

AltProteinX 2025 gathered researchers, students, and industry to advance sustainable food innovation

AltProteinX 2025 brought together the alternative protein community from Denmark and beyond for a full day of science, discussion, and networking at DTU Lyngby Campus. The programme combined keynotes, a panel debate, research showcases, breakout seminars, and a poster session - highlighting both the rapid progress in the field and the critical barriers that remain.

Why alternative proteins matter

Alternative proteins – spanning plant-based, fermentation-enabled, and cellular agriculture products – are increasingly recognized as vital tools for a more sustainable and resilient food system. When designed effectively, they offer a pathway to reduce environmental impact, diversify protein supply, and support global nutrition. At the same time, the field still faces major challenges. These include high production costs, scaling complexities, and consumer acceptance. To succeed, the sector requires to advance the foundational scientific backbone to improve taste and drive down price.

AltProteinX 2025 took place at a time when the alternative protein sector is showing renewed momentum, while still facing clear funding and scale-up gaps. According to The Good Food Institute Europe, privately held European alternative protein companies raised nearly \$509 million (€470 million) in 2024, a 23% increase from the previous year. In addition, companies received \$68 million (€63 million) in grants, highlighting the importance of public and mission-driven support alongside private investment.

Microbial foods for the green transition

The conference opened with a keynote by Leonie Johanna Jahn from DTU Biosustain, an interdisciplinary researcher working on more sustainable food products and production processes using microorganisms. Her lecture showed how microbes can reshape food systems and why cross-sector collaboration is essential to address food challenges in a truly holistic way. She shared a wide range of examples – from using modern genetic tools to evaluate fermented foods, to working with

anthropologists and culinary innovators to understand how fermentation practices develop and how they can inspire new products. One important theme was that “traditional” does not mean “simple”: historical fermentation systems, including Turkish and Bulgarian food traditions that use ants, can be studied with methods such as metabarcoding, culturomics, and proteomics to uncover microbial diversity and better understand the history of food. Beyond that, related screening and cultivation approaches can also help identify new fungal strains with strong potential for future food applications.

From Lab to Commercial: The Fungi Tech Journey

The second keynote was delivered by Ramkumar Nair, founder of SMAQO, a Swedish company producing hybrid products that combine mycoprotein and meat. Bringing an industry perspective, Ramkumar shared his journey from PhD studies, to establishing and leading Mycorena, to founding an innovative business-to-consumer company. Through this, he described how alternative protein companies can connect breakthrough innovation with consumer accessibility, highlighted practical challenges facing the sector today – from product positioning to scaling – and shared perspectives on how brands can build trust and reduce the perceived distance between “new” foods and everyday habits. His core message was clear and sharp: adoption is driven by familiarity and relatability. In this light, hybrid products may play a significant role in supporting the transition towards more plant-based diets – especially when they are communicated through modern advertising channels and campaigns that make the product feel recognizable, relevant, and easy to try.

Comparing environmental sustainability of alternative protein sources for food

The keynote session concluded with Hanna Tuomisto from the University of Helsinki and Natural Resources Institute Finland. Her talk examined how the environmental footprint of alternative proteins compares with animal-source products. She discussed why system-level thinking matters, highlighting how interconnected our food systems are with the broader economy. Participants gained insight into how shifts in protein production could affect land use, energy demand, water use, and wider economic systems. Scenarios for the global replacement of livestock proteins with cellular agriculture products by 2050 were presented. A key message was that nutritional properties must be considered alongside environmental impacts, and that assessments at the meal and diet level are often more meaningful than comparisons at the single-product level. Finally, practical condition for real-world impact was underlined: sustainability gains will depend not only on production methods, but also on whether consumers are willing to adopt alternative proteins at scale.

Panel debate: "How to accelerate the potential of alternative proteins for food"

The panel debate brought together the keynote perspectives and connected them to shared priorities for the field. The discussion pointed to the need of stronger research-to-application pathways (including shared infrastructure and pilot-scale opportunities) and collaboration formats that make it easier to work across disciplines and sectors, as well as the importance of curiosity-driven, volunteer initiatives.

Research showcase, breakout seminars, and posters

A defining feature of AltProteinX was the space it gave to deep-dive presentations from both established professors and early-career researchers. The programme reflected the strength and geographic breadth of Danish research – bringing perspectives from Aalborg, Aarhus, Copenhagen, and Lyngby. During the breakout seminars, participants could find out about:

- Improving nutritional quality of plant proteins for sustainable and healthy diets (Patricia Duque Estrada, University of Copenhagen)
- Cultivated meat including quality aspect (Jette Feveile Young, Aarhus University)
- Nano-micro-structuring of proteins as a route for alternative protein solutions (Ana Carina Mendes, Technical University of Denmark)
- Upcycling of liquid and solid sidestreams from agricultural and food industry (Mette Lübeck, Aalborg University)
- Supplementation of cheese with plant-based ingredients for a tasty, nutritious and sustainable food transition (Blandine Genet, Technical University of Denmark)
- Sustainable food innovation with filamentous fungi (Loes Van Dam, Technical University of Denmark)
- How lactic acid bacteria help plant-based food innovation (Hang Xiao, Technical University of Denmark)
- The state of the alternative protein research and industry in Europe (Ismaël Bawah, Good Food Institute)

Alongside the seminars, a poster session invited contributions from MSc students, PhD candidates, postdocs, and other researchers. Students, in particular, were given the opportunity to present course-based research projects and thesis results and to practise communica-

ting science to a diverse audience – an essential skill for careers in research, innovation, and industry.

Impact and Next Steps

With over 150 participants (53% academics, 26% students, and 18% industry representatives) and an overall satisfaction score of 4.59/5.00, the event demonstrated a strong demand for meeting spaces that combine research depth with practical relevance.

Main feedback themes that were identified in post-event surveys show that keynotes and networking were often described as top programme elements. In addition, 88% of respondents reported feeling encouraged to participate in future alternative protein events – showing that even with strong satisfaction, the field is still hungry for more opportunities.

Based on the day's discussions, several next steps stand out:

1. **Build continuity:** create regular formats and more events that would allow to network, exchange ideas, and reach outside of your dominant areas of expertise
2. **Support early-career researchers:** expand opportunities for feedback, mentoring, and intersectoral collaboration. Strengthen the collaboration between the academia and industry, and encourage curiosity-driven, voluntary initiatives.
3. **Keep evidence central:** continue improving methods that combine sustainability and nutrition assessment, and communicate results in transparent, accessible ways, fighting misinformation.
4. **Bridge the gap between academia and industry:** the sector needs to advance the foundational open-access science to continue improving technical know-how on making better tasting products. This needs to be coupled with advancing scaling knowledge and bring price points down. Bringing together academic and industry perspectives will be invaluable in translating much-needed foundational science

The conference offered a practical example of how students can contribute to scientific and innovation ecosystems – not only by attending, but by helping organise, connect people, and create platforms where knowledge moves across fields. Behind the scenes, it was also an impressive achievement by the student team, who worked for more than half a year to bring the conference to life alongside their studies and part-time jobs. Students often sit naturally at the intersection of disciplines, and when they take an active role, they help build bridges between research groups, companies, and new ideas.

AltProteinX 2025 showed what that can look like in practice – and it has already started to pay off, by enabling new collaborations and sparking project ideas that can help advance the alternative protein field in the years ahead.