

2022-04-13 KiwiTech AIP:

“Investment Opportunities in Foodtech”

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Hall Martin: I'm the founder and CEO of TEN Capital, and today we have a panel on the opportunities in Foodtech. Let's go ahead and bring up the panel, So first up, we have Sarah Bain. Sarah, can you tell us more about yourself and your firm?

Sarah Bain: Happy to. Thanks for having me. I'm Sarah Bain Venture Principal at Techstars. For those of you that may not know, Techstars is a worldwide network that helps entrepreneurs succeed, and we're actually the largest seed stage investor in the world. We have over 2800 portfolio companies and a 63 billion market cap. I've been at Techstars now for just over six years, and I've spent my time running a retail Farm to Fork and sports tech programs, and have also managed a portfolio of a 150 of our alumni companies.

Hall Martin: Great. Thank you. Next up is Carter Williams. Carter, can you tell us about yourself and your firm?

Carter Williams: Hi. I'm Carter Williams, I'm part of the iSelect team. We're a venture firm based in St. Louis. We focus on AgTech and Healthcare in the convergence of how what we eat affects metabolic health. We've invested in about 55 companies, just took Benson Hill public, and are very involved in sort of upstream Ag and data analytics and such around healthcare that helps people improve how they think about their healthcare and improve their nutrition.

Hall Martin: Great, thanks. Next up is Alexander Borschow. Alexander, can you tell us about yourself and your firm?

Alexander Borschow: Good afternoon everyone. Alex Borschow here, cofounder, managing partner of Semillero Partners. We are an early and emerging growth stage venture capital fund with offices in San Juan, Puerto Rico and New York. I cofounded the firm seven years ago, and in the last five years, we've invested in 23 companies across the sustainable food, beverage and Foodtech sectors. We primarily focus on Series _____ companies, but do invest in some later emerging growth stages. We are investors in companies like Imperfect Foods, Farmer's Fridge, Jackfruit Company, Robinhood among others. And it's a pleasure to be here, I've been direct angel investor in Foodtech for the last 10 years.

Hall Martin: Great. Thank you. Next we have Bryan Emerson. Bryan, can you tell us about yourself and your firm.

Bryan Emerson: Sure Hall. Thanks so much. I founded Starlight Capital in 1999 as a vehicle to screen entrepreneurial opportunities that I might want to invest in myself. This has grown to a network of over 30,000 individual investors in the US, and we've placed about 300 million in deals over the years, as noted on our website at starlightcapital.co. Starlight does not have a fund, but it does represent all its various investor interests. And with respect to food we do a lot in early stage agriculture that supports sustainable small scale technologies for food security, whether that be through investments or charitable grants.

Hall Martin: Great. Thank you. So our first question to the panelists today is: what is the main trend in the Foodtech space? Sarah, can you kick us off there with what do you see as the main trend in there so far?

Sarah Bain: Sure. So I can tell you really from a Farm to Fork perspective, or what we're actually really interested. I'd say that we're leaning into the technologies that have a positive impact on the labor markets, robotics, automation, efficiency technologies that make the workforce more effective are probably some of the biggest trends or areas that we're looking at specifically.

Hall Martin: Great. And Carter, what do you see as the main trend here so far?

Carter Williams: There's a large shift to more protein as we sort of see global markets and foreign countries increase the number of people in the middle class is putting demand on the protein chain. So we expect that the food system is going to have to realign for that, and then, at the same time, people want higher quality food, they're more concerned about their health or understanding the connection between health and what they eat. And so, that's putting more demands on transparency and an understanding both from a healthcare standpoint, and from, to a degree, some ESG factors, so people are sort of putting pressure back on the supply chain and challenging it to be more responsible.

Hall Martin: Great, thanks. And Alexander, what do you see as the main trend in the Foodtech space today from where you are?

Alexander Borschow: So one of the biggest trends we're seeing that was really accelerated by the COVID-19 pandemic was the introduction of technology and digitalization of the way we discover and procure food. So COVID really accelerated grocery commerce, where it was languishing in terms of adoption, and you saw over a six to nine-month period, the same amount of growth and adoption in ecommerce for groceries that you saw in the previous five years. So the way consumers are starting to discover food, be it through social media, ordering through an app, that didn't happen really for most Americans five years ago, and now you have a whole new generation, Millennials and Gen Z – Gen Z is going to be the biggest demographic in the US for the next five to 10 years – they predominantly look for shopping and discovering food on social media platforms via Instagram or Facebook or TikTok. So we're seeing a lot of innovation in the models in which consumers are accessing food, the logistics and supply chain technologies improved there for being able to have not only cold supply chain but frozen supply chains for direct consumer brands, launching without having to go to retail brick and mortar. It's really changing the dynamic and these omnichannel brands that have ecommerce, retail, and direct consumer channels are becoming more and more interesting.

Hall Martin: Great. Thank you for that. And Bryan, what's your take on what is the main trend in the Foodtech space today?

Bryan Emerson: Well, we're really focusing on the building blocks of the food industry, and trying to get into things like these sustainable small scale technologies for food security such as biochar to enhance soil, cold weather overwintering of bees for northern climates; better, severe high weather tunnel materials, and more efficient storing transportation and distribution of non-GMO seeds, we think that's going to have a lot of impact for the whole world.

Hall Martin: Great, thanks. My next question to the panel is: what will we see in plant based proteins? Since Carter, you call that out as your main trend, let's start with you, and give us more detail or color around what's going to happen there?

Carter Williams: I think the trend to date has been about clean proteins, non-GMO, less price sensitivity, which sort of was the _____ in the sales of like Beyond. I think what we're now starting to see is a broader array of CPGs, thinking about what plant based proteins are, the emergence of flexitarians, and now the CPGs understand who they are, and they're trying to figure out how to deliver two dinners a week in the plant based protein type of realm, and there's a lot more price sensitivity that will come into the market. And so, what that means in terms of on the input side, that we're going to shift probably from a high end, clean protein sort of environment to an environment where people are saying, we're going to have 10x demand, and there's going to be less sensitivity on clean and more sensitivity on price, and that that will be a global pressure. And so, what that also means is people don't, if it _____ non-GMO, maybe they'll get frustrated, but they may not just ask. And so, if we can open up that market and get plant based proteins to be 10%, 20% lower than animal based protein, so I think we're going to see an exponential growth occur. And then also on the CPG side, I think we're starting to see some variations where you're going to start seeing like an ingredient on or somebody that's not an expected player, but has a lot of involvement in the system, where they're going to really, if you listen to their cue calls, they talk more and more about this, so I think the normal everyday CPGs are going to make this a mainstay part of their product line, which will create a lot of pressure on any new entrants in the new CPG oriented plant based meats, which is you can sort of see in Beyond's price is that they really don't have an argument on the plant based meat side. They don't have an argument that justifies a \$180 per share price, and that the CPG is that channel power, so I think we are going to see a little bit of a battle there that may affect the ability to bring new startups forward on the direct to consumer side and the plant based meat side.

Hall Martin: Great. And Sarah, what do you see coming up in the plant based protein space?

Sarah Bain: I completely agree with Carter on the pricing, we're definitely going to see a shift there. But for us, in our particular program, I wouldn't say that the new brands that are on the rise are something that we're definitely interested. However, with that being said, I think it's going to continue to grow and the market is going to – there's going to be so much more in there, I think one of the biggest things that we really look at is the infrastructure and the mediums for the plant base and the protein base for the alternative space. And so, really looking at companies that are making up all of this, but also looking deeply at what the infrastructure is for these particular alternative sources.

Hall Martin: Great. Alexander, what's your take on the plant based space?

Alexander Borschow: So where we are right now, we're kind of on like version maybe 1.5 of innovation and plant based proteins or plant based alternatives. And when you think about that early inning of innovations, I don't think anybody can really argue that the Beyond Burger, Impossible Burger was healthier or better for you in the first wave of innovation. But what I'm excited about, what I see is coming about is the, to Carter's point about shifting towards more transparency, cleaner ingredients, the next wave of innovation is going to be more about not highly processed plant based alternatives, but more whole plant based alternatives. So we made an investment in the Jackfruit Company two years ago, and their innovation really is about using whole real plants to make alternatives that are healthier and better for humans, because they're high in fiber and not processed ingredients. I think that's going to be an interesting next evolution of the plant based alternative space, and the other one that is also going to be impacting the alternative protein space is not just plant based, but also when the _____ is cultivated meat, which is producing meat in a lab, as opposed to using animals, that cost for that scale is going to come down, and I think that's going to become a bigger part of the alternative meat space, if you want to call it that. But alongside, plant base is going to continue to grow, but I think it's going to be shifting towards more whole plant based, cleaner ingredients, healthier products.

Hall Martin: Great, thank you. Next question to the panel is: what's the outlook on vertical farming, how are we going to see that rollout? Sarah, you want to kick that off for us?

Sarah Bain: Sure. Sorry. It took me a minute to get off mute. Yeah, so this might be a bit of a protagonist view or a controversial view – I truthfully have a hard time understanding who really is going to win in this space, it's incredibly fragmented, the unit economics are hard, it'll be high because you're replacing the sun essentially. Interestingly, we haven't invested in it through Farm to Fork, but they do truly believe that it is part of the agricultural industry, but I'm just not sure if there will be one very large venture backed farm. I believe in vertical farming, I believe in indoor farming, I just can't fully wrap my head around if there will be one that totally wins the space.

Hall Martin: Great. And Carter, what's your take on vertical farming, where do you think it's going to go?

Carter Williams: There'll be some version of it, I think that the innovation needs to come in areas like project finance. There are still many of these, it is very much, you know, some businesses are early bird catches the worm and owns the market, others are the second mouse gets the cheese. And so, I think that there are the people who come next can build cheaper, better infrastructure off the backs of the people that came before them. That said, there are some macro forces around. If someone could figure out how to do good asset based lending or project finance in the space, I think it would lower the cost of capital operation, it won't solve the unit cost problem, but would fix some of their capital structure issues that they're having. And then, I think that the other big

elephant in the room is food security, which certainly we sort of have been thinking about with Ukraine, but if on a global basis, if you're in the Middle East, and you get your fresh produce from the Sudan, and you have China coming in, basically consuming everything out of the Sudan, and you're going to get squeezed out, there's a lot of geopolitical pressure of moving things around. And so, I think that the indoor farming from a food security standpoint might be the next major generation of innovation to come, and then, it may over time – and within the US, I think that it's not as important an opportunity, but in other countries that have tighter borders and are competing with China for fresh fruit supply, you're going to see a lot _____ we're seeing movement. You can see it in some of the financings recently and where the bigger operators are focused.

Hall Martin: Great. Thanks. And Alexander, what's your take on vertical farming, how do you see it rolling out?

Alexander Borschow: So we've looked at the indoor CEA, controlled environment agriculture vertical farming space extensively over the last five years and visited many due diligence, many different startups in the space. There's been quite a bit of hype in frothiness around some of the big announcements like Plenty raising 20 million from SoftBank Vision Fund, BrightFarms was acquired last year, Gotham Greens just raising \$100 million Series E. Honestly, we've avoided investing with passive investing on any of these companies in this space. Iron Ox is doing – they did a big raise last year focusing on automation. I think like every time we've looked at the economics, the unit economics and the business model, it just never really clicked and made sense to us, but now you're starting to see companies that have gone through somewhere between five and 10 years of R&D and continuous improvement and done with quite a bit of capital, but starting to get to models that do make sense. So when you have a greenhouse, it's co-located basically with a distribution center for a grocery retailer in a region, you really can cut down on transportation costs, and actually improve freshness and quality products, but the product set is limited. Right? You're not going to be feeding the world with lettuce. There is a huge market for lettuce and leafy greens in the US, at least, that's like a \$4 billion market, so it's not insignificant, but going from there to producing other things like tomatoes or vegetables, it's not going to solve all the problems, but it's definitely going to be a model that will be effective for certain products. And one thing that we see is consumers are willing to pay more for local products, so one of the things that vertical farming does offer is that co-location, closer to urban areas, closer to the consumer, it allows the marketing of local products, and it gives a retailer a more secure supply chain, less transportation, logistics costs, which, as we've all seen, have become a bigger, bigger issue, especially with 96% of the lettuce in the US produced basically in California and partly in Arizona. So when you have huge transportation costs, logistics issues with transportation across the US, we can have a greenhouse located within an hour's drive of New York City and Boston and Philadelphia, that's a big shift in the availability of fresher, healthier produce. So it's going to have its place, I don't think it's going to be publicly traded companies like AppHarvest. They haven't really proven that

they can actually produce any real commercial scales, but I think it's going to be over the next five to seven years, you're going to see several leaders and winners in this space _____ going to be just one.

Hall Martin: Great. And Bryan, what's your take on vertical farming, where do you think it's going to go?

Bryan Emerson: Well, I want to echo some of Alexander's great points. We have invested in a very small scale vertical farm. It works on kind of the individual level, but when you look at the inputs, light, water, shelter with heat, nutrients, distribution, we haven't found anything that looks like it'll scale and be profitable yet. I know there are some models out there that are coming online, and we think it will be important going forward to feed everyone, but we haven't found anything yet that we put money in on a larger scale. So we're looking.

Hall Martin: Great. So our next question is: what role will the zero food waste initiative take, and Carter, can you kick us off there, and tell us more about where you think that fits in the startup landscape right now?

Carter Williams: Well, so I started my career with lean manufacturing back and 1989-1990 in the aircraft industry, and the concept that I was taught around zero waste is less about how do you use waste, and how do you eliminate it, and I think that at that point, you start really getting into the fundamental engineering of the supply chain and cleaning it up. So we do pay attention to it, we have been looking at use of waste versus reduction of waste. I would say that we've seen a lot of use of waste type products, but we're really only interested in terms of our investment strategy, in terms of fundamentally eliminating the creation of waste. When we did that in manufacturing, we typically saw orders of magnitude change in production efficiency. When we looked at recovery of waste, we typically saw incremental gains, so we're focused about that in the genetics and upstream in the supply chain and some of the ordering systems, preservation and areas like that to look at better mechanisms.

Hall Martin: Great, thanks. Alexander, where do you see zero food waste playing in the current market?

Alexander Borschow: Yeah, I actually am really excited about the movement to eliminate and reduce food waste. Now, food waste happens at several different steps in the value chain. There's food waste at the production farm level, there's food waste at the distribution level, and then there's food waste at the retail and the home level. So if we can, you know, you can separate each of those and create opportunities for reducing waste in that space, but from an environmental impact perspective, consumers are very interested in reducing food waste. Nobody likes wasting products. I was an angel investor in Imperfect Foods, and then, my _____ ended up investing as well. They're a great example of a company that their mission was to set out to reduce food waste,

and just to demonstrate how much consumers were aligned with their mission, they grew dramatically over the first four years, because of consumers who liked the idea that they were taking all the fruits, vegetables, food that was otherwise going to be thrown out or wasted at the farm level, because it wasn't optically perfect, had the perfect shape or had little scratch on it, was perfectly nutritious and healthy, and being able to buy it 30 to 50% discount to retail. So consumers are very interested in initiatives to reduce food waste, and are willing to pay for products that, quote-unquote, otherwise would be wasted. To Carter's point, there's a lot of opportunities in the foodservice industry to reduce waste, and both retail and foodservice, I mean, one of the reasons that the advent, the development of hot lunch counters or bars and within grocery stores became so popular is because it was a great way for them to reduce their food waste. Typically, groceries or anything that's fresh or perishable, you have a 5-7% waste; if you can now turn that into, okay, well, it's going to be expiring in four or five days, you can take that and turn that into an entree or salad and have that in your salad bar within the store, it's a great initiative to reduce food waste as well. So the big question with food waste is how do you measure, how do we get an idea, a handle around how much is being wasted, and what part and create easy initiatives and incentives to reduce that waste. So we looked at companies like Spoiler Alert is a great company that helps reduce food waste at a more industry, large scale commercial level, and there's lots of initiatives that are more the Uber model where you have a sharing economy, where individual stores, coffee shops have excess product, they're like, hey, this is going to go bad tomorrow, I'm willing to sell at 50% discount to anybody right now just to clear the inventory, how do I create access to consumers through an application, there's many apps that popped up. So food waste initiative, food waste reduction initiatives are definitely very interesting and evolving. There's a lot of capital that's being thrown behind that, both in Europe and the US, and I'm excited to see what the impact to those is over the next decade.

Hall Martin: Great. And Bryan, what's your take on zero food waste initiative, where do you think it's going to play out?

Bryan Emerson: Well, to give the example of the vertical farm we talked about earlier, we implemented a zero food waste in that to make sure that as much food was available as possible to humans than animals and then compost, and I think that any business plan going forward in food is going to need to take that into account to help increase sustainability and profitability, so something every entrepreneur should look out in the field.

Hall Martin: So our next question is: what is the impact of Foodtech on plastic packaging, where do we see plastic packaging going? Sarah, what's your take there?

Sarah Bain: Yeah, so I think the big challenge in this space is plastic packaging, and it has really dramatic effects on shelf stability, food safety, and it's hard to actually remove that plastic from those things, from the things that they're packaging, because there are real

challenges like water barrier hurdles, and protecting the food can be much more difficult with that. I think the early adopters are specifically some of the ones that are really shaking it up. One company that we invested in was, it's called Dispatch Goods, and so, they're removing the single use packaging by using reusable containers, they're creating the fourth bin. Some of the biggest areas that they've found success in is freezer packs, and so, actually picking up freezer packs and reusing those through restaurants, through other vendors and customers that they have. I also think we've seen a lot of companies that are focused on manufacturing and actually wrapping the pallets, where the water barrier doesn't need to be as great or have the same level of regulatory approvals that the packaging may for food and other food safety.

Hall Martin: Okay, and Alexander, what do you think is going to happen to the plastic packaging industry as Foodtech takes off?

Alexander Borschow: Yeah, so I'll tell you what I want to happen, and I'll tell you what I think might happen. So my vision for the future is that plastic packaging will no longer exist, everything that – all packaging will be completely biodegradable, because, to be honest, changing human behavior to try to get recycling up to the levels that we need to make it effective is unrealistic. So I think that the only solution and the types of solutions we're looking to invest in are those which create completely biodegradable packaging, and there's some really interesting startups in the space like, for example, Loliware – Loliware has been working for the last five-six years in R&D to take seaweed and convert, basically replace the plastic pallets that are used _____ plastic packaging materials today, and replace them with something that's completely seaweed based and biodegradable. That's game changing. Right? So the point is, our global infrastructure for packaging, and talking about hundreds of billions of dollars of investment in production facilities and supply chains, that's just not going to disappear. There's too much industrial inertia to have that disappear. A solution that basically replaces the input, the feed material in that system for something that works equivalently they're not going to change their machines, but is based on something that is, A, plant based, nature based, and, B, biodegradable, that's what's really interesting. So I think you're going to see a lot of innovation around completely biodegradable packaging, compostable as well, but compostable requires usually like a commercial compost facilities, not really you just throw in your garbage and it will compost. And I saw someone talking about, asking about _____ mentioned seaweed or mushroom based packaging, Micro Technologies is a great example as well. We invested in a seaweed company in Maine called Flexi Farms. But the circular economy aspect of this is also really important, because 100 years ago, everything was a circular economy, we didn't throw out anything close to what we throw out today. Right? It was designed to be reused. Now, if we return to that concept, we invested in a landfill gas renewable energy project, because humans are not going to stop throwing out, creating waste, right? So the packaging is going to go to landfills, is going to produce methane or biogas, it has to be capturing of that, and not letting it get into the atmosphere, so that we can actually start reducing, and eventually, get to net zero carbon. Packaging is going to be a big part of that, so it has to be

solutions that are completely biodegradable, and break down in a matter of months, not decades or hundreds of years.

Hall Martin: Great. Thanks. And Bryan, what's your take on that question?

Bryan Emerson: Well, I think we all know what plastics have done to the environment, and we've looked at solutions that are dealing with recycled cardboard paper for packaging, starch, bamboo, and others, and those could be converted into power, heat, compost, and things, so we've seen several promising companies that are looking at these, but we haven't invested into yet. So I think that's going to be very important for sustainability going forward as the other panelists have mentioned.

Hall Martin: Great. And my last question is, where do investors find good opportunities for Foodtech startups, are these coming out of the university, are they spent outside of corporate R&D, or are they two guys in a garage that just have a great idea, where do you think the source is going to come from, Sarah, what's your take?

Sarah Bain: Well, shameless plug here, I'm going to say for a lot of later stage investors, we at Techstars have an incredible portfolio, and we're also going to have another great group of 12 companies coming through this program. But we're specifically finding some of those companies from the universities, like you said, there are great organizations such as Food Hack where we see a lot of them, other accelerators, other incubators, and having a wonderful referral network of mentors and investors internally at Techstars, we see a lot of those companies and get access to a lot of them.

Hall Martin: Great, thanks. And Carter, what do you think the source is going to come from?

Carter Williams: Well, the bulk of our investments are in companies led by people that are 35 to 45 years old, and that's the, when you look at venture investing, the bulk of successful ventures falls in that camp, but it also depends on what part of the sector you're in. In our particular case, we're a bit more upstream, and so, a lot of institutional knowledge is beneficial in terms of how those systems operate, whereas I think on some of the consumer side, there are aspects that are more flexible, and will shift. I think that from an investor's standpoint, the most important thing is our network. We have not invested much in anything coming out of academia except on the healthcare side, and young or off the street startups, we haven't done very much or much from the incubators, but that's also because of the nature of the kinds of companies we're investing in. So I think it depends on what kind of, who you are and what you are in sort of the ecosystem probably, you wander through different groups of investors and understand _____.

Hall Martin: Great. Alexander, what's your take, where do you think the Foodtech startups will be coming from?

Alexander Borschow: So we've seen an incredible amount of innovation in Foodtech coming from Israel. We've been actively looking at several accelerator programs there for a number of years, and really amazed both from AgTech and Foodtech robotics, biotech for food, so we see that as an incredible hub of innovation there. Same way, I went to MIT, and MIT has _____ picked up its entrepreneurial ecosystem focus on Foodtech, so we see a lot of _____ universities spurring investment in innovation, into startups, and innovation in those spaces. So I think those academic institutions that have technology and have an interest in innovating in food see that as a solution for some of the UN Sustainable Development Goals as you're going to see innovation coming from there. And then, the mother of all innovation really is need, right? So when you see countries like China, they are looking for ways to feed their population sustainably, that's, I think, in the most recent five-year plan they mentioned that they were going to be allocating significant amount of capital to specifically cultivated meat in Foodtech. So those are the signals that, when top down mandates for investment in technology and innovation in food, those are where you see also innovation being good.

Hall Martin: Great. And Bryan, what's your take, where do you think the source of good startups in Foodtech are going to come from?

Bryan Emerson: Well, we found some interesting candidates from the US Department of Agricultural grant recipients. Also, people have taken state funding, they're solving local problems, and to the extent that those can be scaled up, we're seeing some – we're having some really good discussions there.

Hall Martin: Well, I want to thank everybody. That's at the end of our time here for the panel. I want to thank our panelists for their time, their wisdom, and their experience that they shared with us today.