

PATENT INSIGHTS: ALTERNATIVE PROTEINS FOR THE FUTURE

Recent innovations in alternative proteins cover techniques to improve sensory qualities, nutritional profiles, and sustainability and affordability credentials.



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Report Content



- What you need to know

WHAT CONSUMERS WANT AND WHY

- Consumers are aware of the importance of protein and associate it with various aspects of health
- Consumer interest in protein from beans, legumes and grains suggests interest in natural and familiar protein ingredients
 - Graph 1: sources of protein consumers prefer in plant-based proteins, 2022

PRODUCT INNOVATION TRENDS

- Compared to plant-based dairy launches, added plant proteins are widely used in meat substitutes
 - Graph 2: % of launches with added protein ingredients, by subcategory and selected added protein ingredients, 2018-23
- Proteins from plants, insects and fungi are emerging in food and drink launches

THE PATENT LANDSCAPE

- Patent activity in alternative proteins continues to grow
 - Graph 3: patents related to alternative proteins, published each year, 2013-23
- China has the highest number of granted patents related to alternative protein
- Japan-based Fuji Oil Co dominates alternative protein-related granted patents
 - Graph 4: top 10 organisations with granted patent families for alternative protein, 2023
- Soy remains the most common alternative protein discussed in patents, although other options are being explored

Balance the nutrition and sensory profiles of plant-based protein

- Some consumers find plant-based protein appealing
- Plant proteins are used in a variety of food and drink categories
- Patent innovations aim to boost the amino acid score of low-biological-value plant proteins
- Optimise the digestibility and bioavailability of plant protein ingredients
- Focus on improving the sensory characteristics of plant-based protein foods to win over consumers
- Sensory attributes and nutrition are important to consumers
- Innovators plan to win over consumers with ingredients that mimic the sensory qualities of meat
- Focus on plant-based proteins that support consumers' health needs
- Consider sustainable protein derived from food and drink industry byproducts

Algae, fungi and insects as alternative protein sources

- Encourage consumers to accept insect proteins

Patent insights: alternative proteins for the future

- Algal protein may gain prominence as a smarter protein choice
- Recent technologies may improve sensory attributes and affordability of algal protein
- Consider edible insects as an emerging alternative protein source
- Investigate fungus protein from mushroom, mycelium or mycoprotein for better health

Adopt precision fermentation for a sustainable future

- Consumers understand the importance of sustainability
- Precision fermentation could take the alternative protein category to the next level
- Precision fermentation offers opportunities to produce a variety of protein ingredients
- Precision fermentation can be used to produce proteins with desirable features
- As living costs rise, sustainable proteins will need to be cost-effective
 - Graph 5: the rising cost of living will make the sustainability of food and drink products less important, 2022
- Innovators are trying to balance sustainability and affordability

KEY TAKEAWAYS

- Key takeaways

APPENDIX

- Research methodology
- Key examples of patents related to animal-free protein alternatives
- Shape your future with Mintel bespoke patent analysis

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