

EIT Food Fight Podcast - S3 E12B - SuSea V1.mp3

Lukxmi Balathasan [00:00:06] Welcome to this bonus episode of The Food Fight podcast from EIT Food

Matt Eastland [00:00:11] In these episodes, we want to shine a light on new projects and agri food start-ups and hear about their efforts to fight for a better future. This week, we're handing over to Mark Chryssolouris to tell us about Su Sea, who are preventing food waste by increasing the shelf life of seafood.

Mark Chryssolouris [00:00:35] Hi, my name is Mark Chryssolouris and I'm the CEO at Su Sea. We're part of EIT Foods Rising Food Stars and we're fighting for the future of food because food waste is a very big problem and we're trying to tackle it.

[00:00:53] At Su Sea we deal with food waste and in particular with seafood waste. So seafood is a highly perishable type of food. We waste over 30 percent of its annual production. And what we do at our company is we develop processing technologies that do not utilise any preservatives or heat treatment to increase the shelf life of the seafood. If you increase the shelf life of the seafood, then you can actually reduce food waste at the consumer level, at a retailer level and at a logistics level. Essentially, the core idea behind our technology is dehydration. We just take a little bit of water out of the sea food by essentially immersing the seafood inside a liquid solution. And that solution draws just a little bit of the moisture of the seafood, like something like one percent. But that has a radical effect on the remaining shelf life of the seafood. So, for instance, with sea bass and sea bream, which is a type of seafood that we commonly work, we can actually increase the shelf life of the seafood from seven days to 14 days by just doing that small, small dehydration, and that works at a bacteria level. So the spoilage bacteria are the ones that cause the spoilage. And once we remove that tiny bit of moisture, they grow at a much slower pace and that results in an increased shelf life.

[00:02:32] Foodwaste, already globally, it costs over one trillion dollars. Right now, the global amount of farmland is dropping, so it is becoming more difficult to increase food production and at the same time, we have a growing global population and that population, of course, nowadays is asking for more protein in their diet. Hence, seafood is a very important source of protein right now without technologies that increase shelf life, that reduce food waste. We may run it, not in a dystopian future, but in 20, 10 years ahead into a major hurdle where these sources of protein, which are very valuable and very nutritious, becomes something that is super expensive and available only to the elite. So that's why I think right now at the moment, scaling up these sort of technologies is very good. And it's also, you know, very profitable is very simple the idea behind it, you just have to reduce the water, increase the shelf life and you can make a major impact both on a humanitarian level and at a business level.

[00:03:41] The Su Sea process has a number of benefits. If you apply to the seafood, you cause that small decrease in the available humidity inside the fish tissue, inside the fish fillet, for instance, and that causes all sorts of bacteria to grow at a slower pace. So that means slower spoilage of the seafood. That means increased shelf life. That means decreased seafood waste, but also it means improved quality and safety. So if there is, for instance, a contamination of listeria, which is a very nasty bug that sometimes contaminates seafood and it's rather rather dangerous because it has a very long incubation period of 30 days in the human body. We can actually even reduce the growth rate of that pathogen so we can actually end up making the seafood safer without actually

doing any invasive processing, like pot smoking it or adding any preservatives. It's all just based on that simple idea of reducing the available water content.

[00:04:51] We've worked with EIT Food since the conception of the company in 2018, and they've supported us really since the very beginning by giving us the Innovation Award in late 2018, and now we're really grateful because as part of the EIT Food Aquaculture Call of 2020 with our project Su Sea Pro we can actually even scale up the technology. So they've been supporting us from the prototype phase to a scale up phase.

[00:05:23] Well, I mean, the sky's the limit. As I mentioned, we're talking about a one trillion dollar problem here, and it's only going to increase as we increase food production. So there is a huge market there for innovation, new products, new processes. My particular opinion, of course, it's highly secured, is that we need to actually tackle this problem by decreasing the excess water that sometimes is found in the products. This, of course, is a problem because there are a lot of companies, unfortunately currently that are actually injecting excess water into the food products to increase their weight and increase their revenue. But if we go towards the opposite direction, there is so much money to be made because we increase the quality, we reduce food waste and this is a technology platform. The idea behind our technology is essentially universally applicable. You can do it to any sort of meat, seafood or anything that essentially the excess moisture decreases shelf life. So my hope is that in the future, we use such minimally invasive processes that require no preservatives or other shenanigans, and you just use that simple idea to boost shelf life.

[00:06:40] Consumers are wising up, so transparency is going to be required, and with transparency, you're going to have to eventually declare and explain to people, how are you processing this food? Are you using any preservatives or any other processes? And what are you doing about food waste? Because it is an enormous problem just to give you a number from the Food and Agricultural Organisation studies. If food waste were a country, it would be the third largest emitter of greenhouse gases. There's going to be a time where people are going to pay much more attention to this problem.

Lukxmi Balathanan [00:07:26] Thanks for listening to this bonus episode of The Food Fight podcast

Matt Eastland [00:07:30] to find out more and to learn how you can get involved in the fight for a better food future. Head over to eitfood.eu/podcast and join the conversation via #EITFoodFight on our Twitter channel @EITFood. For more information on Su Sea, head over to susea.co.