ILSI 2021 Annual Symposium Session 6: Alternative Proteins

Transcript of the presentation, Alternative Proteins: Consumers and Market Landscape, Armando Perez-Cueto, PhD, University of Copenhagen, Denmark

Before we continue, I need to disclose that I don't have financial conflicts of interest, but I have a personal conflict of interest. I have a daughter, that she's three years today. Today humans still destroy and kill almost everything on the planet. As many other citizens and consumers, I want her to grow in a world where humans embody goodness, restoration, and benevolence towards other people, animals, and biodiversity. That's what gives me the energy to do research and my work.

I will give a brief introduction to these alternative proteins business talk. First, what are these alternative proteins? Alternative proteins refer to all those proteins that are actually not from animal origin. If you see from, when it comes to plant-based proteins, it refers to a continuum from unprocessed protein-rich plants, and then you have pulses, you have pseudocereals like quinoa, amarantho, canahua, or you go through more processed products as they were mentioned earlier. Tofu, wheat, and with fermentations for example, tempeh. To highly sophisticated biotechnology that combines ingredients from multiple plants sources in order to mimic the experience of meat.

That's not the only part of alternative proteins. Alternative proteins are also other relevant sources. There are fungal proteins. You speak about mushrooms, mycelium, yeast. There are side-stream proteins, for example the cake of soy, the cake of beer production, the cakes of oat production, et cetera. We heard about cell-based cultures or cultured meat, and there are also insects and algae and so on.

What is important here is that when we are speaking of proteins and particularly from the perspective of the consumers, we should be very careful of not losing the big picture. People usually eat foods. They don't eat nutrients. When we move the communication towards nutrients, we obfuscate the consumer, we obfuscate the citizen. We can lose the big picture by reducing food into single nutrients. There is quite some effort around proteins, but proteins don't exist isolated. They exist in structures, in different kind of structures that are important to human health as well.

Who are today's consumers? I think it's important to others that there is a segment that is growing very much, and it's those that practice conscious consumerism, which is a wave of people that actually purchase and make the buying decisions driven by commitment to positive social, economic, and environmental impacts. Some examples of that, of course, are the youth that have been mobilizing before the pandemic and the lockdown through Europe and many other places in the world, asking the older generations, basically asking all of us, to stop messing with their future. It's in their lifetime that climate issues will just come even more evident. It's going to be in our lifetime.

There's a pressure also from the younger generations, and although this figure is a bit old, it also shows that a socially conscious consumer is usually younger. That socially conscious consumer is green, and they believe that companies should support the environment. It's very ... Supporting the environment is becoming and has become the most important cue from consumer perspective. These consumers are willing to pay for more socially responsible products and services.

There are different consumer segments. If you think of consumers according to their eating behavior, you have omnivores, and of interest for this talk, we have plant-based eaters, whether they are vegetarian, vegan, pescatarian, or any of those other options that you have like fruitarians and so on. There are different classifications.

But of particular interest is the segment of flexitarians. Flexitarians, it's a group of people that has been growing in the past few years. It is a very inclusive category because it includes—the name itself speaks about being flexible. It includes very flexible number of people according to their eating behaviors. Some people would eat, would call themselves flexitarians and still eat more meat than the lower quintiles of omnivores in some of the surveys.

The definition is very broad, if someone goes and reads the paper of Derbyshire in 2017. There's like 20 definitions of flexitarianism. However, flexitarianism is one of the first steps that people take when they are engaging in dietary shifts. Of course, there are other consumer segments of relevance, particularly when you think of dietary transitions. We would say that the younger generations, they are called Millennials and Generation Z, they are driving the demand side for sustainable, ethical and healthy food.

Paradoxically, although they are younger and you would always suspect that younger people are having less income, but they are the ones that are demanding more products that are ethical and sustainable.

Generation X, which is the people born before 1980, they are adopting the changes. Particularly the COVID has confronted people with their own mortality, probably, but the fact that they are aging and that being able to be at home and cook by themselves, there is a possibility for them to change.

Older consumers, there is sufficient evidence that they can be ... That their eating behaviors can change and the right interventions.

I want to focus a little bit on the market and business potential of the plant-based sector. First, this is a paper that we published last year. I think it can serve as a kind of frame for the business perspective of plant-based food and protein. According to this paper, consumers will perceive plant-based diets as ethical and environmentally friendly. They need products that are convenient, that are tasty as was mentioned earlier. Particularly that have a simple ingredient list.

It's important to mention that there lots of beliefs, perceptions, and understandings towards alternative protein products that need to change, in particular those regarding plant-based foods. Meat replacements should be healthier, and they should have a clean label. I need to make the point that at this moment, the case for the healthiness of alternative products is very little. Because most of the studies that have related health with the levels of processing have been based on data that existed before these products were put in the market, so there is very little actually known of the actual health effect of these products, these extruded proteins or other products.

However, the other thing to say is that policy contacts and market trends point towards increasing business opportunities. Within smart protein in the consumer work package, our colleagues [inaudible 00:10:15] produced this report on the plant-based sector overview for Europe. We can see that in the last two years, from 18 to 20, there has been a 49 increase in the sales value of the plant-based food in Europe and that important that the total European plant-based sector of course is mainly in Germany, UK, Spain, and Italy, and that it's growing in other countries.

It's a growing and blossoming market. It's comparable to what happens in the United States with growths of 15% between 17 and 18, 11% between 18 and 19. 18, 19, 12, and 27%. I'm using data that I found from Good Food Institute that is the same organization as the previous speaker.

Compared to ... There is a comparison between the animal-based and the ... Sorry. There was a problem with this slide. The animation didn't go well. Anyway, there is ... The total plant-based foods showed 43%-dollar growth, household penetration of 57%, and 78% people are purchasing it.

I would provide you some consumer insights for innovation in alternative proteins. We have a recent consumer survey that was carried out in Denmark, Germany, and Spain. We identified four respondent groups. Those who don't eat animals with high plant consumption. Low animal consumption, high plant. Moderate animal and plant. High animal and moderate plant consumption.

Here, what we see is the interest in alternative protein ingredients in the segments and in the three countries. The most preferred ingredient for a source of proteins is legumes and pulses. It is very, the area of insects, you can see that it's doubtful in many ways. The combined half meat, half protein systems are mostly accepted but by a percentage of people in the higher mid consumption but not necessarily accepted in the lower consumptions. At least for the moment, there is very little interest in cultivated meat.

When it comes to the different types of plant-based products that are of interest, we can see here that the winner is this B, plant-based products with no meat like taste and texture, suggesting that maybe the time is ripe for new food categories. For the development of new categories using plant-based foods.

Moreover, revising some other papers and these ones, we see that there is a very clear winner in the order of preference towards the origin of alternative proteins. People prefer pulses and vegetable, algae, plant-based meat, cultured meat, and then insects. They are still behind. Mostly because of the disgust factor particularly existing in the Western countries.

Now I want to also mention the paradox of taste and the hedonic experience. Because this is a barrier to dietary change and a driver of dietary change. I think when we are speaking about innovation, it's very important to take into account. A barrier to dietary change is that people will declare to be attached to the taste of meat and dairy, because of umami content. That's the main explanation. Umami is the deliciousness and is the savory taste. There is a lay belief that unhealthy is tasty. Also, there's a lay belief that only foods of animal origin provide sufficient nutrition that will also be tasty.

While for consumers that are more in the other groups it's a driver for dietary change, because it increases dietary diversity, complying with the recommendations to eat more fruits and vegetables and foods of plant origin. It actually brings new sensory experiences to the consumer because they are exposed to new textures, to new flavors, to new pleasurable experience at the table.

Basically, in summary, consumers eat food, not nutrients, and they vote with their purchases. We can see from the market data that this trend is growing. The market is incipient but is developing. Foods based on plant proteins are preferred by consumers. Insects, cultured meat and mixed plant-animal systems are in the beginning of their development, so they are at very earlier stages compared to plant-based foods. The plant-based food market is blossoming in Europe and the United States and elsewhere.

I think new categories should be developed, for example protein rich pasta or spreads, but maybe we need to just be ready for categories that exist in their own right.

Consumers cues of ethical, environmentally friendly, convenient, tasty, simple ingredient list and healthy are important in future development. I think taste is a facilitator for dietary change, predicts long term adherence, and should be advocated as public intervention.

Thank you very much to ILSI for the invitation and I acknowledge the support of, I work now with Smart Protein and Protein2Food, both European projects.