

THE FUTURE OF PROTEIN & THE PROTEIN OF THE FUTURE



This activity has received funding from EIT Food, the innovation community on Food of the European Institute of Innovation and Technology (EIT), a body of the EU, under the Horizon 2020, the EU Framework Programme for Research and Innovation

FUTUREPROTEIN workshop

MINUTES & CONCLUSIONS

Thursday November 19, 2020.

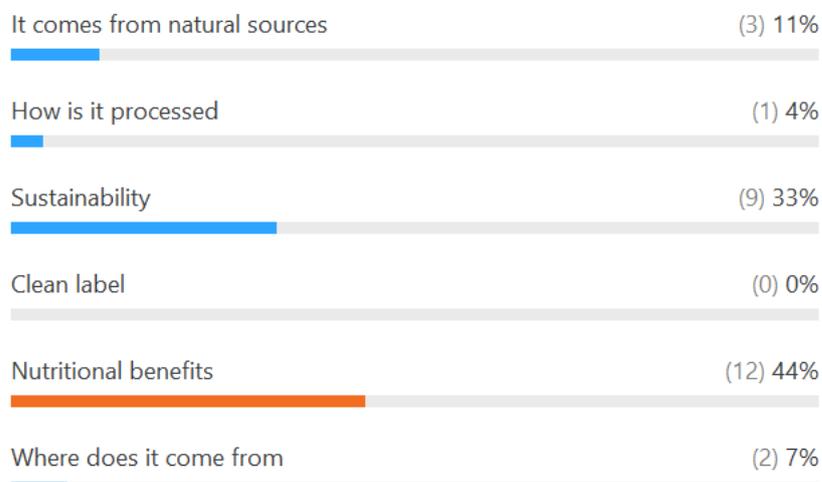
The workshop consisted of a series of talks by experts from academia, food industry, food retail and regulatory bodies on aspects of consumer, nutrition, technology, regulatory and commercial needs, challenges and attention points in the production and use of alternative proteins as food ingredients.

The presentations and discussions involved both experts and industry representatives who are active in the plant protein area and focused on market trends (Veerle Carlier, R&D and Innovation manager food concepts at Colruyt Group), on product development (Bram Pareyt, Sr Research Manager Proteins at Puratos) and technological and nutritional challenges (Maneephan -Yui-Keeratiurai, technical member of Plant base centre of excellence for Danone group). Moreover, Jens Tuidier (International Director and Special Advisor to the CEO at ProVeg International) gave a thought provoking and innovative talk on “*Plant-based foods as a pandemic risk mitigation strategy*”. Other talks included recent trends and innovations in the area of cellular farming on mycoproteins by Andrew Beasley (commercial director of 3F Bio) and on cultured meat by H el ene Miller (Head of European Affairs at Aleph Farms). The main regulatory rules and process for approval of new protein products within the frame of “novel foods regulation” were presented by EFSA officer at the Nutrition Unit of the European Food Safety Authority, Ermolaos Ververis. Next, Piotr Wnukowski, founder of the start-up company Napiferyn BioTech, highlighted learnings from the creation of a company focused on protein extraction technology bringing new added value to food processing side-streams. During the workshop, the main results of a consumer survey conducted by the partners during the EIT Food FutureProtein project were presented by Ulla Kidmose (Associate Professor in the Department of Food Science, Aarhus University). Interestingly, some of these results coincided with those obtained by Colruyt’s consumer study on plant-based meat alternatives where main barriers for consumers adoptions identified were related to taste, price and convenience (food preparation), in that order.

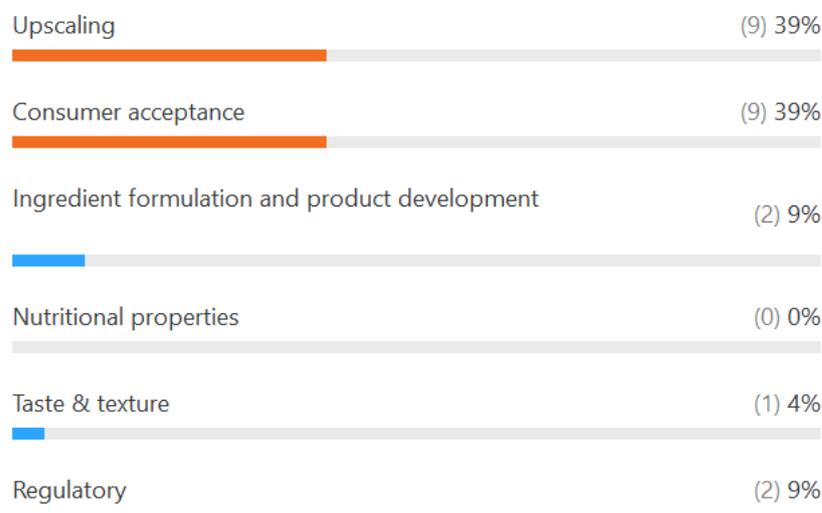
The workshop, initially programmed as a face to face / “live” event but, due the extraordinary circumstances, was held as online event, open to the EITFood community. It included, besides the presentations, interactive discussion with the 52 participants, which gave their input through different polls as well. In what follows, the polls and answers are depicted



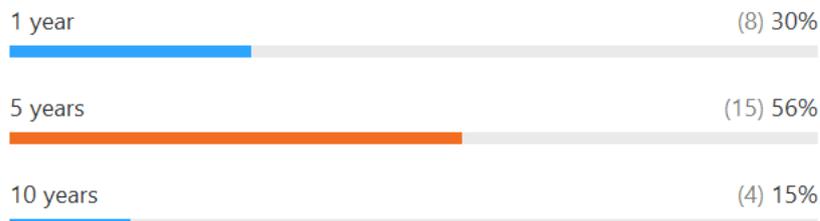
1. In your opinion, what is the priority key message to deliver to the consumers?



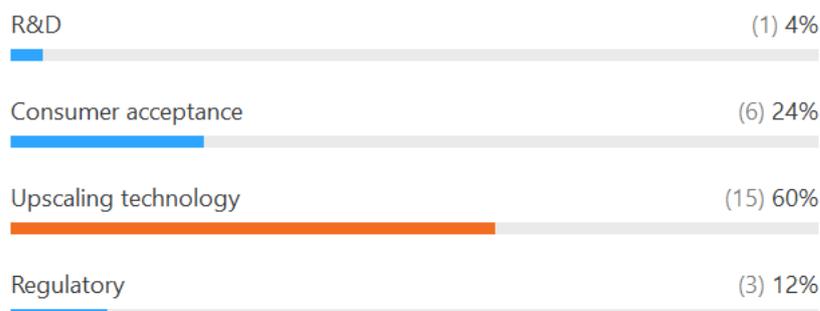
1. What is the main challenge for single cell farming in the near future?



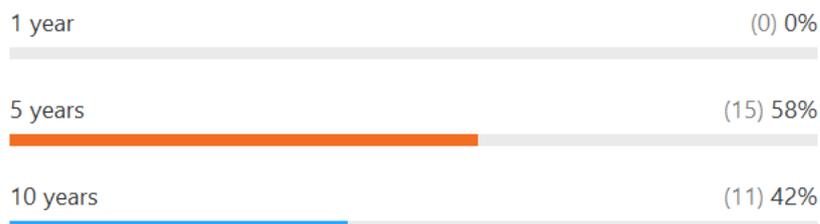
1. What is the time frame to be able to make these products accessible to the average consumer?



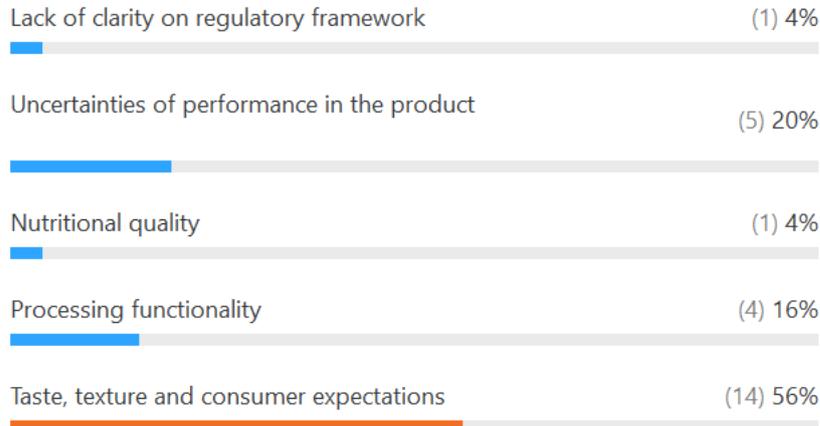
1. What is the main challenge for production of cultivated meat in the near future?



1. What is the time frame to be able to make these products accessible to the average consumer?



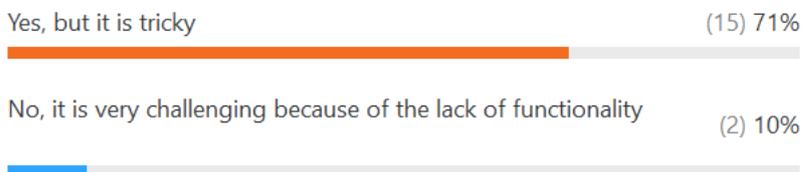
1. Which one is the major barrier for implementation of proteins in new products?



1. What is the time frame to be able to develop food products containing alternative proteins which can compete price wise to more traditional ones?



2. Is it possible to develop clean label products containing alternative proteins?



TAKE HOME MESSAGES

From the discussions with the experts and results of the polls it can be concluded that much research and development efforts are needed

- for improving existing and newly developed alternative protein-based products as meat substitutes,
- to increase consumer acceptance.

Perceptions and motivations towards alternative protein consumption differ per country and culture. However, there seems to be a common consensus that alternative proteins must be healthy, affordable and available.

As far as the sustainability aspect is concerned, a very clear and strong messages were given by ProVeg on the impact of human practices on global pandemics and other health issues such as antibiotic resistance (through the increasing pressure on animal production), non-communicable diseases and ecosystem balance. All these parameters should be considered, and all stakeholders should take immediate action to mitigate the negative effect related to it. Cultured meat is an innovative and interesting technology that might alleviate some of the problems coming from intensive farming. However, consumer acceptance could still be a hurdle, although, according to the audience the technological hurdle of upscaling the technology was identified as most likely hurdle to overcome first.

How can these challenges be overcome? Both producers of cultured meat and mycoproteins believe in a potential collaboration between sectors: plant-based, myco-protein and cultivated meat as well as conventional food production including the meat industry.

One must be very aware of the impact the regulatory aspect has, and at all moments comply with regulation. Indeed, when not regulatory approved, new plant-based ingredients cannot be commercialized. The 'Novel Food' regulation is likely to play an important role with this regard, especially in EU. Also, plant-based and other alternative proteins derived ingredients are extremely diverse in their origin, production, and formulation, and obtaining approval is not a straightforward process: a detailed description of all production steps is necessary. For new proteins specifically the quality is as important as the quantity. Specifically mentioned to include as characterization was molecular size profile of proteins, sequence homology with known allergens, etc.

An example of a newly developed process and ingredient is that of protein obtained from the rapeseed oil press cake, which shows the potential of valorising a by-product to obtain higher value and increasing margin for oil producers. Again, one of the challenges mentioned for the plant-based protein producers is the elimination of anti-nutritional factors and other compounds providing negative sensory notes to novel plant-based products/protein isolates.

Finally, both from the consumer survey and the discussions during the meeting, it has been concluded that reliable (from trustworthy sources) and clear information to the consumers is of paramount importance to make advances in the development and commercialisation of alternative proteins. Thus, clear -and -clean labels are demanded as well as information on how

products are processed and where do they come from. Moreover, it was proposed a revision of the definitions of the ingredients such as “protein isolate” that consumer cannot understand.

An interesting point of view was given about the influence that the recent pandemic can have on what the consumers notice as being most important and accelerate the shift in their habits.

This workshop was an event of the FUTUREPROTEIN project. For more information on this project please go to <https://www.eitfood.eu/projects/the-future-of-protein-the-protein-of-the-future-in-europe-2020>.