

Plant-based Meat Analogues FLOWFOOD

Like a
PRO



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LIKE-A-PRO is a EU-funded project aiming to facilitate sustainable and healthy diets by mainstreaming alternative proteins and products, making them more available, accessible and acceptable.

Benefits of plant-based meat analogues

Plant-based meat analogues offer an opportunity to diversify protein sources and reduce reliance on conventional animal-based products, supporting the transition towards more sustainable food systems. By replicating familiar meat formats, they respond to growing consumer interest in plant-based and flexitarian diets while enabling manufacturers to expand their portfolios with nutritionally relevant alternatives. Advanced whole-cut and restructured products also address increasing demand for improved texture, sensory quality and more realistic meat-like eating experiences.



Development challenges

Developing high-quality plant-based meat alternatives requires replicating the complex texture, structure and sensory properties of conventional meat, particularly in whole-cut formats. Manufacturers must balance protein content and nutritional quality with flavour, firmness and cooking performance, while ensuring formulation flexibility, consistent product quality and compatibility with scalable industrial processing.



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FLOWFOOD's solution

Within LIKE-A-PRO, FLOWFOOD developed two types of plant-based meat analogues: whole-cut chicken breast alternatives with fibrous structures and restructured burger products designed for widely established food categories. The formulations incorporate different alternative protein ingredients, including pea, fava bean, rapeseed and *Agaricus bisporus*, alongside functional components to achieve suitable texture, nutritional composition and processing behaviour.

For whole-cut products, FLOWFOOD applied its Twin Booster thermomechanical processing technology to create structured, fibrous protein matrices, while the burger formulations were optimised for consistent mixing, forming and handling. Both product concepts were successfully validated under industrial processing conditions, demonstrating their potential for further commercial implementation. **The developed solutions offer four key advantages:**



Advanced meat-like texture and functional performance

The chicken breast analogues exhibit fibrous structures designed to reproduce whole-muscle textures, while the burger formulations provide cohesive and homogeneous matrices. Both formats maintain structural integrity during shaping, cooking and handling, supporting consistent product quality and consumer-relevant eating experiences.



High nutritional value and formulation flexibility

Chicken breast analogues provide 13.1–17.0 g protein per 100 g, while burger formulations deliver 11.0–13.9 g per 100 g, depending on the protein source. All evaluated chicken breast formulations meet the conditions for "high protein", "sugar-free" and "source of omega-3 fatty acids" claims. Selected burger variants also qualify for protein- and fibre-related claims, demonstrating opportunities for nutritional differentiation.



Advanced Twin Booster processing technology

FLOWFOOD's thermomechanical technology enables controlled structuring of alternative protein ingredients using lower processing intensity and controlled temperature gradients compared with conventional high-moisture extrusion. This approach supports the development of fibrous whole-cut products while allowing adaptation to different protein sources and product requirements.



Demonstrated industrial feasibility and scalability

Successful industrial trials included a 100 kg batch of *Agaricus bisporus* burgers and a 200 kg batch of pea and fava bean chicken breast analogues. Both formulations demonstrated suitable processing performance using industrial equipment, confirming their manufacturability and compatibility with conventional production operations. Further process optimisation will support improved efficiency and commercial deployment.

FLOWFOOD's meat analogues address opportunities in the evolving plant-based meat market, particularly within whole-cut products, burgers, ready meals and foodservice applications. Through a B2B approach combining ready-to-use formulations, advanced processing expertise and collaborative product development, FLOWFOOD enables food manufacturers and private-label brands to expand their portfolios with differentiated plant-based products while reducing development complexity and technical risks.

Overall, FLOWFOOD's developments within the LIKE-A-PRO project demonstrate the feasibility of producing structured and nutritionally relevant meat analogues using alternative protein ingredients and advanced processing technologies. By combining realistic meat-like textures, formulation flexibility and demonstrated industrial compatibility, FLOWFOOD's solutions offer a promising approach to next-generation plant-based meat products, supporting further commercial development and the transition towards more diversified and sustainable protein sources.