Challenges from experts

Challenge Labs 2021

The experts were interviewed by Tartu Biotechnology Park in autumn 2021. Find the profile of experts from the full report (In Estonian): https://biopark.ee/?post_type=events&p=5057

1. How to visualize to consumers why economically produced food products are more expensive? What effect has food production on the environment, preserving biological diversity? What the price consists of?	The consumer expects everything that brings the price down. Reduction of environmental impact matters most to to younger consumers. Today, the consumer wants the product to be produced using either mild or minimal plant protection products. There is also an interest in the life of the animal (cattle grazed on coastal pastures, free-range chickens, etc.) - the animal is not just a means of production. The younger generation is willing to pay, at least in words, to reduce the environmental footprint of a product. (Andre Veskioja)
	The challenge is to preserve biodiversity when consumption is growing , as the use of natural resources is more intensive than their recovery. (Kristi Zilensk)
	A big and important challenge is always to raise consumer awareness that local, regional, organic, healthy food is important and worth investing in (Evelin Von Möller)
	It is important to reduce the environmental impact of food production and to communicate it to the consumer. (Ene Viiard, Kristi Zilensk)
	The environmental question is how, from what and what was produced and used to produce it, the environmental footprint also in terms of biodiversity, and that the cultivation of a food product has not poisoned the environment around it. The pressure on manufacturers is very strong on how to find solutions. (Tõnis Tänav)
2. Digital traceability of food in the entire food chain - making the food more trusted and the food chain transparent.	Food safety would be guaranteed. The consumer has a very clear expectation such scandals like we had recent years (listeria, food fraud) could not happen. Also people are very angry when it is said that there is an Estonian strawberry, but in fact it is a Latvian strawberry. (Tõnis Tänav)
	From the point of view of food safety, traceability is more important than from the consumer's point of view. (Tõnis Tänav)
	Inspectors are not already able to trace the origin and composition of food by inspection. How should this be done in the future? Possible cooperation with the IT sector to find new solutions? Pressure from consumers? (Ene Viiard)
	The landscape of food fraud. There are also stories from Estonia where, for example, cooking oil does not meet the requirements. It is not possible to perform a spot check on every product that arrives in the store. This is always a risk-based assessment. How to select potential problem areas? (Tõnis Tänav)
	The identification of the food processor and the method of preparation by the consumer should be better accessible. How to get better information. Wider use of smart packaging and sensors. (Uko Bleive)
3. Reduction of meat consumption of average person by 75%.	In order to meet the global climate targets, the consumption of meat per person should decrease drastically: on average, a person should consume about 75% less red meat in the world (Peeter Tava)

	How to take animals out of the food production equation? (Ene Viiard)
	I hope that people's food awareness will increase and that their choices will change. For example, with regard to the consumption of vegetary foods - to be as fresh and as organic as possible, to have fewer semi-finished products, but to change the way that animal food (from meat to dairy) is the mainstay of the diet or another example it is possible to get everything you need with food. Reduce saturated fats, increase vegetable fats. (Eliisa Lukk)
	Vegetable proteins that can be replaced by meat do not yet replace the properties, taste and structure of meat proteins. More arable land is needed to produce plant proteins, but where can you get more of that land? However, the extraction of vegetable protein (wet fractionation) requires resources (water, energy). (Uko Bleive)
	Diversification of protein sources. It is important to find different sources of protein (algae, insects, etc.) whose production does not burden the environment. (Uko Bleive)
	Why replace meat? If we consumed food normally, there would be no problem with over-consumption. Our diet does not have to be animal-based. For those who do not want to consume animal products, legumes can be used as an alternative to protein in combination with cereals. Why take artificial food if we have natural food. I prefer to exclude artificial food and do not recommend it to people. Alternatively, meat substitutes are made on the basis of the same legumes. Even then, I would look at how much more additives are being processed. (Eliisa Lukk)
4. Balanced nutrition according to person calorie - high-quality, natural products, without toxical additions to food.	Balanced diet according to human caloric intake, quality food, absence of toxins (Jonel Põld, Eliisa Lukk)
	A balanced diet made according to human calories - do not use certain raw materials of white sugar and salt - use honey and pink salt. Use of high quality raw materials. (Jonel Põld)
5. Making food functionality and properties information more accessible to consumers - how much salt, sugar, added sugar, vitamins, minerals etc. are in different products? From small print to fast and informed nutritional decisions.	It is easier to monitor the functionality of food - how much salt, sugar, added sugar, vitamins, minerals, etc. are in the product. (Andre Veskioja)
	If you want to see how much sugar has been added, it is more difficult or in some cases impossible to get this information about the product. The letter contains carbohydrates and sugars, but it is not known how much sugar has been added and how much is natural sugar. This is important when making choices in the store, such as which yoghurt or muesli to choose. If you take the most accurate information from the database, the amount of added sugar is available. The amount of added sugars could be better indicated on the products separately (Eliisa Lukk)
	Exclusion of artificial food / semi-finished products from the diet - preference for regular food (Eliisa Lukk)

6. Reduction of food waste. How to collect and give the precision demand of food products quantity from consumers to food production so there wouldn't be an overproduction of	Reducing food waste - The food producer produces a large amount of food based on store orders. The quantities of food ordered by stores are often not found by consumers and are wasted. In today's information technology age, better planned food processing and consumption would be expected so that food is not lost (so-called "precision consumption"). Processing according to consumption. (Internet of Things: "the refrigerator informs the food manufacturer - we need to buy bread tomorrow") (Uko Bleive)
7. Production of high nutritional value alternative proteins from different sources with significantly lower CO2 footprint production than regular protein products.	How to make an alternative product close to what it should replace, at the usual price level. (Andre Veskioja)
	to population growth could shift the focus from increasing production to reducing losses and waste. Losses and residues in the food supply chain are largely unused because it is a costly and complex process. The development of waste prevention solutions is influenced by seasonality, treatment methods and levels, and quantities. The efficient use of the nutritional value of by-products and residues in the food supply chain is a major challenge. When developing value-added technologies, it must be kept in mind that the alternative proteins we produce offer added value in terms of different uses and that the functionality diversifies our table. (Kristi Zilensk)
	Diversification of protein sources. It is important to find different sources of protein (algae, insects, etc.) whose production does not burden the environment. Aquaculture is one potential source. Insects are also allowed to eat in Estonia from this year. In addition, proteins are produced from sugars by bacteria / microorganisms. (Uko Bleive)
	Mainly how to find them at a reasonable enough price to work as a business model. The Ministry of the Environment alone has also funded research in Estonia to produce alternative proteins from shellfish and algae through aquaculture. There are potential solutions, but they do not want to be competitive in the market. The question here is how we diversify our dining table. Consumer susceptibility to whether we are willing to eat bread enriched with protein powder made from shellfish or crickets or other things. (Tõnis Tänav)
8. Vegetarians nutrition - how to make sure they get a healthy and balanced menu and don't get hooked with processed vegetarian junk food.	Vegetarians have a lot of soy-based products - but semi-finished products (soy wine, soy steak) - soy can be eaten if the soy is natural or fermented, not semi-finished products. In the current trade, everything can be replaced nicely, but it is a matter of awareness. (Eliisa Lukk)
	Special diets are complicated by pairing menus. The list of ingredients that these people have to eat in case of restrictions is smaller - the challenge is to make delicious food from these ingredients. Nutrition must not be unpleasant for people (Jonel Põld)
	We have introduced cinemas ourselves, trying to change the dining table. Tofu, soy protein, beans, peas are currently in use. (Jonel Põld)

9. Packaging food to materials made from herbal substances as a replacement to plastic packages.	Regarding food packaging - how to find plant-based packaging (Andre Veskioja)
	Packaging made of natural materials, use of biomaterials - do they completely replace plastic materials? (Uko Bleive)
	The problem is to pack hot food in plastic packaging. This issue is particularly important for people with hormonal or metabolic disorders who need to be careful not to be exposed to harmful compounds. The dishes used in the hot store in the store could be healthier. The option is to take your glass jar with you and buy it, but many do not. (Eliisa Lukk)
	The consumer expects environmentally friendly packaging. (Uko Bleive)
10. How to process and reuse food packaging? -	Circular economy - how to process and recycle food packaging. (Andre Veskioja)
	Abandonment of overpackaging - eg a'la Rafaello candy - base packaging, multipack, product packaging and single candy packaging (Uko Bleive)
	has a smaller footprint, but it is a multi-layer laminated plastic whose different layers are not separable and the result is that it cannot be recycled. This means that we can only burn it after use. The previous larger packaging basket is recyclable because it is made of the same material. The desire is to use packaging that is not oil-based, but made of some other raw material, such as wood-based plastic, which has a smaller footprint but is more difficult or impossible to recycle. It is very difficult to find solutions to these problems - which is the ideal option we want to achieve. Unfortunately, the dream of everyone going to the store with their glass jar, having the products put in a jar and then washing them - you never see such a utopia happen. (Andre Veskioja)
	Packaging - a large proportion of recyclable packaging still ends up incinerating, not recycling. There could be packaging made of plant materials - but plastic made of plant materials will not help us. If someone could separate plastic types with different properties in households waste, it would be easier to recycle them. As plastics have different properties, when melted together, the resulting mixture can probably no longer be reused as food packaging. With paper and glass, there are better solutions today. (Andre Veskioja)