



Plant-based Chicken Breast Analogues CNTA & SANYGRAN

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 chicken analogues

Plant-based chicken analogues offer an opportunity to diversify protein sources while providing familiar, convenient and versatile alternatives to conventional poultry products. By replicating the culinary applications of chicken breast, these emerging products facilitate the adoption of plant-based and flexitarian diets without requiring major changes in eating habits. Their protein-rich formulations and adaptability to different meals also create opportunities for food manufacturers to expand their plant-based portfolios.



Development challenges

Developing plant-based chicken breast analogues requires reproducing the fibrous texture, sensory properties and functional performance of conventional poultry. Manufacturers must balance nutritional quality with flavour, firmness and product stability while ensuring compatibility with industrial processing. In this sense, achieving consistent protein structuring, formulation flexibility and cost-effective scalability remains essential for successful commercial implementation.



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CNTA & SANYGRAN's solution

Within LIKE-A-PRO, CNTA and SANYGRAN developed chicken breast analogues incorporating alternative protein ingredients through three formulation routes: pea protein, fava bean protein and microbial protein combined with fava bean. Using twin-screw wet extrusion technology, the partners developed structured chicken-style pieces designed to deliver fibrous textures, high protein content and versatility across different culinary applications.

Following formulation optimisation and pilot-scale development at CNTA, the pea-based prototype was successfully validated under industrial processing conditions at SANYGRAN, including extrusion, marination and IQF freezing. This demonstrated the feasibility of transferring the developed technology to existing industrial manufacturing infrastructure. The developed solutions offer four key advantages:



Enhanced nutritional value and protein diversification

All three formulations provide approximately 22–23 g protein per 100 g, supporting a "high protein" claim. The fava bean and microbial protein formulations also qualify as a "source of fibre". The microbial protein variant additionally meets the conditions for "low saturated fat" and "source of iron" claims, offering further nutritional differentiation.



Fibrous chicken-like texture through wet extrusion

Twin-screw wet extrusion enabled the development of structured chicken-style pieces with meat-like fibres and textures broadly comparable to conventional poultry. The products can also be adapted through marination, flavouring and portion size for different culinary applications.



Extended refrigerated stability and sensory acceptability

Shelf-life studies demonstrated microbiological and physicochemical stability over 120 days, with consistent pH, water activity and colour. All three formulations maintained acceptable sensory scores throughout storage, supporting their potential for refrigerated food applications.



Successful industrial validation and processing integration

The pea-based formulation was successfully processed on SANYGRAN's industrial high-moisture extrusion line. Industrial marination and IQF freezing further demonstrated compatibility with downstream manufacturing operations, supporting future commercial production.

Commercial potential and B2B value proposition

CNTA and SANYGRAN's chicken breast analogues offer opportunities in the growing plant-based meat market, particularly within retail, private-label, foodservice and prepared-meal applications. Through SANYGRAN's B2B approach, combining alternative protein expertise, scalable extrusion technology and customised product development, food manufacturers can access versatile chicken-style solutions adapted to their commercial requirements. The collaboration with CNTA further supports technical optimisation and innovation, providing a foundation for product diversification and future market deployment.

Overall, the developments achieved within the LIKE-A-PRO project demonstrate the feasibility of integrating alternative protein ingredients into structured and industrially relevant chicken breast analogues. By combining high protein content, acceptable sensory performance, formulation flexibility and demonstrated industrial compatibility, CNTA and SANYGRAN's solutions offer a promising approach to next-generation poultry alternatives, supporting innovation and new commercial opportunities in the plant-based meat market.

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