

**INSPIRED BY HEMP**

Taste solutions for authentic product innovations

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# Hemp characteristics

- Hemp and industrial hemp refer to the strain of cannabis sativa plant that is grown for agricultural products such as seeds and oils as well as textiles.
- It can grow in most climates, bunched together with other plants and requires little care.
- Products: CBD oil, hemp oil, cannabis plant parts such as hemp seeds
- No psychoactive properties (industrial hemp contains less than 0.2% tetra-hydrocannabinol/THC).

*According to European legislation, under the premise that the THC content does not exceed 0.2% of the plant, Cannabis sativa and its parts (such as hemp oil obtained from hemp seeds) are permitted in food and drinks.*

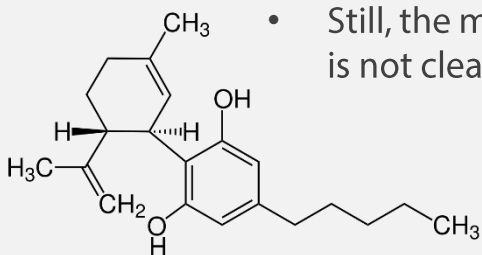


# Regulatory background & legislation

- In common usage, the terms hemp and cannabis are usually not distinguished, as cannabis is just the scientific word for hemp.
- Amongst others, hemp plants contain special phytochemicals, the so-called **cannabinoids**.

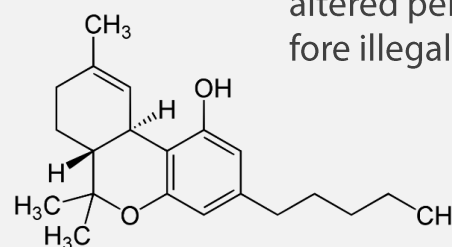
## CBD // Cannabidiol

- The currently increased use of hemp is mainly caused by the active agent cannabidiol (CBD).
- CBD has possible therapeutic effects, e.g. treatment of intestinal diseases.
- Still, the mechanism of action is not clear yet.



## THC // Δ9-Tetrahydrocannabinol

- THC (tetrahydrocannabinol) is psychoactive and is also used for its therapeutic effects, e.g. pain relief.
  - It is consumed as an intoxicant, e.g. for mood enhancement, or altered perceptions and therefore illegal in most countries.



# Regulatory background & legislation

## Legal framework for the use of industrial hemp in foodstuff:

### EUROPEAN UNION

- Industrial hemp (*C. sativa*) with overall THC-content  $< 0.2\%$  is **allowed as a source for foodstuffs**.
- **Extracts from cannabis plants** obtained by traditional food preparation processes (e.g. water-ethanol extraction) **are allowed**, incl. “naturally occurring” contents of THC and CBD (cannabinoids ratio have to be maintained).
- CBD is classified as a novel food, and therefore **not permitted** in European food and drink products (as a single ingredient or in a fortified extract).

### USA

General prohibition of cannabis and any ingredient obtained thereof in foodstuff, but due to huge public interest FDA strives to change the legal situation:

- The cultivation of industrial hemp with  $< 0.3\%$  THC is now permitted. Hulled hemp seed, hemp seed protein powder and hemp seed oil have gained GRAS-status.
- Cannabis strains with  $< 0.3\%$  presumably to be allowed for food and beverages in the future.
- CBD as a single ingredient is still prohibited (likely to change in the future)



# Hemp: The next megatrend

**Hemp-based products are increasingly appearing in the food and drink sector.** A rising number of brands are responding to consumer curiosity and the desire to experiment with hemp by launching products that claim the hemp leaf on-pack.

Although the use of hemp in food and drinks is nothing new, its recent popularity can be attributed to **consumers' growing interest in following plant-based and free-from diets.**

Moreover, hemp has gained high importance due to its nutritional benefits. Hemp seeds are particularly marketed as a '**superfood**' due their high omega 3 and 6 content along with highly digestible protein comprised of all essential amino acids.





# Hemp: The next megatrend

With product innovation now booming, brands are offering sophisticated and traditional products that incorporate either the flavours or the emotional properties of hemp. This shift reveals the growing emphasis on commodifying hemp and making it a mainstream, yet functional ingredient.

At the same time, hemp-infused products are being developed at an accelerated regulations shift in many parts of North America and around the world.



**The global hemp-based food market is expected to grow at a CAGR of 24% until 2022 (technavio).**



# Consumer insights

Consumers of hemp-based products are increasingly interested in ethical (vegan, ethical/animal-related) and naturalness claims (botanical ingredients, organic products).

According to a study from Culinary Visions®, following are the top four hemp-infused products according to consumers who participated in the survey:

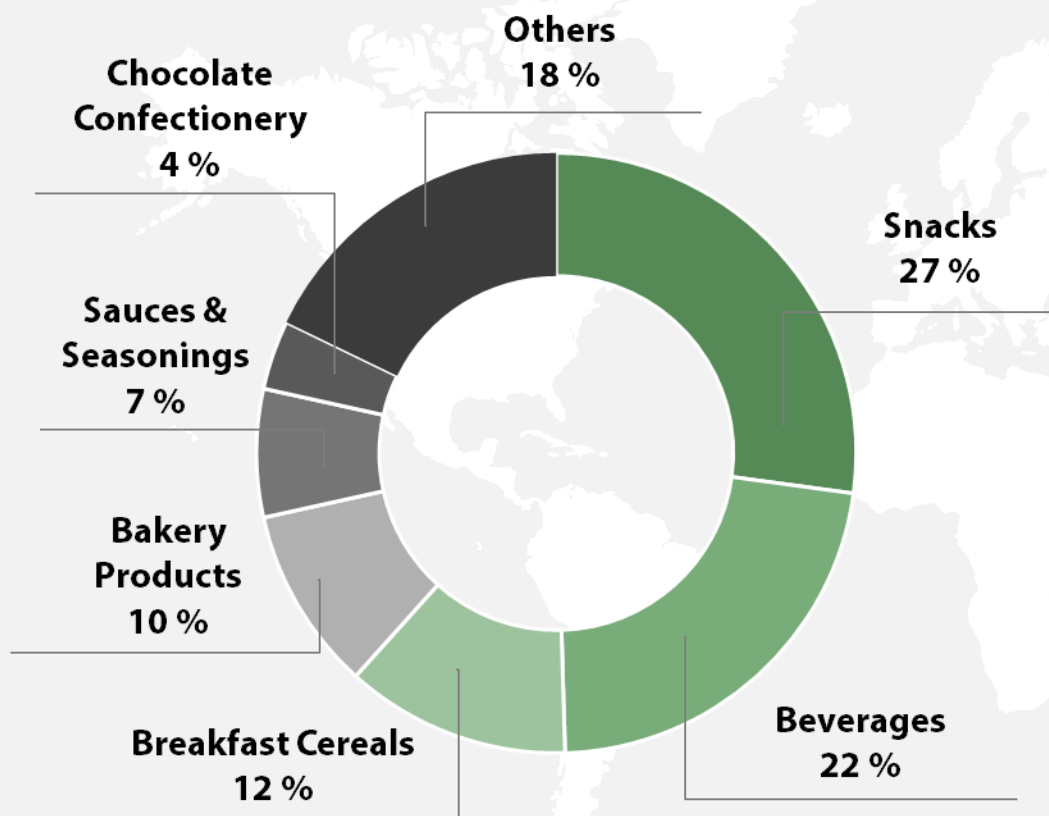
- **Baked goods:** 48% interested in trying
- **Candy/gummies:** 45% interested in trying
- **Snacks:** 44% interested in trying
- **Non-alcoholic beverages:** 41% interested in trying

**Taste is important:** 48% said they would expect hemp-infused products to taste “good”.

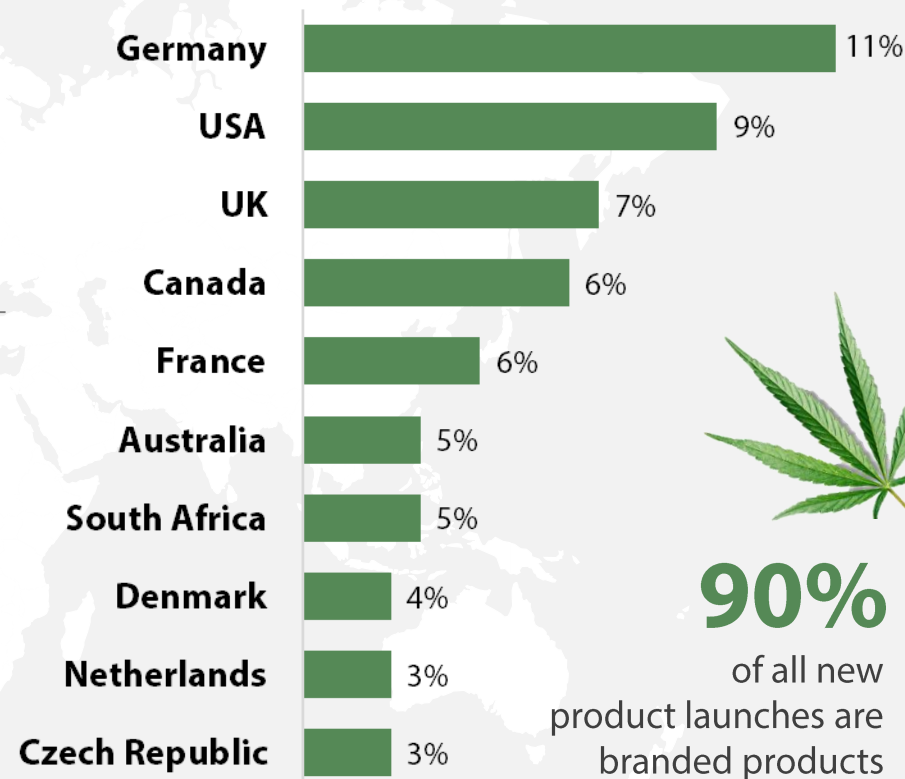


# Market insight: Hemp-based innovations

**Top categories** as a % of NPD in food and beverage products with hemp ingredients, 01/2017 - 07/2019, global



**Most active countries** as a % of NPD in food and beverage products with hemp ingredients, 01/2017 - 07/2019, global



**90%**  
of all new  
product launches are  
branded products

# Market insight: Hemp-based innovations

**NPD activity** on food and beverage products with hemp ingredients, 01/2017 - 07/2019, global



Launch Type		
New Product	529	49%
New Variety/Range Extension	391	37%
New Packaging	99	9%
Relaunch	45	4%
New Formulation	8	1%
<b>Total</b>	<b>1072</b>	<b>100%</b>

## Global hemp food sales

- Between 2018-2020, global hemp-infused foods are forecast to grow 46%, from \$353 million to \$479 million.
- Hemp foods rely on three convergent forces: More countries permitting legal cultivation and processing of hemp, surging investment fueling product innovation, and the scale and rising consumer interest in the plant's healthful nutrient profile.
- Key to growth is how quickly mainstream retail channels will include grocery stores' carrying hemp-based foods.

# Fast facts: Top flavours and claims for hemp-based products

**NPD activity** on food and beverage products with hemp ingredients, 01/2017 - 07/2019, Europe

## Top taste directions combined with hemp:



- 01** Chocolate
- 02** Vanilla
- 03** Cocoa
- 04** Mixed Berries
- 05** Strawberry
- 06** Honey
- 07** Blueberry
- 08** Almond & Coconut
- 09** Cocoa & Coconut
- 10** Chocolate & Peanut Butter

**MINTEL**

## Leading claims:

- |                                     |       |
|-------------------------------------|-------|
| 1. Vegan                            | 62.6% |
| 2. Low/No/Reduced Allergen          | 59.7% |
| 3. Organic                          | 55.3% |
| 4. Gluten Free                      | 54.2% |
| 5. GMO Free                         | 28.2% |
| 6. High/Added Protein               | 25.9% |
| 7. Environmentally Friendly Package | 22.4% |
| 8. No Additives/Preservatives       | 22.1% |
| 9. Dairy Free                       | 16.3% |
| 10. High/Added Fibre                | 15.3% |



# Key innovation implications & opportunities

1

## Take a holistic approach to health

An ongoing and proactive approach to health and wellness is creating a need for functional products that are designed to help consumers keep well. Ingredients that can help consumers feel their best, inside and out, should be prioritised.

2

## Botanicals for clean label and naturalness

Use botanical ingredients as clean label, natural alternatives to artificial/manufactured additives and ingredients. Botanicals can be used for colour, flavour, as preservatives and beyond. They will also help to emphasise naturalness and transparency.

3

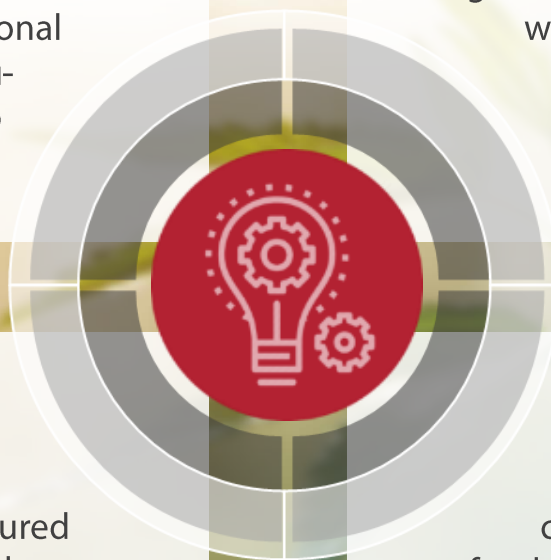
## Incorporate Sustainability

Ingredients that are part of a sustainability story will resonate with eco-minded consumers. Collaboration between suppliers, manufacturers, retailers and consumers will extend sustainability throughout the entire product lifecycle.

4

## New, exotic flavours, textures and combinations

Unique tastes and adventurous flavour combinations help to create an authentic food or drink experience. Incorporating hemp characteristics or ingredients into traditional or new taste varieties will bring further excitement for fun-seeking, younger consumers.



# Macro trends for hemp-based food & drink products



## HEMP PROTEIN POWDER

Protein powders are gaining popularity not only among fitness-enthusiasts but also among average consumers.

- Hemp is a high-quality vegan protein, containing all nine essential amino acids, plus fiber, healthy fats and minerals
- Great way to add both protein and fiber to the diet



## SUPERFOOD SHOTS

Nutrient-dense, ready-to-drink shots increase in popularity – with hemp (or CBD) seeing great potential.

- Hemp seeds are said to be the most nutritionally complete food source in the world
- Offering shots with added nutrients addresses busy consumers



## BOTANICAL HEMP SEED GIN

Due to its sensorial properties, hemp seeds are well suited to be used as a botanical ingredient when distilling gin.

- A new variety of botanicals that can add a distinctive flavour to gin
- The unique taste serves as a wonderful host for other flavours and botanical varieties

## Future outlook: The rise of CBD-infused products

- CBD is gaining traction amongst alternative wellness consumers with a variety of new products being launched on the market.
- Even though hemp-derived and CBD products face legal hurdles, sales of CBD-infused products exceeded \$390 million in 2018, according to the Hemp Business Journal.
- By 2022, the CBD market is projected to reach \$22 billion.

CBD is one of the most talked about ingredients thanks to its purported and controversial health and relaxation benefits. Although the regulations around CBD are obscure in some regions, the compound is gaining attention for its benefits related to reducing stress, anxiety, and inflammation.



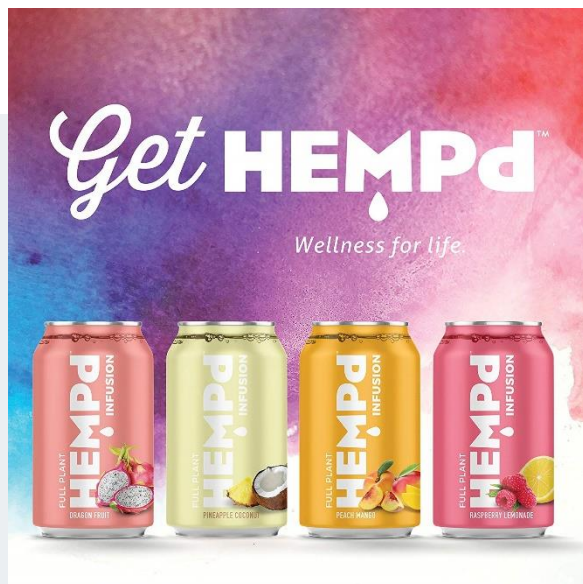


# Future outlook: The rise of CBD-infused products

- FMCG marketers are likely to experiment with CBD across a broad range of categories to capitalize on first-mover advantages.
- **Why it has potential:** The growing buzz around CBD is likely to fuel future innovation in products containing the ingredient, especially as consumers look for natural ways to unwind. However, the regulatory impediments surrounding CBD will create challenges for new products to enter certain markets.



## Market insight: Product focus



### HEMPd Infusion Flavoured Water (HEMPd, USA)

The new line of enhanced, carbonated flavoured waters is said to be the easiest, and tastiest, way to help you achieve your wellness goals. It includes hemp extract and CBD, and is gluten free, allergen free and non GMO.



### Hemptails – Hemp-infused Cocktails (FIFCO, USA)

Hemptails is the first hemp-infused malt beverage. It is made with hemp seeds, natural flavors, corn syrup, and a premium malt alcohol base (8% ABV). No THC, CBD, or any other psychoactive ingredients are included. It is available in 23.5oz singles & 16oz 4-packs.



### BioZisch Hanf – Hemp Soft Drink (Voelkel, Germany)

The soft drink comprises fresh pressed hemp plants from a regional cultivation partner, which give grassy herbal marks. This THC free product retails in a 0.5L reusable bottle, and was on display at BioFach 2019 in Nuremberg, Germany.



## Market insight: Product focus



### **Hemptastic Hemp Bars (Katjes Fassin, Germany)**

The product contains hemp seeds, is suitable for vegetarians and adults only, and retails in a 40g pack. Varieties: Cranberry & Goji; Cashew & Coconut; Cocoa & Almonds



### **Organic Hemp, Cacao, Cashew & Oat Cookie (Kookie Cat, Europe)**

The kosher product is described as a wonderfully imperfect cookie, hand crafted with high quality ingredients. This organic and vegan product is free from gluten, soy, wheat, palm oil and peanuts. It retails in a 50g pack, featuring the EU Green Leaf logo.



### **Schoko & Gras – Chocolate Bar with Hemp (Rittersport, Germany)**

This limited edition (100.000 chocolate bars) includes hemp seeds, marketed as the new “super superfood” based on their high nutrient content. The company further aims to encourage an unbiased discussion on the use of hemp as a crop plant.



# Market insight: Product focus



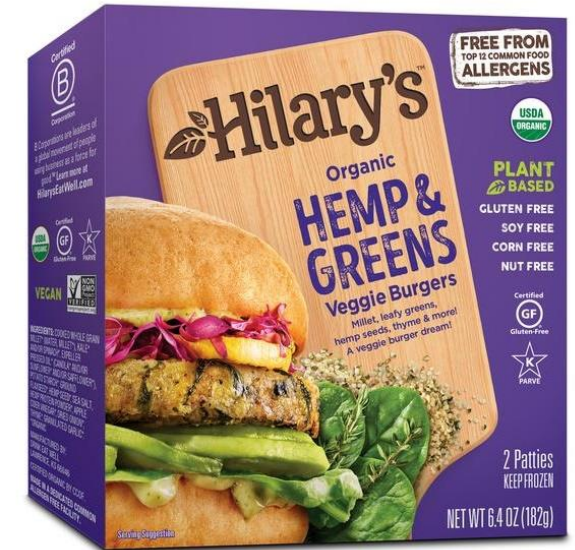
## Fresh Basil Hemp Pesto (Temptation, UK)

This vegan product is raw, and free from gluten and nut. It retails in a recyclable and reusable 160g pack, featuring the Organic Soil Association and EU Green Leaf logos. The whole range also includes a tomato hemp pesto, hemp seed oil and even CBD hummus.



## Hemp Spread (Veganz, Germany)

The organic vegetable spread is suitable for vegans and ideal as a spread or dip. This vegan product retails in a 140g pack featuring the EU Green Leaf, Bio and the V-Label seal from the European Vegetarian Union. Its available in 3 varieties: Tomato, paprika and spinach.



## Hilary's Organic Hemp & Greens Veggie Burgers (Hilary's/Drink Eat Well, USA)

The plant-based burgers are made with millet, leafy greens, hemp seeds and thyme. The vegan and kosher product is free from the top 12 common food allergens. It can be served on a bun, or in a salad, bowl, wrap or taco.

# INSPIRED BY HEMP



## Taste solutions for authentic product innovations

The food and beverage category is driven by the constant change in consumer demand for natural, clean, yet adventurous product options and taste varieties.

With an increasing momentum for hemp-based products, the industry needs to deliver on both novelty and innovations based on natural ingredients for winning new consumer groups.

**Get in touch with taste** and discover Bell's range of natural flavours and botanical extracts delivering inspirations for authentic, intense and delicious range extensions based around hemp.



## Bell Flavors & Fragrances: Natural flavours and extracts for creating authentic hemp products



Natural flavours designed to replicate the specific herbal and floral taste profile of hemp.



Extracts gained by gentle extraction processes for keeping volatile flavour components, while delivering depictional advantages.



Authentic taste creations delivering unique profiles for range extensions and targeting younger consumer groups.



All natural – clean label declaration possibilities, underlining the better-for-you and at the same time premium appeal.



Addressing both consumers' health & wellness aspirations and superfood associations as well as the evolving hemp trend.



Bell's botanical hemp extracts and natural flavours lend a signature profile to a variety of sweet and savoury applications.

We not only offer a diverse range of flavours and botanical extracts, we are also able to develop tailorised applications and extract/flavour combinations, giving our customers a truly tailor-made solution.



# Beverage Applications

- ✓ Alcoholic beverages incl. beer and beer-mixers, cider and spirits
- ✓ Non-alcoholic beverages incl. CSDs and flavoured water

## Application Sample: Flavoured Water

**3450187**

**Cannabis Flavour**

**2100017**

**Fiber Hemp Extract A**

Ingredients: water, invert sugar syrup, acid: citric acid, **natural cannabis flavouring with other natural flavourings, hemp extract**

°Brix refr. 4,0

as. Citric Acid g/l 1,0

Carbonation g/l 0,0

**Low Calorie**



# Beverage Applications

- ✓ Alcoholic beverages incl. beer and beer-mixers, cider and spirits
- ✓ Non-alcoholic beverages incl. CSDs and flavoured water

## Application Sample: Beer Mixers

**3450186 Cannabis Flavour**  
**2100017 Fiber Hemp Extract A**

Ingredients: Beer, carbonated water, invert sugar syrup, **natural cannabis flavouring with other natural flavourings, hemp extract**, colour E150c

°Brix refr.	4,0
as. Citric Acid g/l	1,6
Carbonation g/l	6,0





# Sweet Applications

- ✓ Baked goods, such as brownies, sweet biscuits and cookies
- ✓ Sugar confectionary incl. fruit gums and hard boiled candies

## Application Sample: Brownies

**3450164      Cannabis Flavour**

Dosage:      0,2 : 100

Declaration:    Natural Cannabis Flavouring w. o. nat. Flv.

vegan/vegetarian, palm oil free, allergen free





# Savoury Applications

- ✓ Sauces such as Ketchup and Mayonnaise
- ✓ Flavoured Oils
- ✓ Meat Marinades

## Application Sample: Flavoured Oil

**4500398      Cannabis Flavour**

Dosage:      0,5 : 100

Declaration:    Natural Flavouring

palm oil free, allergen free



## Regulatory information

Bell's product range of hemp flavours do not contain THC or CBD.

Our hemp extracts are derived from different parts of the hemp plant. While the hemp seed extract is completely free from traceable CBD and THC residues, the one obtained from hemp leaves contains small residual amount of THC and CBD.

## Targeting regional product needs

Diversified and operating worldwide, we draw on our global network to develop market-oriented product concepts. As part of a global group of companies with strategic production sites and creative centres in Germany, the USA, Canada, Mexico, China, Brazil and Singapore, we are up-to-date with regional market demands.

*Get to know our US-portfolio of hemp flavours and extracts: [info@bellff.com](mailto:info@bellff.com)*

*If you are interested in specific cannabis flavours designed to replicate strain specific terpenes, please contact our team in Canada: [infocanada@bellff.com](mailto:infocanada@bellff.com)*



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