Alternative Proteins

As many countries seek more sustainable and resilient means of food production, alternative proteins may offer a solution.

The alternative protein market is exploding, with continued rapid growth anticipated in the coming decades. These proteins, which replace traditional meat and dairy products, will be key in combating the climate and food shortage crisis while providing nutrition to our growing global population.

What are alternative proteins?

Alternative proteins are foods, ingredients, or beverages that provide all, or a substantial amount of protein, from non-animal sources. There are three main types, as well as other, more experimental alternative proteins.

Click on the icons to learn more

Alternative protein production methods

- Plant-based
- Cell culture-based
- Fermentation-based

'Alternative' alternative proteins

- Edible insects
- Air protein

Embracing alternative proteins has vast benefits, but some doubts about taste and authenticity still need to be addressed. Further research is vital to ensure that the products that reach consumers are desirable and, crucially, safe to eat.

Click on the icons to learn more

What are the benefits?

Environmental impact

Healthier choice

What are the barriers?

Quality doubts

Unregulated markets

Ensuring the quality and safety of alternative proteins

The testing of alternative proteins is aimed at meeting two distinct goals, product quality and product safety. Each serves a vital role in the commercialization and eventual acceptance of alternative proteins in mainstream society.

Enhancing product quality

A primary aim in the development of alternative proteins is matching flavors, aromas, and textures to those of more traditional meat-based products in order to enhance their appeal among consumers.

Ensuring consumer product safety

It is important that any alternative protein product that ends up in the marketplace meets all guidelines for food safety, as well as providing complete transparency regarding labelling and nutritional information.

Cutting-edge scientific research

Research is evolving rapidly to keep pace with the development and demand for alternative proteins. Agilent collaborates with world-leading labs, universities, research facilities, private companies, and public institutions to provide the necessary workflow solutions that are advancing research into this fast-growing sector. Hear what some Agilent collaborators from around the world have to say about their investigative research into the quality and authenticity of alternative proteins.

Click on the images to learn more

Chris Elliott
Professor of Food Safety, Queen's University Belfast
Learn more

Devin Peterson
Director, Flavor Research and Education Centre, Ohio State University
Learn more

Ben Smith
Director, Singapore Future Ready Food Safety Hub
Learn more

Stephan van Vliet
Nutrition Scientist, Utah State University
Learn more

Li Li Zyzak
Assistant Professor, Eastern Kentucky University
Learn more

Agilent testing solutions for alternative proteins

Analytical labs need trusted testing and analysis methods that can help them further improve the quality, consistency, palatability, safety, and nutritional value of these 'future foods.' Agilent is a market leader in food testing and analysis, offering full workflows specifically designed to help advance this emerging market to its full potential.

Click here to learn more about Agilent's alternative proteins testing applications and solutions.

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To learn more about Agilent solutions visit: www.agilent.com
This information is subject to change without notice.

References:

1) https://www.gminsights.com/industry-analysis/edible-insects-market
2) https://www.airprotein.com/our-story

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