing actionable technologies that enable consumers to tailor the use of active ingredients to their specific needs.

3

Reviewing and ranking competitor activity to determine areas of opportunity and differentiation.

Subject Matter Expert (SME) Insights

Interviews With Two Experts in the Clean Label Food Industry



Laura A. Arias

Principal Flavorist & R&D Manager,
Andean Region | Metarom Group



Stefan Bucher

Principal Food Scientist | Meati Foods

SME Insights

Meet the Expert



Laura A. Arias

Principal Flavorist & R&D Manager,
Andean Region | Metarom Group

Laura is a food and chemical engineer focusing on flavor creation, product development, and flavor applications for various categories in the food and beverage industry including sweet goods, bakery, dairy products, savory, and snacks, etc. She is passionate about flavor design and creating sensory experiences.

Laura has extensive knowledge in molecules and raw materials, as well as developing products focusing on clean labeling (sodium/sugar/fat reduction, plant based) and regulatory affairs.

SME Interview:



Laura A. Arias

Principal Flavorist & R&D Manager,
Andean Region | Metarom Group



**Q: The clean label movement has been around for years.
Has the perception of clean label flavors changed over time?**

A: As clean label in food options grow in development, more consumers are embracing flexible diets by limiting certain foods associated with being bad for both personal health and the environment. Flavor houses have responded to this by promoting natural options and being an important part in launching ingredients for self-care and “better for us” alternatives, encouraging consumers to adopt small healthier habits thinking on the list of ingredients of all processed foods.

Q: What has changed?

A: Health and wellness have emerged as a critical focus and have become a norm for consumers, creating healthier food and ingredient opportunities. Consumers put eating healthy as their current top priority for health and wellness. So, as a contributor of ingredients in processed food, the flavor industry has been innovating in clean production technologies and improving in molecules research. These points are gaining notable investment, and many hold the potential to be further commercialized. I mean, technology always connects the dots for production, from start to finish, making better ingredient solutions to sustain the holistic needs of the global population.

Q: Why has it changed?

A: Sustainable nutrition is an important topic as consumers consider the nutritional profile and environmental / ethical implications of the food they eat. Also, plant-based alternatives are pressing ahead towards the mainstream, improving on offerings in taste, nutrition, and environmental impact.

SME Interview:



Laura A. Arias

Principal Flavorist & R&D Manager,
Andean Region | Metarom Group



Q: Do you anticipate any changes?

A: The continuous battle of COVID-19 has greatly influenced health, technology, and the demand for sustainability, shaping the future of ingredients. The pandemic also drove consumers' desire for tangible, substantial benefits (e.g. quality and function) to help human and planetary health. I think, in the next two years, healthy products will concentrate on solutions that support consumers' self-care practices and boost nutrient density while being low in fat, sugar, and sodium. In addition to being eco-friendly, sustainable proteins will need to be economical and deliver nutrition, safety, and technical components, which creates an opportunity for flavor houses to create or improve effective flavor technologies. A sustainable food supply chain will be the next space where food companies will benefit from technology-driven ingredients. Also, it will be important for us to develop ingredients that act on food waste and loss, which will help mitigate global hunger and food insecurity.

In addition to being eco-friendly, sustainable proteins will need to be economical and deliver nutrition, safety, and technical components, which creates an opportunity for flavor houses to create or improve effective flavor technologies.



SME Interview:



Laura A. Arias

Principal Flavorist & R&D Manager,
Andean Region | Metarom Group



Q: What are some flavor technologies that could signal “clean” other than traditional liquid flavors like essential oils and extracts?

A: Flavor is fascinating. When we refer to flavor, it can be described as a substance that reacts in the mouth and offers taste to the food. Flavors can impart aroma and improve taste when food is processed. For example, the pasteurization process in natural orange juices increases the temperature within a certain time period; when that process occurs, all the natural aroma and flavor components of the oranges decrease, so we can use a natural orange flavor to increase the lost flavor notes and improve taste. In this case, we use essential oils or extracts derived from oranges. As I mentioned, flavor technologies now are focusing on sodium and sugar reductions, improving taste of plant-based products and residuals or bad notes that come from different kinds of ingredients used in foods. We could find technologies that use better clean label ingredients, such as saltiness solution to replace table salt as it is natural, vegan, and kosher.

Flavor technologies now are focusing on sodium and sugar reductions, improving taste of plant-based products and residuals or bad notes that come from different kinds of ingredients used in foods.



SME Interview:



Laura A. Arias

Principal Flavorist & R&D Manager,
Andean Region | Metarom Group



Q: What are some challenges that you faced when developing a clean label product? And what approach did you take to overcome these challenges?

A: As a flavorist, every change in consumers' health, environment and market tendencies always means new challenges. When I create a new flavor or technology, I've been involved in searching molecules and ingredients that can help me build the perfect clean label product, but nowadays, many raw materials are rare or are difficult to get. The flavor industry always has challenges with new materials, and it is known that many flavor houses patent new ingredients and molecules to satisfy this need, and it is our responsibility to immerse in this research.

Q: What do you think are the biggest misconceptions in the clean label market?

A: I think that explaining the future of food is hard and educating consumers on a whole new category is challenging. **Clean label doesn't mean that foods only contain natural ingredients, are vegan or vegetarian, or have bad taste or texture. Brands will need to employ clever storytelling to create a space in consumers' minds for this new category.** It is challenging to make consumers and brands understand this technological process in a simple way, especially in ingredients like flavors. Clean label promotes mental and physical wellness, ethical environmental practices and something more important and sometimes overlooked: improvement of food shortage due to global warming and improving processes with new technologies.

SME Interview:



Laura A. Arias

Principal Flavorist & R&D Manager,
Andean Region | Metarom Group



Q: What are some most unexpected developments for clean label flavors in the past 2-3 years?

A: As plant-based foods become the norm for eco-conscious consumers and wellbeing enthusiasts, veganism spreads across the mass market. Of course, this is a big opportunity to continue delivering values in new ways, but creating flavor solutions to improve taste in vegan formulations by using molecules, vegan raw materials, and plant-based ingredients is challenging.

Q: What are some existing or emerging technologies that many companies are not considering but have great potential in the clean label market?

A: Ingredient solutions that help to reduce food loss and food waste will help close the gap on food insecurity. Food loss and food waste have become an issue of great public concern, with a massive impact on the environment and food insecurity. Many notable efforts by businesses, jurisdictions, and nonprofits exist to handle such challenges (e.g. basic best practices).

Q: Is there anything that you think I should know that I have not asked about?

A: Based on my last point, technology will play a bigger role in reducing, repurposing, and eliminating food waste and food loss in the entire food supply chain. **Food and beverage players can learn from startups that have begun to set out food waste and food loss with upcycled ingredients, from production, to retail, to consumer.**

SME Insights

Meet the Expert



Stefan Bucher

Principal Food Scientist | Meati Foods

Stefan has been a food science researcher and product developer for over 20 years. He has worked for several global Fortune 500 consumer packaged food corporations, mainly with grain-based products (e.g. breakfast cereal, snacks, etc.), from small-scale prototyping to plant testing, start-up, and implementation as well as shelf-life testing and extension.

Stefan is currently developing new meat analogue products and processes from fungal mycelium. He is passionate about launching highly rated, technically difficult products into the market.

SME Interview:



Stefan Bucher

Principal Food Scientist | Meati Foods



Q: What do you think are the biggest misconceptions in the clean label market?

A: That all those ugly sounding names are actually bad for you or are less sustainable. Most certainly are not less healthy, nor bad when it comes to sustainability.

Q: What are some most unexpected developments for clean label ingredients in the past 2-3 years?

A: I think citrus fiber is a very good example, but many other fibers that were unheard of years ago are now showing excellent properties.

Q: What are some challenges that you faced when developing a clean label product? And what are some recommendations for food developers?

A: The biggest challenge is texturizer. 10-15 years ago, there were many incredible, functional modified starch options. Now all those modified starches are under some scrutiny so you have to process them in a more natural way to deliver the same functionality. I am not too worried about finding natural colors or flavors, but you have to be creative and go to areas that you have never gone before. I never explored areas outside starches. Now you have to look at gum acacia, which we never used before because it was expensive. Much to my surprise, now you have all these fibers from all kinds of materials. Oat fibers of different particle sizes and citrus fibers which have different particle sizes that give you different water absorption and also different protein levels. I am impressed with the company Rettenmaier, but ADM, Cargill, all these companies are working in this field. If you see oat fibers in your products, you would think, "oh this is great, this is probably healthy." **That to me is the new frontier for food developers. Getting into the texturizers and resources that 5-10 years ago were not intuitive.**

SME Interview:



Stefan Bucher

Principal Food Scientist | Meati Foods



Q: What about masking technologies?

A: In terms of maskers, you could get bitter or earthy notes when you use soy protein isolates, garbanzo, pea proteins, all those will impart some earthy, bitter taste. The flavor companies have natural flavors which are great at masking those bitterness. Similarly, our mycelium carries some natural flavors as any mycelium, any fungus will do. They will create their own set of mushroom alcohols as a natural part of their process and you want to make sure that you mask those as well as possible.

We test maskers regularly, and you never know which one is going to be the one. They mute certain things, sometimes they mute the things you want to appear and sometimes they are more specific to the things you don't want.

Mycelium carries some natural flavors and will create their own set of mushroom alcohols as a natural part of their process and you want to make sure that you mask those as well as possible.



SME Interview:



Stefan Bucher

Principal Food Scientist | Meati Foods



Q: What are some common mistakes that companies make when they try to launch a clean label product?

A: Two things here:

- 1) As a developer I think that some ingredients are pretty safe, yet they carry an unfair bad connotation, which limits the product developer ability to make a better product, just because of an unfounded bad characteristics associated with an ingredient; and
- 2) Switching to a “better sounding additive” does not change the nutritional properties. E.g.: making something with honey is virtually the same for the body as making it with High Fructose Corn Syrup; making something with corn maltodextrins, is virtually the same as making something with tapioca maltodextrin. It just “feels” better, but chemically the same for the body essentially.



Switching to a “better sounding additive” does not change the nutritional properties.

Q: What are some existing or emerging technologies that many companies are not considering but have great potential in the clean label market?

A: Certainly the use of fermentation is a field that may grow simply because of the efficiency. Once the microorganism is developed to produce a specific component, it does it in a very sustainable way (efficient). The only problem is the GMO factor. Which I think is a barrier that is slowly shifting towards a more accepted / mainstream perception now.

SME Interview:



Stefan Bucher

Principal Food Scientist | Meati Foods



Q: Do you anticipate any changes in the perception of clean labeling?

A: I think texturizers have evolved very well in the last few years (starches, gums, fibers, etc.) that it is much easier to find a solution with them to replace modified starches, or weird sounding gums, however, I still don't think the world or high intensity sweeteners has made the same progress. It seems that they are still relying on the usual questionable ingredients. Some significant progress has been made with different ingredients mainly steviosides and rebaudiosides from stevia; however, they are GMO products, which carry a negative connotation.

The use of fermentation is a field that may grow simply because of the efficiency. Once the microorganism is developed to produce a specific component, it does it in a very sustainable way.



SME Interview:



Stefan Bucher

Principal Food Scientist | Meati Foods



Q: Can you elaborate on why you think GMO is becoming more accepted?

A: There are two examples: Stevia and leghemoglobin.

The best example is [stevia](#). Some consumers will never have any issues with it. If I try stevia, I will have sweetness in my mouth the whole afternoon and then it will turn bitter. Cargill had a massive project about ten years ago to research and test all those rebaudiosides. Out of possibly hundreds, 2 or 3 of them are super clean and non-bitter, but that's a very small percent of the total that was tested. Therefore, they knew they had to find the gene and put that gene in a yeast and produce it right away. So instead of harvesting millions of pounds of stevia to get the very small percent of rebaudiosides that work, they went and made it straight away.

So, taking this as an example, companies have to be upfront and say that this includes a GMO product, but this GMO is saving you from eating sugar and saving the environment. If companies present it this way, they may have a different appeal. Not everyone will buy it, but there is a good chance some will.

The most recent example is [leghemoglobin](#) that Impossible Foods has made. They figured they didn't want to use blood so they set out to make that molecule. They figured out that the root of the soybean has the heme-like structure with the iron in the middle that gives you the metallic taste. However, to make that, we need to plant millions of tons of soy and extract the roots and the compound. Instead, we can go to the gene and make it. In this case, we are making a GMO product but at the same time we are allowing consumers to eat a meat product that has very close proximity in taste to what they used to eat but it's much better for the environment and without animal farming.

SME Interview:



Stefan Bucher

Principal Food Scientist | Meati Foods



Q: Can you elaborate on why you think GMO is becoming more accepted? (cont'd)

A: Motif FoodWorks and Ajinomoto, similar to Impossible Foods, are using yeast to produce the heme protein. They also have developed the actual heme proteins through yeast.

It's a GMO product but they could label it as a natural flavor. The perception has changed from "absolutely no, it's GMO" to "I see your point."

The risk, in my opinion, has reduced. **The acceptance is going to come from what you are going to achieve and how you can label it.** If the FDA was a little bit more forgiving in the labeling, you might not even know about it. From what I've seen from scientific research regarding GMO, it has been safe. I am convinced that it's just a matter of positioning it in a better view than just focusing on the unknown part of it.

Q: Is there anything that you think I should know that I have not asked about?

A: This is pretty much it. I think the main thing is overcoming perception with science. Sure, test the ingredients to make sure they are safe. Highly functional, naturally derived ingredients can be unsustainable in the long run.



"I think the main thing is overcoming perception with science."

Clean Label Solutions

Technology Profiles

Four Clean Label Flavor Types

EXTRACTS



Citrus extracts

Beverages like seltzers, teas, juice drinks, soft drinks, etc.

Botanical extracts



Various types of food and beverage products but usually marketed for non-alcoholic beverages

TASTE ENHANCERS & MODULATORS



Manufacturer's proprietary formulations

Creamy, dairy products



Bitter-tasting products



Snack items, prepared meals, meat or alternative meat products

FLAVOR CARRIER



Brown rice flour flavor carrier



Low moisture applications like breath mints, hot chocolate mix, beverage mix

FRUITS



Freeze dried fruits



Confectionaries, bakery mixes, ice creams, snack mixes, pastries



Natural Extracts

KERRY

 **Bell**

 **FLAVOR PRODUCERS**



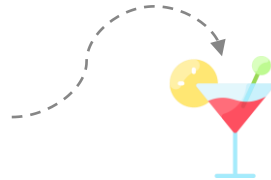
**Citrus
extracts**



Beverages like
seltzers, teas, juice
drinks, soft drinks



**Botanical
extracts**



Various types of food and
beverage products but
usually marketed for non-
alcoholic beverages

Kerry: New! Citrus extracts

Overview:

The demand for citrus flavor has grown significantly due to its immune-boosting property from vitamin C. The New! Citrus extracts are developed by Kerry using a non-thermal extraction process to produce highly concentrated citrus extracts with a reduced level of terpenes and sesquiterpenes to preserve the citrus notes.

AT A GLANCE



www.kerry.com



emeakerrycentre@kerry.com



Tralee, Ireland



10,000+

SUMMARY



TYPE OF MATERIAL

Natural, From The Named Fruit (FTNF)



SOURCE

Lime, lemon, orange and tangerine



SCALE OF OPERATIONS

Commercially available at scale. Interested parties need to contact Kerry to request a sample or quote.



END PRODUCT USE

Beverages

Kerry: New! Citrus extracts



Technical Data:

New! Citrus extract portfolio is developed by Kerry using a non-thermal liquid/liquid extraction process. The extract is natural. It is water soluble and colorless which allows for mixing directly in the beverage of choice by the manufacturer. The product line includes lime, lemon, orange and tangerine with plans to launch additional flavors.

Advantages:

- Citrus is one of the most prominent flavors worldwide (e.g., orange, lemon, yuzu, pomelo).
- Using these extracts allows manufacturers to substitute terms like “natural citrus flavor” with “natural citrus extract” to clean up their label.
- The extract contains reduced level of terpenes and sesquiterpenes. Kerry claimed that it provides a “clean, vibrant, juicy, aromatic and intense” profile.



Kerry: New! Citrus extracts



Applications:

Can be used in liquid formulations like seltzers, teas, juice drinks, isotonic and energy drinks and craft carbonated soft drinks.

Developer Overview:

Kerry is a public food company headquartered in Ireland. The company is divided into different areas such as ingredients and flavors, consumer foods and agribusiness. Kerry has technology and innovation centers located across the world and a network of >150 manufacturing locations globally.

Kerry's sustainable goals aim to cut its absolute emissions from operations by 33% by 2030, with an ultimate goal of reaching net zero emissions before 2050.

In terms of sourcing, Kerry's goal is to source 100% of its priority raw materials by 2030.



References:


1. <https://www.foodingredientsfirst.com/news/kerry-unveils-clean-label-citrus-extract-technology-for-vibrant-natural-flavors.html>
2. <https://www.fooddiver.com/news/kerry-rolls-out-clean-label-citrus-extracts-for-beverages/586187/>
3. <https://www.kerry.com/products/taste/sweet-flavours-and-extracts/citrus>





Kerry: BOTANICAL Collection ZERO 2.0

Overview:


Botanicals are becoming more commonly used in premium functional food and beverage products to signal natural health benefits to the consumers. Kerry has developed a collection of botanical extracts containing 0% ethanol that are designed specifically for low- and no-alcohol beverages. For the 2.0 generation, Kerry used a proprietary extraction and distillation processing technique to deliver benefits like preservative-free to its products.


AT A GLANCE





 www.kerry.com
 emeakerrycentre@kerry.com
 Tralee, Ireland
 10,000+

SUMMARY

 **TYPE OF MATERIAL**
Natural

 **SOURCE**
Botanicals like rose bud, ginger, juniper

 **SCALE OF OPERATIONS**
Commercially available at scale. Interested parties need to contact Kerry to request a sample or quote.

 **END PRODUCT USE**
Low- and no-alcohol beverages

Kerry: BOTANICAL Collection ZERO 2.0



Technical Data:

This collection of extracts is produced by Kerry and contains 0% ethanol. They are specifically targeted to the growing trend of low- and no-alcohol beverage market. The range of possible distillates in this 2.0 generation span fruit, floral, and spice and brown tonalities. These include flavors such as passionfruit, rosebud, elderflower, caraway, black pepper, cumin, cocoa, and coffee.

Advantages:

- Ingredients are natural and sustainably sourced.
- While ethanol is used to distillate botanicals traditionally, the Botanical Collection ZERO 2.0 contains zero percent alcohol, making it suitable for no- or low- alcohol products, which are on the rise.
- Kerry markets the extracts as more stable compared to other ethanol-free technologies and that they have no haze and no sedimentation.



Kerry: BOTANICAL Collection ZERO 2.0



Applications:

Low or no-alcohol beverages like mocktails.

Developer Overview:

Kerry is a public food company headquartered in Ireland. The company is divided into different areas such as ingredients and flavors, consumer foods and agribusiness. It has technology and innovation centers located across the world and a network of > 150 manufacturing locations globally.

In its sustainability goal, Kerry aims to cut its absolute emissions from operations by 33% by 2030, with an ultimate goal of reaching net zero emissions before 2050.

In terms of sourcing, Kerry's goal is to source 100% of its priority raw materials by 2030.



References:

1. <https://www.kerry.com/latest-news/2021/botanicals-collection-zero-2-0>
2. <https://www.foodingredientsfirst.com/news/kerry-serves-up-botanicals-collection-zero-20-amid-low-and-no-alcohol-trends.html>
3. <https://www.kerry.com/insights/case-studies/low-alcohol-spirit-launched>
4. <https://www.foodingredientsfirst.com/news/scratching-the-surface-of-botanicals-functional-health-benefits-and-new-taste-experiences-beckon.html>
5. <https://www.fooddiver.com/news/kerry-debuts-next-generation-botanical-extracts-for-low-and-no-alcohol-bev/609820/>

Flavor Producers: Botanical extracts

Overview:

Flavor Producers offers a variety of botanical extracts, ranging from heat stable, non-allergenic, non GMO, powder, clean label, to TTB (Alcohol Tax & Trade Bureau) approved. There are 11 variants within the clean label line, with varying natural and organic statuses.

AT A GLANCE



-  www.flavorproducers.com
-  Customers service
-  Valencia, California
-  201-500

SUMMARY



TYPE OF MATERIAL

Some variants are natural, organic, or organic flavor WONF (With Other Natural Flavors)



SOURCE

Botanicals like rose, bergamot, green tea, violet leaf, lemongrass, spearmint, black pepper, cinnamon, turmeric, root spice, juniper



SCALE OF OPERATIONS

Commercially available. Interested parties can fill out a request form for a custom flavor that meets their specific needs



END PRODUCT USE

Variety of food and beverage products

Flavor Producers: Botanical extracts

Technical Data:

The clean label botanical extract line includes rose, bergamot, green tea, violet leaf, lemongrass, spearmint, black pepper, cinnamon, turmeric, root spice, and juniper. All the extracts under the clean label line are non-allergenic and non-GMO.

The root spice, juniper and cinnamon extracts are also part of the **Rutz®** extract portfolio, which is marketed as plant-based and can provide transparency and flexibility in labeling.

Advantages:

- The clean label line has natural extract, organic flavor WONF, and organic extracts that allow for applications in various types of food and beverage products.
- The Rutz extract portfolio provides full ingredient transparency on the label.

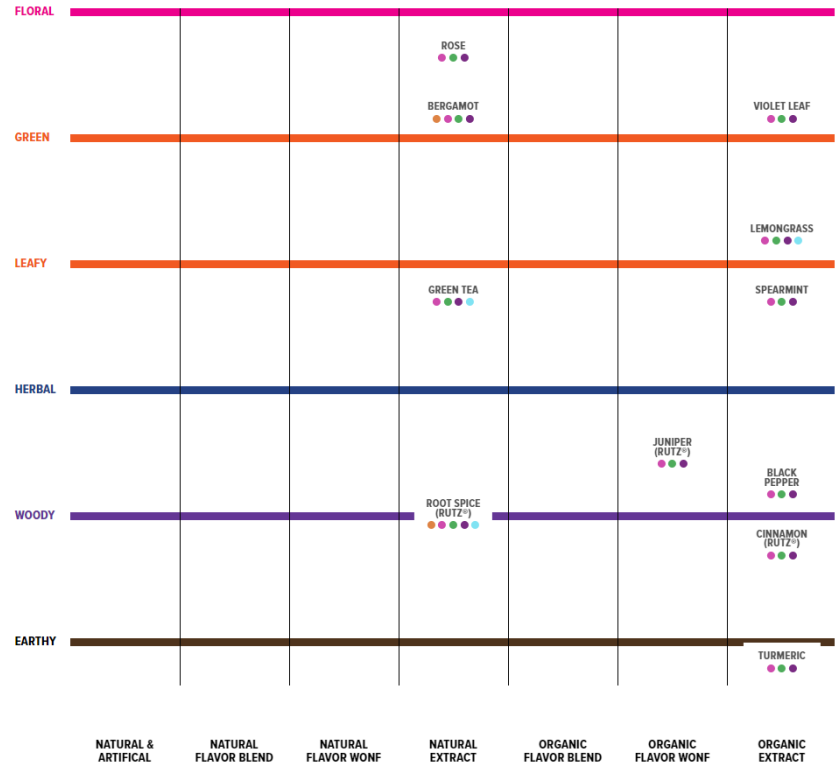


Figure 1. Flavor Producers' clean label botanical extract line. Source: [Flavor Producers' interactive map](#)

Flavor Producers: Botanical extracts



Applications:

Variety of food and beverage products including dairy, alcohol, nutraceutical, sports drinks, plant-based beverages, bakery, beverages, and confectionary.

Developer Overview:

Flavor Producers is a flavor production company based in California. It was founded in 1981 as a family business and now has 3 U.S. production sites and 3 R&D centers in North America. It specializes in plant-based flavor and extract creation to produce clean label flavors. Flavor Producers has over 5000 organic certifiable flavors in its library.



Figure 2. Flavor Producers' Rutz® extract application examples

References:

1. <https://flavorproducers.com/botanical-profiles/>
2. <https://flavorproducers.com/rutz/>

Bell Flavors & Fragrances: Belltanicals®

Overview:

Bell Flavors & Fragrances is capable of a variety of extraction methods and solvents, which allows the company to offer native extracts, concentrates, standardized extracts, dry extracts, distillates, single-used extracts, and blends. They have availability to over 10,000 unique botanical extracts that allows them to create custom blends to suit various application needs. They developed the Belltanicals brand which includes natural botanical extracts, natural infusions and oil blends, and organic extracts.

AT A GLANCE



 www.bellff.com
 info@bellff.com
 Northbrook, Illinois
 501-1000

SUMMARY



TYPE OF MATERIAL

Natural, organic (some variants)



SOURCE

Herbs, spices, fruits, citrus, berries, vanilla, cocoa, coffee, tea, flowers, roots, leaves, and other plant parts



SCALE OF OPERATIONS

Commercially available at scale. Interested parties can fill out request form to request samples or get more information about concept and solutions.



END PRODUCT USE

Variety of food and beverage products

Bell Flavors & Fragrances: Belltanicals®



Technical Data:

Bell Flavors & Fragrances' range of botanical extracts includes the Belltanicals brand, which focuses on botanical extracts, all-natural essential infusions, all-natural essential oil blends, certified organic extracts, and NOP (National Organic Program) certified Organic Essential Oil Blends. Bell Flavors & Fragrances marketed these botanical blends as handcrafted to meet consumer needs. The Belltanicals portfolio has Marine, Floral, Fruits, Tea, Seeds, Vitamins, Asian Herbs, Gourmand, Classic, and Unique Botanicals, with offerings such as certified genus and species, customized client formulations, flavor grade botanical, hemp, terpene & CBD (cannabidiol) strain specific flavors.

Advantages:

- The different types of botanical solutions allow for applications in various food and beverage products.
- The portfolio's special offerings like hemp, terpene, and CBD strain specific flavors might provide competitive advantages over other traditional botanical products.
- The supplier's availability of over 10,000 unique botanical extracts allows them to create a truly customized solution to meet client's needs.



Bell Flavors & Fragrances: Belltanicals®



Applications:

Variety of food and beverage products.

Developer Overview:

Bell Flavors & Fragrances is an American multinational company that manufactures flavours, fragrances, and botanical ingredients. It was founded in 1912 in Chicago, Illinois. Bell Flavors & Fragrances has operations in 6 countries across the world. The company has employees in over 20 different countries and has 40 sales offices throughout the world.

Bell Flavors & Fragrances is a member of the IFRA-IOFI (The International Fragrance Association - International Organization of the Flavor Industry) Sustainability Charter, which focuses on Responsible Sourcing, Environmental Footprint, Employee Well-being, Product Safety, and Transparency.



References:

1. <https://www.bellff.com/botanicals/>
2. <https://www.bellff.com/emea/sustainable-please/>
3. https://www.cosmeticsbusiness.com/news/article_page/Bell_EMEA_presents_botanical_extracts_for_environmentally_friendly_products/166748
4. <https://www.bellff.com/fragrances/technology-platforms/naturals-botanicals/>
5. <https://www.bellff.com/about/sustainability/>

Taste Enhancers & Modulators

SENSIENT[®]
FLAVORS & EXTRACTS

DelVal 
food ingredients


tastesnatural.



Manufacturer's
proprietary
formulations



Creamy, dairy
products



Bitter-tasting
products



Snack items, prepared
meals, meat or alternative
meat products





Sensient: TrueBoost & SensaSalt™

Overview:

Taste enhancers and modulators are added to foods to supplement or enhance their own natural flavors. Sensient produces TrueBoost and SensaSalt taste enhancers while addressing the clean label requirements. They help in enhancing flavor and mouthfeel to the foods while reducing the need for sodium or fat.

AT A GLANCE



-  www.sensientflavorsandextracts.com
-  Online contact form
-  Hoffman Estates, Illinois
-  1001-5000

SUMMARY



TYPE OF MATERIAL

Natural



SOURCE

Not specified



SCALE OF OPERATIONS

Commercially available at scale. Interested parties can contact Sensient for solution options and more information.



END PRODUCT USE

TrueBoost - Confectionery items & dairy products; SensaSalt - Savory foods like meat, sauces, snack

Sensient: TrueBoost & SensaSalt™



Technical Data:

TrueBoost is a range of natural flavoring systems that have a heat-stable, rich dairy base with top notes that provide the full taste without the fat. The systems can deliver the following characteristics:

- Enhance malty characteristics and creaminess
- Add the richness from the dairy base
- Add authentic notes to dairy products like drinkable yogurt, sour cream, cottage cheese, and cream cheese
- Increase the creamy taste and mouthfeel

SensaSalt is a collection of yeast extract-based flavor enhancers that could reduce sodium content up to 50% while delivering the following characteristics:

- Add umami and meaty flavors
- Enhance cheese, dairy or tomato notes
- Improve bakery and snack flavor profile

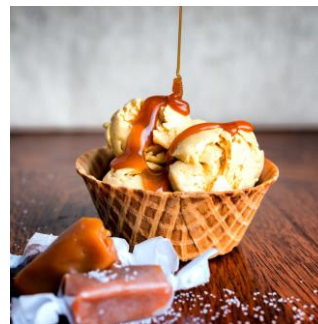


Figure 1. TrueBoost can be applied to ice cream



Figure 2. SensaSalt can be applied in meat products

Sensient: TrueBoost & SensaSalt™



Applications:

- **TrueBoost** - Confectionary items (cakes, pastries, cookies) and dairy items (yogurt, ice cream, flavored milks, cheese).
- **SensaSalt** - soup, broth, gravy, poultry or meat products, sauces, dips, salad dressings, bakery and snack applications.

Developer Overview:

Sensient is a global manufacturer and marketer of colors, flavors, essential oils, and extracts. It has around 75 operational sites in 35 countries. It was founded in 1882 as a distillery and has undergone several transformations. Today, the company supplies beverage flavors, bionutrient products, natural ingredients, savory flavors and sweet flavors.

Advantages:

- Company advertises both of these as clean label solutions, providing transparency and authenticity.
- TrueBoost delivers the rich mouthfeel and characteristics similar to those from full-fat dairy products.
- SensaSalt helps cut excess sodium from foods without reducing the saltiness.

References:

1. <https://sensientflavorsandextracts.com/clean-label/>
2. <https://sensientflavorsandextracts.com/sensasalt/>
3. <https://sensientflavorsandextracts.com/trueboost/>

DeVal Food Ingredients: SavorMAX Taste Enhancers & Modulators

Overview:

The SavorMAX Taste Enhancers & Modulators include MSG-like umami enhancers, salt enhancers, kokumi mouthfeel enhancers, cheese and dairy enhancers, sweetness, fatness and creaminess enhancers, and bitter maskers. There are 14 different enhancers/modulators in this line of products with various taste profiles.

AT A GLANCE



 www.dvfi.com
 info@dvfi.com
 Mt Laurel, New Jersey
 51-200

SUMMARY



TYPE OF MATERIAL

Natural, non-GMO, Kosher, Halal, vegetarian, vegan (some), allergenic-free (some)



SOURCE

Proprietary source for flavor, yeast (some)



SCALE OF OPERATIONS

Commercially available at scale. Interested parties can contact Del Val for a customized solution, sample request and order placement.



END PRODUCT USE

Variety of food and beverage products

DeVal Food Ingredients: SavorMAX Taste Enhancers & Modulators

Technical Data:

The SavorMAX Taste Enhancers & Modulators include MSG-like umami enhancers, salt enhancers, kokumi mouthfeel enhancers, cheese and dairy enhancers, sweetness, fatness and creaminess enhancers, and bitter maskers.

Advantages:

- These products can help to reduce sodium intake without compromising taste.
- They can help reduce or remove MSG in a recipe
- They are useful in meat alternatives which are on the rise currently.
- They comply with clean label regulatory standards.
- Adding these products masks off taste and bitterness.

Code	SavorMAX Name	%Salt	Description	Taste	Label
S3310	Salt Enhancer/50 S3310	50%	KCl-based Salt Enhancer blend	Sodium reduction, flavor intensity	Salt, Potassium chloride, Natural Flavor
S3350	Salt Enhancer/100 S3350	0%	KCl-based Salt Enhancer blend	Sodium reduction, flavor intensity	Potassium chloride, Natural Flavor
K1100	Kokumi 1100	2%	Thick, rich, continuity, lingering, enhancing	Lingering, continuity, rich, thick	Yeast Extract
K1150	Kokumi 1150	3%	Thick, Intense, continuity, lingering, full	Lingering, continuity, rich, thick	Yeast Extract, Natural Flavor
K1155	Kokumi 1155	2%	Thick, Intense, continuity, lingering, clean taste	Lingering, continuity, rich, thick	Yeast Extract, Natural Flavor
K1160	Kokumi 1160	10%	Clean label, yeast extract-free version	Lingering, continuity, rich, thick	Inactive Dry Yeast, Natural Flavor, Salt, KCl
U8505	Umami 8505	< 5%	MSG-like Umami taste with no added glutamates	Umami, savory, meaty, mouthwatering	Yeast Extract, Natural Flavor, Salt (pro. aid)
U8525	Umami 8525	< 5%	Vegan version of U8505	Umami, savory, meaty, mouthwatering	Yeast Extract, Natural Flavor, Salt (pro. aid)
E6100	Enhance 6100	2%	Cheese and Dairy Taste enhancer	Fuller, richer, lingering	Natural Flavor, Maltodextrin
E6200	Enhance 6200	< 5%	Dairy Enhancer, Salt Enhancer	Fuller, richer, lingering, taste intensity	Natural Flavor
E6300	Enhance 6300	< 2%	Plant Protein masking, flavor balance, sweet enh.	Plant protein masking, balance, lingering	Natural Flavor
E1500	Enhance 1500	40%	Mask bitterness; enhance sweetness	General taste intensity, bitter masking	Natural Flavor
E2000	Enhance 2000	20%	Clean Label Savory/Meat Taste Booster	Savory taste intensity, meat taste	Natural Flavor, Salt
G8080	Enhance 8080	10%	I&G Replacer, taste intensifier, lingering sensation	Savory taste	Natural Flavor

Figure 1. The SavorMAX line of Taste Enhancers & Modulators

DelVal Food Ingredients: SavorMAX Taste Enhancers & Modulators

Applications:

Applicable in snack foods, soups, dressings, gravies, meat products, and other prepared meals and beverages.

Developer Overview:

Del-Val Food Ingredients is an American company that has the expertise, capabilities and ingredients to craft go-to-market solutions to meet flavor enhancement needs.

Del-Val was founded in 1996. It has a facility in Mt. Laurel, New Jersey, which houses warehousing, processing, and administrative and sales offices.



References:

1. <http://dvfi.com/savory-flavor-enhancement/clean-label-flavor-enhancement/>
2. http://dvfi.com/industry_news/flavor-enhancer/





Tastes Natural: TruBlock™

Overview:

TruBlock is described as an all-natural ingredient taste modulation product that binds with negative tasting compounds to remove the bitterness of active ingredients and enhance the taste of healthier food options. TRUBLOCK is said to combine both reactive and taste modulating technologies, enabling products to achieve the best taste possible while still supporting a clean label needs.

AT A GLANCE



-  <https://tastesnatural.com/>
-  Online contact form
-  Danbury, CT
-  1-10

SUMMARY



TYPE OF MATERIAL

Natural, organic, Kosher, allergic-free, gluten-free



SOURCE

Cucumber



SCALE OF OPERATIONS

Commercially available at scale. Interested parties must fill in personal/company information and specific form (liquid/powder) of the sample of interest.



END PRODUCT USE

Products with bitter ingredients including caffeine, alternative sweeteners, Stevia, reduced sodium, bitter botanicals

Tastes Natural: TruBlock™



Technical Data:

- TruBlock portfolio includes TruClear™ (blocks bitterness), TruSweet™ (enhances the bitter blocking capabilities of TruClear™), TruSugr™ (utilizes TruClear™ and TruSweet™ with Stevia to produce an all natural, zero calorie sweetener), TruSea™ (clean label alternative for lower sodium).
- According to the [patent](#) applied for by Tastes Natural, the bitter-masking agent of TruBlock is made of a cucumber extract.
- The reactive process allows ingredients to bind with the negative-tasting compounds making them undetectable to the tongue, then drop off in the digestive system.
- It is claimed to be heat stable and freeze stable.



Advantages:

- TruBlock contains all-natural ingredients and is listed as a natural flavor.
- It removes the bitterness of active ingredients with history of successful applications.

Tastes Natural: TruBlock™



Applications:

TruBlock is applicable in food and beverage products with bitter ingredients including caffeine, alternative sweeteners, Stevia, reduced sodium, and bitter botanicals. It has been used with caffeine, sports drinks, MCT, pharmaceuticals, nutraceuticals, alternative sweeteners, Stevia, spirits, dressings, and dips in most delivery forms including gummies, drinks, chewables, and tinctures.

Developer Overview:

Tastes Natural is a food ingredient company that aims to replace synthetic ingredients with natural ingredients to improve the tastes of vegetables, vegetable proteins, vitamins, and supplements. It has a proprietary, patent-pending process for isolating taste modulators that block negative taste for food, beverage, nutraceutical, or pharmaceutical applications. It was founded in 2017 and is located in Danbury, Connecticut.



References:

1. <https://tastesnatural.com/products/trublock/>
2. <https://uspto.report/patent/app/20210177025>
3. <https://uspto.report/patent/app/20190045806>

Flavor Carrier



Brown rice flour
flavor carrier



Low moisture applications like breath
mints, hot chocolate mix, beverage mix





Paragon: CaptaClean™: Powered Flavor Carrier

Overview:

CaptaClean is a powder flavor carrier made from brown rice flour. It is said to be used to replace traditional additives like maltodextrin E1400, gum arabic E414 and octenyl succinate with natural ingredients like brown rice flour to encapsulate and protect sensitive ingredients like flavor and color. This technology allows for clean labeling and full transparency. The resulting powdered flavor is applicable in low-moisture products such as powder mixes and breath mints.

AT A GLANCE



-  www.paragonpure.com
-  info@paragonpure.com
-  Princeton, NJ
-  1-10

SUMMARY



TYPE OF MATERIAL

Natural, organic



SOURCE

Whole flours and grains



SCALE OF OPERATIONS

Commercially available. Interested parties must contact Paragon Pure for sampling and proof of concept trials. Available for technology licensing and partnership with contract manufacturer with the active ingredient of choice.



END PRODUCT USE

Low-moisture products like breath mints and powder mixes.

Paragon: CaptaClean™: Powered Flavor Carrier

Technical Data:

CaptaClean uses wholegrain brown rice as the carrier to encapsulate natural flavor or extract. It is claimed to protect the aromas from oxidation, evaporation, and partitioning. The free-flowing powders are said to provide excellent dispersibility and to be highly stable throughout shelflife. It is claimed to achieve the full performance of conventional spray dry and achieve negligible sensory differences from fresh liquid flavor.

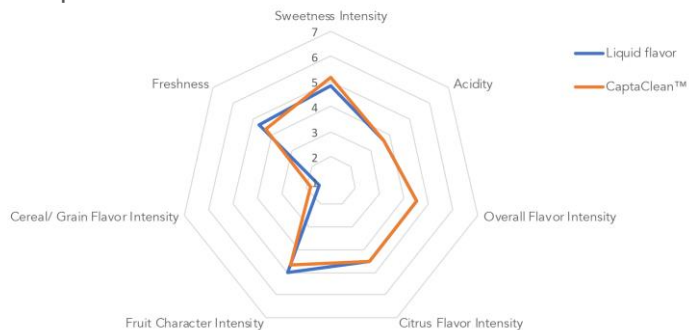


Figure 1. Negligible sensory differences detected between CaptaClean encapsulated flavor and liquid flavor.

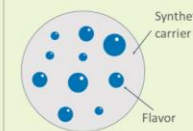
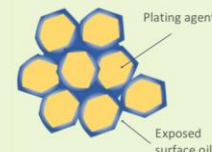
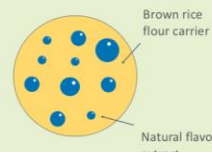
	Conventional spray dried flavors	Plated flavors	CaptaClean™ clean-label food powders
Format			
Label (carrier)	Maltodextrin and modified starch	Silicon dioxide or modified starch	Wholegrain brown rice (available as Certified Organic)
Performance	Protects flavor	Flavor highly exposed allowing evaporation, oxidation and loss	Protects flavor Full performance of conventional spray dry

Figure 2. CaptaClean food powders compared to conventional spray dried flavors and plated flavors.

Paragon: CaptaClean™: Powered Flavor Carrier



Applications:

Applicable in low-moisture products such as breath mints, hot chocolate mix, powder for pink coconut water, tortilla chips with lime.

Developer Overview:

Paragon Pure was founded in 2019. The headquarter office is located in Princeton, NJ whereas its pilot plant is located in Rocky Hill, NJ. Paragon Pure's mission is to create genuine ingredients for delivering natural flavors, colors, and nutrients into wholesome foods by understanding the science of nature.

Paragon Pure offers partnership in two ways:

- **Technology licensing:** JDA (Joint Development Agreement) / Evaluation License to manufacture, tech transfer and provide commercialization assistance.
- **Contract Manufacturing:** they coordinate the raw material and enable production with a toll manufacturer of choice.

References:

1. <https://cleanlabel.globalfoodforums.com/wp-content/uploads/sites/3/2020/08/2020-TSS-CaptaClean-by-Paragon-Pure.pdf>
2. <https://paragonpure.com/natural-performance/>
3. <https://paragonpure.com/captaclean>

Advantages:

- CaptaClean is a natural and organic encapsulation technology which allows for clean labeling and full transparency compared to traditional flavor carriers like maltodextrin E1400, gum arabic E414, and octenyl succinate.
- Sprouted whole grain rice flours contains fiber, antioxidants and nutrients such as potassium and zinc supplement active ingredients. It is also an excellent source of GABA (gamma aminobutyric acid), a natural neurotransmitter linked to mood and happiness.

Freeze Dried Fruits



Freeze dried
fruits



Confectionaries, bakery mixes, ice
creams, snack mixes, pastries




Chaucer Foods: Freeze dried fruits

Overview:

Freeze dried fruits are made directly from the fruit source, which attracts consumers who are looking for a simpler label and all-natural ingredients. Freeze-drying of fruits helps to retain the original nutrition, flavor, and color. Chaucer Foods produces ten freeze dried fruit variants in different sizes such as powder, whole, and pieces, which allows various types of applications in food & beverage.

AT A GLANCE



-  <https://chaucerfoods.com/>
-  Customer service
-  Hull, UK
-  501-1000

SUMMARY



TYPE OF MATERIAL

Natural, From The Named Fruit (FTNF), organic (some variants)



SOURCE

Wolfberry, wild blueberry, strawberry, sour cherry, redcurrant, red apple, raspberry, pomegranate, pineapple, peach



SCALE OF OPERATIONS

Commercially available at scale: In collaboration with major retail and foodservice brands, and manufacturers across the globe



END PRODUCT USE

Various types of sweet and savory applications

Chaucer Foods: Freeze dried fruits



Technical Data:

Chaucer Foods produces ten variants of freeze dried fruits: Wolfberry, wild blueberry, strawberry, sour cherry, redcurrant, red apple, raspberry, pomegranate, pineapple, and peach.

Different variants have different size options such as powder, whole, pieces, and slices.

Advantages:

- The freeze drying technique retains the natural shapes and natural health benefits of the fruits.
- It delivers vibrant colors and the natural flavors of the fruits to the finished products.
- No preservatives are needed for a long ambient stable shelf life.
- It is applicable for various types of food and beverage products as it is available in different sizes.



Figure 1. Chaucer Foods' freeze-dried fruit variants, available in different sizes

Chaucer Foods: Freeze dried fruits

Applications:

Various types of sweet and savory applications such as breakfast foods, sports/energy items, desserts, confectionary, beverages, and inclusions.

Developer Overview:

Chaucer Foods is a British company that is a global freeze-dried foods processor. It has customer service teams located in the UK, USA, France, and China.

In terms of sourcing, Chaucer Foods claims that individual growers, processors, and packers must meet its rigorous standards of environmental and social responsibility, and be capable of meeting regulatory requirements of the country or countries where the final product will be sold. Chaucer also states that it can supply most seasonal ingredients all year round as it has a global team to ensure supply continuity.

References:

1. <https://www.foodnavigator-usa.com/Article/2019/07/01/Chaucer-Foods-rebranding-reveals-a-company-ready-to-move-beyond-freeze-dried-strawberries>
2. <https://chaucerfoods.com/freeze-dried/>
3. <https://chaucerfoods.com/news-and-trends/freeze-dried-fuels-functional-food-beverage-innovation/>



Figure 2. Application examples of Chaucer Foods' freeze-dried fruits

Mercer Foods: Freeze dried fruits

Overview:

Mercer Foods' freeze dried fruits are snackable on their own or can be incorporated into packaged foods or menu items. It currently has 24 fruit variants in its freeze dried fruits portfolio, available in different sizes like whole pieces, slices, dices, and powders. Mercer Foods has a global supplier network and offers complete customization options including the cut, style and fruit, allowing applications in various types of food and beverage products.

AT A GLANCE



 www.mercerfoods.com
 csr@mercerfoods.com
 Modesto, California
 201-500

SUMMARY



TYPE OF MATERIAL

Natural, organic, From The Named Fruit (FTNF)



SOURCE

Fuji apples, granny smith apple, banana, berry blend, blackberry, blood orange, cultivated blueberry, wild blueberry, dark sweet cherry, red sour cherry, cranberry, dragon fruit, red grape, kiwi, lemon, lemon peel, mango, orange, orange peel, peach, pineapple, pomegranate, raspberry, strawberry



SCALE OF OPERATIONS

Commercially available at scale: In collaboration with national retailers, foodservice operations and ingredient companies



END PRODUCT USE

Various types of food and beverage products including baked goods, breakfast items, salads, and desserts.

Mercer Foods: Freeze dried fruits



Technical Data:

Mercer Foods offers 24 variants of freeze dried fruits: Fuji apples, granny smith apple, banana, berry blend, blackberry, blood orange, cultivated blueberry, wild blueberry, dark sweet cherry, red sour cherry, cranberry, dragon fruit, red grape, kiwi, lemon, lemon peel, mango, orange, orange peel, peach, pineapple, pomegranate, raspberry, and strawberry.

The fruits are available in whole pieces, slices, dices and powders.

There is an option for complete customization solutions to fit customer's needs.

Advantages:

- Mercer offers a large variety of freeze dried fruit options, including different types of apples, berry blends, and citrus peels, which can provide more specific flavor profiles and textures for certain products.
- The customization option allows customers to select fruits and specific cuts and sizes outside of Mercer Foods' current portfolio to meet their specific needs.



Figure 1. Mercer Foods' freeze-dried fruit variants

Mercer Foods: Freeze dried fruits



Applications:

Various types of food and beverage products including baked goods, breakfast items, salads, and desserts.

Developer Overview:

Mercer Foods is a California based producer of freeze-dried fruits and vegetables that claimed to be ethically and responsibly sourced. The company was founded in 1980. It partners with retailers for private label and store branded products, and has abilities to co-pack consumer packaged food products.

As part of Mercer Foods' sustainability initiatives, the company draws power from a 220,000 square-foot solar field on its 20-acre campus, employs a smart lighting system, and reduced its carbon emissions by 85% through its conservation efforts.

In terms of sourcing, Mercer Foods stated that all of the fruits and vegetables are ethically and responsibly sourced. It maintains a robust network of local and global farmers, from Mexico to Chile, Vietnam and Europe to gain harvest insights and maintain its product quality.



References:

1. <https://www.mercerfoods.com/products/fruits/>
2. <https://www.mercerfoods.com/about-us/>

Potential Next Steps

- ✓ PreScouter can help conduct a thorough search for natural and clean-label opportunities with your technical and business parameters. This can be done for products that are already on the market, those close to commercialization and/or those in development.
- ✓ PreScouter can provide best-fit recommendations and down select top candidates from a landscape custom to your application.
- ✓ PreScouter can perform anonymous interviews with companies and researchers to glean additional insights regarding the development pipeline.



TECHNOLOGY
LANDSCAPING



TRENDS
MAPPING



TECHNOLOGY
ROADMAPPING



INTERVIEWING
STARTUPS



IP
LANDSCAPING



SUPPLIER
OVERVIEWS



COMPETITIVE
INTELLIGENCE



MARKET
ANALYSIS



PARTNER
OVERVIEWS



TECHNO-ECONOMIC
ANALYSIS

About the Authors



Victoria Yeung

PreScouter Project Architect

Victoria is one of PreScouter's Project Architects specializing in the Food & Beverage industry. She holds a BS and MBS in Food Science from Rutgers University, where her research focused on identification of photosensitizers for the inactivation of foodborne pathogens. Prior to joining PreScouter, Victoria worked as a scientist at a Fortune 500 consumer packaged goods company, specializing in flavor technology and driving innovations across R&D.



Tanmay Chavan

PreScouter Researcher

Tanmay received his PhD in Medicinal Chemistry from the University of Illinois and completed his postdoctoral training at Stanford University. He is currently a scientist working in the domain of drug discovery. He also works as a freelance science writer and consultant. He is deeply interested in learning about upcoming technologies that can impact our daily lives.

About PreScouter

PRESCOUTER PROVIDES CUSTOMIZED RESEARCH AND ANALYSIS

PreScouter helps clients gain competitive advantage by providing customized global research. We act as an extension to your in-house research and business data teams in order to provide you with a holistic view of trends, technologies, and markets.

Our model leverages a network of 4,000+ advanced degree researchers, industrial experts, engineers and analysts across the globe to tap into information from small businesses, national labs, markets, universities, patents, startups, and entrepreneurs

CLIENTS RELY ON US FOR:



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