



Season Two: Episode One
Earth: Mushrooms and the Future of Meat
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Luke Charest: What do you wanna do?

Tyler Huggins: Let's see, we need to get you suited up.

Luke: It's a bouffant hood.

Tyler: I think it's uh, if you have a beard.

Luke: Oh, okay.

Tyler: Actually--

Luke: Do you want me to get one on there?

Tyler: Yeah, they're going to make you.

Luke: Here we go.

Luke: I'm Luke Charest, and I'm in Boulder, Colorado. I'm about to enter a food processing facility with my production team, so we're suiting up. There are white lab coats, hard hats, and hair covers.

Tyler: You know, we need to be a good example of food safety.

[THEME MUSIC]

Luke: Beyond the numbers, analysis, and financial returns, investing has a real impact on people and our planet. For a long time, doing “good” for the earth was mostly the purview of conservation or philanthropic groups -- but as we become more observant of our interactions with nature, doing good for the environment is just good business, and a great strategy for investors. It turns out that what we collectively eat everyday can play a big role in solving some of the biggest challenges our environment faces. When it comes to growing animals for food, it isn’t just about the animal itself but also about generating animal feed and industrial ingredients for processed food products. And that’s why we’re here, at a company called Meati Foods, that’s part of a growing wave of food startups looking to create food that is better for humans and the environment.

We’re about to literally taste a creative solution to growing more food using less of one of our most precious resources: land.

Luke: Looks like you've got this little fridge with like a little window hole that looks like it's growing stuff. You've got all these other machines wires going all over the place. It looks like an incredibly scientific operation happening here.

Tyler: This is a room full of bioreactors, where we can run experiments at a smaller scale and test out processing parameters to see if we can improve production and quality.

Luke: Around me, there's equipment like what you'd see at a brewery, but instead of beer, here at Meati Foods they grow mycelium, the muscular root structure of mushrooms. It's mushrooms roots in a nutshell, and when put through Meati's proprietary process, can taste and feel like steak, chicken, and even cold cuts, all without animal meat. Seriously, I tried it.

Tyler: Yeah, you can kind of see some of the mycelium right there, that white.

Luke: From Cambridge Associates, this is Unseen Upside. And this season we’re exploring investments that are protecting or enhancing life on our planet and talking to the people making it happen.

ACT 1

[Bison Sounds]

Tyler: It's very rare that you'll just sit there and watch cows and be in awe of them, with bison, I never get tired of just driving up next to him and just spending some time with them. The bulls are just enormous. Just blows your mind having a land mammal of that size.

Luke: This is Tyler Huggins.

Tyler: My dad has a bison operation in the Sandhills of Nebraska. Man, talk about hard work, it's just a 24 hour sort of operation with not only equipment, but there's always something to work on with fencing and taking care of nearly 3000 acres of land, and then maintaining a business on top of that. So I have a really high admiration for farmers and ranchers and the agricultural system.

Luke: Tyler is the CEO and co-founder of Meati foods — a company on a mission to produce a “nutrient-rich meat alternative that's better for people and the planet.”

You might have already heard about meat alternatives.

Commercial 2: Introducing Impossible Burger. It's meat made from plants.

Commercial 3: Introducing Beyond Fried Chicken. Only at KFC.

Luke: And I gotta admit, I get lost when I see so many options in the market. So before we dive too deep into Meati, we asked an expert to help us better understand this landscape.

Sam Kass: There's basically two main categories outside of like a Meati approach.

Luke: Sam Kass is a chef and a partner at Acre Ventures, a mission-driven venture capital firm that invests in companies that are committed to changing our food systems. Sam was the White House Chef and Senior Policy Advisor for Nutrition for President Barack Obama.

Sam: You have mostly just really processed versions of either pea protein or soy protein. Your experience with them tends to be much more like a current, fast food, like chicken nugget experience. You know, it's just basically taking those proteins and adding a bunch of other stuff to them to try to get them to mimic an experience like a chicken or a burger. And they make up the lion's share of investments so far that I've seen.

Luke: What Tyler and his team are doing at Meati goes a step further, but before we tell you how they do it, let's consider why they do it.

You know, you spend time in your childhood on a farm. And so I'm curious, like, what does your family think of this? You know, there's people whose whole job is raising and making animal proteins. What did they think of that?

Tyler: You know, as soon as you sit down and you just talk about it and say, hey, this is super nutritious, cooks just like a beef steak or a chicken breast. I mean, it's kind of a no-brainer. I think the challenge is when you start saying, hey, this was created to put you out of business. That's when you start having people digging some trenches and really becoming defensive.

My viewpoint on this is, listen, there are definitely some bad agricultural practices and mistreatment of the land and mistreatment of animals that we have to stop, but there's not some evil conspiracy that people are trying to hurt animals and trying to destroy the land. These are just economic forces in order to push down the cost to the point where it's affordable to everybody. The big lesson I learned from growing up is just the scale that's required to produce the amount of protein that we need. The amount of resources and land and effort that's required to satisfy that is just at a scale that's really hard to comprehend. And so if we're really going to have an impact you've got to think big.

Luke: As of March 2022, the world population is 7.9 billion. And we all gotta eat! By 2050 that number is expected to reach 10 billion. So that's a lot of food...and a lot of protein. And it turns out that around 50% of the world's habitable land is already being used for agriculture which is one of the biggest drivers of greenhouse gas emissions globally.

Sam: And, animal agriculture is the number one driver of that increased footprint.

Luke: That's Sam Kass again. And he says that feeding the animals that we consume is at the root of a lot of the challenges we face.

Sam: I mean, it takes 70% of the world's fresh water, huge percentage of that is directed towards producing the feed and then raising the animals themselves. It is the number one driver of deforestation, and land use change. The fertilizer applications are having a devastating impact on our waterways and our fisheries.

The list goes on and on and, you know, not only do I think we can mitigate the damage that the system is doing, I actually think we can transform the system into a center of change and to be sequestering huge amounts of carbon. There's so much complexity that goes into these systems, and we have to work our way down and then come up with alternatives.

Luke: Restaurateur, author, podcaster, and TV personality David Chang has invested in the space for years. He was one of the first celebrity chefs to serve Impossible's plant-based products at his restaurants. He says that we are still in the early days of

alternative proteins, and he thinks the story is not too different from the early days of video games.

[Atari Sounds]

David Chang: It's always investing in things like Atari. You know, I remember being a kid playing Atari with my brothers in the early eighties, and look at video games now.

When the video game thing happened, people thought that it was the most cutting-edge thing in the world. It was also misunderstood by the older generation. *What is this? What a waste of time.* So a lot of the patterns for video games, I think are pretty similar to where we are with meat alternatives.

You have the Impossibles, the Beyonds, there's so many now. So that's going to continue. And like Atari, Atari spawned Sega Genesis, Nintendo. You have X-Box, you have all of these things, and you can play on your PC computer. It's this entire genre of things, and it's about choice. Some people choose to back one thing versus the other. Some people have both.

Luke: So I've got to imagine at this stage of the game you've tasted everything that's out there in terms of these alternative meats, or close to. And obviously as a chef, you're going to have a different perspective relative to like a classic Silicon valley venture capitalist. So how good is this stuff today?

David: Some are better than others, but I think as a sort of universe in and of itself, is like so much better than it was. The thing is this isn't going to replace veggie patties or have vegetarians eat.

I don't think that's the case, especially with Meati. It's not trying to get rid of animal husbandry. What it's trying to do is get rid of the crappy weight, commodity beef, and the crappy ways that people do consume beef, and the lack of protein -- like all of these things that need to be addressed.

It can do it in a way where people feel like they have choice. It's a lot like, you know, in my refrigerator right now, if you open it up, you're going to see soy milk, almond milk, 2% milk, and whole milk for my kid.

It doesn't mean that I'm against dairy. But I like the flavor, I like having that optionality. I like something in my coffee, I like something else in my cereal. I think having that choice is a huge thing.

I think personally, some of this is an inevitability. Do I think it will be as good as the real thing? I think so, but are we at a point where we have virtual reality that mimics actual

reality? You know, like, it's getting there and that's sort of where we're at. In 2050, we will have a protein shortage in this country -- and not this country, the world. It's a fact. So what are you going to do about it? So whether people want to eat it or not, they will have no choice.

Luke: Besides investors, researchers and policymakers are thinking about this. The U.N.'s Intergovernmental Panel on Climate Change (or IPCC) published a special report saying that "changing diets towards a lower share of animal-sourced food ... reduces the need to raise livestock and changes crop production from animal feed to human food."

Sam: The Beyonds and Impossibles of the world, you know, I'm a huge fan of what they've done.

Luke: Sam Kass again.

Sam: They have created a huge amount of awareness in society that this is an issue to begin with, that there's other ways of thinking about it, and have made kind of plant-based in the context of meat, you know, a real cultural breakthrough in the minds of everyday eaters. That's a big deal, and I like really tip my hat to them. Now, when I've been asked about what I think about those companies in terms of what they produce, I mean, I'm conflicted. The products just aren't very good for you.

It's a hyper-processed product. It's full of saturated fat and sodium. I say this is just my honest take, like I'm a fan, and anybody listening who invested, I think you did a great job investing. It was a good call, if you think like the bean burger was first, this is the sort of second generation, and I think has played a huge role.

But I think from a health perspective, you know, it falls short of what we should be feeding people. And I think there's questions around just how much more sustainable these products are. And I think depending on which one we're talking about, some have a better story to tell than others.

I've been waiting for an alternative source of protein that had no trade-offs, that had really high nutrient density, that could be manufactured and produced in a way that was affordable. Not only from the financial investor side, but also because you could then get these kinds of products out to the people who really need it. Not just in United States, but globally. And something that tastes great because if it doesn't taste great, it's not going to work. You know, you have to remember, this is where having real experience in food counts is that, people got to eat this stuff. It's got to fit with their cultural values. It's got to feel like it fits their identity.

Luke: Sam and the team at Acre Ventures are constantly surveying the market for new products, and Meati immediately caught their attention.

Sam: I have seen every single protein company, I think, from the early days, including the big winners, but had never found something that really got me going, quite frankly. And, when my partner sent the nutrition facts panel over, we literally had our tickets booked, like within an hour, we went the next day.

Luke: Now I assume by nutrition facts panels, you're talking about that stuff we see on the side of boxes and food, and on labels that we see every day when we're buying things.

Sam: Yeah, I personally helped lead the redesign of the nutrition facts panel itself that's on every package. I mean it's an FDA effort but I helped to lead that from the White House vantage point, and I helped on all the nutrition standards for schools. So look, I've looked at thousands of nutrition facts panels, and I have never seen a product that's healthier than Meati. Period. And that was the differentiator, it was like a nutrition facts panel that was too good to be true, but I mean, it's true.

Luke: In fact, Meati received a score of 1 from the protein digestibility-corrected amino acid score, which is the method that the U.N.'s Food and Agriculture Organization prefers for measuring the protein value in human nutrition. Other foods like eggs, soy, and whey have the same score.

Sam: And then the thing that got us all the way all in, was the ability to manufacture it, you know, at an incredibly low price. And, most importantly, it was absolutely delicious.

[SCENE CHANGE]

Luke: CEO Tyler Huggins says the company is in the process of building what they call a "mega ranch." A 140,000 square foot facility where they will be able to produce nearly 50 million pounds of product annually. And if you are curious, that's the same yearly meat equivalent as 101,000 cows!

Tyler: And that's a drop in the bucket. you know. Chipotle would take half of that.

Luke: Oh my goodness.

These days, Meati operates from its 25,000 square foot plant in Boulder, which can produce around 200,000 pounds annually. So, my team and I went to visit and tried some of their products!

Tyler: Got a little appetizers for you all.

Brittany Thurman: Awesome.

Tyler: And some water.

Luke: Thank you so much.

Brittany: Thank you.

Luke: Okay, so this is the Turkey-inspired cold cut. And then this one we have --

Tyler: And our classic, breaded, Meati Crispy Cutlet --

Luke: It looks like a gorgeous turkey sandwich you'd get at a nice high-end deli. The bread is perfectly toasted. We've got some cheese on there, some nice drizzle of different sauces, some arugula. My mouth is kind of watering, I just want to jump in.

Brittany: I know.

Tyler: Please do, yeah.

Luke: This is so exciting! Okay. We're going for fried chicken sandwich crunch here.

Oh my god. Oh my goodness. That's outstanding.

Brittany: Oh my god. And you're telling me this is healthy? I love it!

Luke: That's my colleague Brittany Thurman.

What's harder to get, taste or like texture and mouthfeel?

Tyler: Texture is really, really difficult. With mycelium in particular, is it has that long grains texture. And because it is so nutrient dense, you don't need to process it any more.

You know, with pea and soy, you have to essentially boil it and use some caustic solution to pull out all the protein and concentrate it. So that's at a high enough concentration that will match animal-based meat. Well, we have that inherent in it, so we can use it as a whole food, unprocessed.

Brittany: I cannot stop eating this.

Luke: It just feels and looks so much like the, I don't know, the fibers of chicken, it's fascinating.

Tyler: For people who are vegans or vegetarians cause they don't like animal-based meat, this isn't the product for them.

Luke: It's definitely a paradigm shift for people.

Brittany: Yes, totally.

Luke: The Meati Crispy Cutlet without the breading is 95% mycelium. According to its nutritional facts, a serving contains 35% of your daily protein, it's low in fat, gluten-free, has zero cholesterol and sugar, and it contains calcium and iron, and a bunch of other minerals.

Tyler: It's been years in the making. There was no cookbook or recipes on how to do this. So we had to figure it all out.

Luke: I have to admit, it is a little disorienting eating Meati's products, as it certainly doesn't taste anything like mushrooms, and it tastes and feels exactly like real chicken. You also don't feel heavy afterward.

Tyler: You know, the assumption was that the mass majority of people, if they're going to switch from a food source that they've had for their whole life, that we've been consuming for hundreds of years, it had to be better.

We see that with you know, a Tesla, right? I mean, it's just an awesome car. Oh, and then it happens to be electric. And that's what we're trying to do with Meati as well. Like, wow, this is fricking delicious. Oh, and it happens to be better for me? That's how you have the biggest benefit.

Luke: Tyler has spent a lot of time in the forest studying microorganisms and ecosystems. He started to think more about all the mushrooms he was seeing.

Tyler: The part that we all see is the mushroom cap itself, and, with fantastic fungi and all this, but underneath the soil is this thread-like microscopic fiber that actually composes the bulk of the mushroom itself.

Luke: Tyler is describing mycelium. As it grows, the mycelium assembles a network of fine, long, white microscopic fibers.

Tyler: It's actually kind of the root structure. Some mycelium produces mushrooms, some don't, but it's present in every square inch of the soil, miles and miles of it. And so it's always been there, but it's just you know, we didn't really understand how to actually grow it on its own. When I started seeing microscopic photos of it, that was real sci-fi stuff. If you could actually control it, you would have this self-assembling material. That's

essentially what it is. It's like self-assembling fibrous strands, but it's controlling that and guiding it that is so unique, and also very difficult.

Luke: Going from mushroom roots to products that taste and feel like meat requires a lot of investment and a lot of time. And the potential of mycelium actually goes beyond that.

Tyler: It's fun to see that you know, there's a couple other startups right now using mycelium for leather and insulation and building materials. We all kind of like started recognizing this capability at the same time.

I said, what else can we do with this? This is amazing technology. Can we control this and turn this into a manufacturing process? Or we can produce a variety of different materials. And that's where I met Justin, my co-founder.

Luke: Tyler and Justin Whiteley met while working on their PhDs at the University of Colorado, Boulder. Tyler in environmental engineering and Justin in material science.

Tyler: You know, we weren't in academia to become academics. We were in academia to learn how to develop advanced technologies and ultimately we wanted to commercialize them. So it was my background in biology and manipulating microbes, and then Justin's background and material scientists. How do you actually characterize this material and what properties do we actually want? It was really that combination that kickstarted this thing.

And ultimately, having my background in food and growing up in a bison ranch, understanding all those things was a really easy shift for us to say like, hey, can we actually grow meat with this? And because we understood, you know, the properties of mycelium at the microscopic level, it was actually pretty easy for us to pivot into mimicking animal-based meat structure. And then we started saying, okay, if we can do that, it's got to be nutritious though.

Luke: There are a couple of things about Meati's particular mycelium that makes it stand out. It is inherently high in protein and fiber, and it grows really fast.

Tyler: It can double its biomass in under two hours. Right now, we're at what we call a pilot ranch. This is an industrial size facility in all regards, but still to us, it's a demonstration of, can we do this at scale.

At this point, we can produce the meat equivalent of a cow overnight and we can just run this thing 24 hours a day. Now the next facility, it'll be up and operational later this year, you know, we're going to 10x that, and we can get to the point where we're producing the meat equivalent of 500 cows every hour, hour after hour. There's just the efficiency is unmatched.

Luke: Now it begs the question, like, how efficient are cows, because the way you're saying this, it sounds like they're not probably the most efficient protein, per se.

Tyler: Yeah. I mean, they're just producing a lot of other things. If you look at nature as sort of, tools in a tool shed, cows are producing hooves and fur and eyes and these complex brains and all these other things that, you know, the grass they're consuming is going to these other properties. That's the beauty of mycelium, is it does one thing, and that's produces mycelium.

Luke: At the Meati plant, the production system was modeled off brewing beer and the dairy industry.

Do you have to like custom build anything, or can you leverage a lot of --

Tyler: This is all off the shelf equipment we've taken from beer brewing and cheesemaking and breadmaking and animal meat processing. And we put it all together in a very unique, novel way.

Luke: The process takes place in different rooms of the facility. It looks like the combination of a highly advanced scientific lab, a startup tech company, and a brewery all in one.

Alright, let's start with like, what are we looking at? There's pipes, there's huge metal tanks, what is all this?

Tyler: So, what this is right here is our mycelium cultivation system. Essentially, we want to provide the mycelium the right temperature, the right amount of air, the right nutrients, the right environmental conditions in order to maximize the attributes that are best for producing whole cuts of meat.

Luke: When it comes out, like, what form, is it all liquid? Is it like --

Tyler: It kind of looks like applesauce, but microscopically it's these little strands growing in all three dimensions.

Luke: Okay.

Tyler: And here we start off with what we call the seed. Because we seed this reactor, so we just want to get our mycelium, get it growing, get it going, get it revved up. And basically, you know what the microbiologists will say, exponential growth phase. So it's at its peak performance. We want it ready to grow super fast, and then we throw it into this tank, and it explodes.

Luke: Is it a bad analogy to say it's kind of like the seed is kind of like sourdough starter. Like is it similar?

Tyler: Absolutely, yeah, it's very similar.

Luke: The Mycelium growing at the Meati plant feeds on organic cane sugar. And it's capable of producing vitamins and minerals from this energy source.

So all it eats is sugar?

Tyler: All it eats is sugar.

Luke: That's simple! Man!

Tyler says that just like at a brewery or a wine vineyard, the team at Meati is always testing the product to make sure it's ready to go.

Tyler: There's a, there's a lot of science, but there's a lot of art too, that we've developed.

Luke: Tyler and his team have refined a platform that allows them to create many different products from the same mycelium cultivation process and the same equipment. Back at the tasting table, he talks about the products Meati is commercializing. They have the naked whole cuts inspired by chicken and beef.

Tyler: And then we'll do variations of those: strips, cubes, different flavors, marinated -- people are always looking for convenience. So anything that you can do ahead of time to make the cooking easier, it seems that people are really excited about, and then likely the cold cuts -- there's just nothing else out there like it. But from there I mean, we could do pork, we could do fish. So we'll just have to see what the market wants.

Luke: And that flexibility is an interesting idea for chefs like David.

David: Instead of saying Meati is like Atari, Meati is sort of like, the early versions of like MS-DOS, right? Like, you can program things on top of it. It's more like a set of Legos.

Luke: And Sam Kass.

Sam: The mycelium is a very neutral flavor profile. Like, I think the best analogy is sort of like a canvas for an artist to paint on. It's very neutral. It's got a little umami in the background, but you can make it taste however you want it to taste. So, from a chef's perspective, that's very exciting.

David: It can become anything. We can change the shape, the texture, all of these things are going to evolve, and it's malleable. So, you can plug that in as, chicken cutlet itself or a slice of deli meat, jerky, something that's a tenderloin or something that's shredded or something that's like a block of tofu or chicken nuggets. So that was what was extremely compelling to me, is if you can understand those building blocks, this can go so much further than the competitors.

Luke: Right now, Meati products are available only in a few restaurants in Colorado, and from time to time on their website. But be aware, they sell out super fast!

[SCENE CHANGE]

David: You know, now that I'm a father, you sometimes play lip service about the environment, but now it's like, wait a second. Like, this is actually a real thing. It's happening.

Luke: David recently had his second son. And he's become more aware of the future of our food systems and thinks we are running out of ways to grow chickens, pork, and beef.

David: I never anticipated having this sort of seismic shift in how we think about food and, it's reconnected me to why I think I love cooking to begin with. To make someone feel good about something. The irony is, is I helped launch Impossible Foods. Maybe it was a cosmic joke for some people, because earlier on when we opened up Momofuku Noodle Bar we didn't have space to make anything that was vegetarian or vegan. We were a ramen shop and it was quite simple. But over the years we cooked a lot of pork and, we became sort of the poster child for like, not serving anything vegetarian or vegan. But I think I've made my bones in the business by sort of taking a contrarian stance to things. I view things almost as culinary or cultural arbitrage, right? And then once you started seeing pork everything, it was like, okay, what do we need to do? Where's the next thing? We couldn't become so dependent on just meat.

Luke: Now, if you take this to the restaurant level, what will this mean for restaurants if these things start to catch on and be more popular than maybe they are today?

David: You're beginning to see it. There's so many burger chains opening up that are using meat alternatives. This is going to become normal. I think that where you probably won't see it is on the super high-end restaurants.

I think that meat in general, protein, fish, all the stuff that is wild and organic, that's going to get extremely expensive, and that'll be the provenance for the super, super high-end stuff. I think high-end dining is going to become like Hamilton ticket prices, which will have a positive effect for people that work in that business. You're going to be working with the very, very best ingredients. I would think that most restaurants will be using

these meat alternatives. At some point when somebody introduced concentrated orange juice, I'm sure probably felt like a weird thing to people. Now it's sort of normal. Right? We just can't judge it in the bubble of present day. We have to like forward project. And I think these meat alternatives in terms of restaurants will be commonplace. I think if you could have a burger that tasted exactly like a burger today, but without any suffering or environmental degradation, you have to be a sociopath to choose the actual meat. So a burger is just gonna be a burger, that's it.

Luke: So, I'm also gonna go out on a limb here and guess that you talk to a lot of chefs, not only here in the U.S. but around the world. If you had to characterize the various opinions out there around this stuff, what are you hearing?

David: I could be wrong here, but I feel that the majority consensus opinion is, I don't want to touch that. I don't want to use that. But again, we're talking about an industry that is so allergic to embracing change or what potentially is around the corner that we have yet to adopt the metric system.

And some of my friends, are like, I'm not going to cook with that. Why would I cook with that, when I have this? But I don't think they're calculating what happens when the price is six to seven X more expensive, or they can't even get it. And I've seen that in my own lifetime, cooking on the East Coast you used to get sea bass, like beautiful live sea bass. Now you can't get it.

It's already happened. Anybody that tells you wild Atlantic salmon is on the menu, they're lying. It is illegal.

These patterns are going to increase. Part of it is enjoy it while you can, I get it. But now's the time we should be experimenting. Who moves the needle is going to be the youth.

The diners dictating what they want, and then the restaurants saying, okay, this is what we're going to give you. The whole idea is it bad for you or is it good for you? I think that's a conversation that people have to have about the specific sort of thing that they're eating.

I think what's going to distinguish, the leaders in this field are going to be the people that can make it as simple as possible with less junk in it.

Chavon Sutton: It's critical for investors to think about food seriously, because it is the root of health, and good health is the route to societal advancement. I strongly believe that,

Luke: Chavon Sutton is my colleague at Cambridge Associates. She works on the sustainable and impact investing team.

Chavon: My focus, really, is to intersect climate and society, in a way. Specifically, helping clients to align their portfolios with their missions to address social and environmental equity. So, a lot of that work is in our due diligence process where we're asking managers about their intentionality. And intentionality shows up not just in saying that you believe in these issues, but making portfolio decisions and holding yourself accountable by listening to the different outcomes that you actually measure over time.

I will say that the proliferation of solutions, however, it doesn't automatically equate to intentional impact on communities. We have to be very intentional and thoughtful about that. By that, I mean, a lot of the alternative meat ideas that exist today are awesome.

I eat certain products almost every day. And I love that there is an option for me. However, when I think about you know, where I grew up --

Luke: Chavon is from the city of Newark, New Jersey. Where according to the U.S. Census Bureau, over 26% of its residents lived in poverty in 2021.

Chavon: It's out of reach still. It's very cost prohibitive. I went to the grocery store just to do a test of what, you know, meatless alternatives actually cost.

And I looked up some tofu bites. There were \$5 for eight ounces. Meatless bacon was about \$6 for five ounces. And that's a challenge for feeding me as an individual. Imagine trying to feed a family with that and those small portions at that cost. Availability is still limited. Not every person who is in a marginalized community, for example, has access. These are areas where you can't have access to fresh fruit and vegetables.

You don't have access to organic meats, and not having access to high quality meat, high quality food, and vegetables are direct determinants of our rates of diabetes, rates of cancer, rates of heart disease, all of these social "diseases." And so that's a direct link and interconnected theme, if you will.

So if our investors are thinking about food, you're almost automatically, thinking about healthcare and health outcomes as well.

Sam: You have a third of Americans on track to have diabetes in their lifetime. One third.

Luke: Again, chef and investor Sam Kass.

Sam: That is beyond comprehensible about what's going to happen to our healthcare system, our economy, if we stay on that track.

So, number one source of preventable death and disease is the food that we eat, and climate is putting an extraordinary amount of pressure on our ability to produce consistent amount of food at the prices that people are expecting. So, meat is going to just keep going up in pricing over time as grain prices go up because, you know, we're getting more and more disruptions in our ability to produce them. But I think, you know, like the chefs and all the stuff, our culture is starting to shift, and it's really being driven by young people.

You know, around 40, there's a real break in attitudes and behaviors and norms for that age group and below.

And they're growing up in the face of climate where it's like, they're not debating whether climate change is a thing. Like, they're mad that they're being handed such a mess, they're determined to solve it. And this is why from a venture standpoint and an investor standpoint, we're really at the right spot because I still think we're in the really early days of the transformation, you know? So, like when that 35 year old is 45 and when that 20 year old's 30, it's just an increasing pull through the entire system from a core value statement around the sustainable nature of the foods that they're eating, around the health density of the foods that they're eating. They're just going to continue to take more and more of the share of the market and drive more and more change.

And that change is going to happen faster and faster, year over year, You know, from a VC lens it's the kind of the perfect storm of dynamics that are leading to this transformation and giving us a chance to have both a big impact and have outsized returns.

Luke: If you want to learn more about alternative proteins or impact and sustainable investments, please visit us at cambridgeassociates.com/UnseenUpside or check out the show notes. Stay tuned for more upcoming episodes of Unseen Upside. If you like what you are hearing, leave us a review and tell your friends and colleagues.

At Cambridge Associates, our podcast team is led by me, Luke Charest, Hillary Ribaldo, and Brittany Thurman.

From PRX Productions, Sandra Lopez-Monsalve is our producer, Ari Daniel is our editor, and Courtney Fleurantin is our associate producer. This episode was mixed by Terence Bernardo. The executive producer of PRX Productions is Jocelyn Gonzales.

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