

## HealthTech Talks Podcast Series



### **Biotech at the Forefront of Improving Health and Wellbeing**

#### **Announcer**

This is a podcast by Lumina, the perfect space to innovate, collaborate, and grow in health, science and tech.

#### **Rebecca Griffin - Host**

Maryann Thexton, welcome to HealthTech Talks.

#### **Maryann Thexton – Guest**

Thanks, Rebecca. It's great to be here.

#### **Rebecca Griffin - Host**

Maryann, you're the chief executive officer of bio-az, an award-winning biotechnology company that focuses on research, development, and manufacture of synbiotic ingredients at the forefront of global science for use in food and drink that improve the health benefits of the product. Maryann, what are synbiotic ingredients?

#### **Maryann Thexton – Guest**

That's a good question. Synbiotics are a blend of pre and probiotics. In our case we also use postbiotics. Basically they're live beneficial organisms, probiotics, prebiotics, which are really specific chains of dietary fiber that actually feed the probiotics both in our ingredients, but also that are already in your gut.

And then postbiotics, which are probiotics that have been heat inactivated, so they've been effectively killed by heat, but they're still benefits from the metabolites that they have produced and the actual parts of those cells. So three different kinds blended together is a synbiotic ingredient that bio-az works with.

#### **Rebecca Griffin - Host**

Where do you get them from?

#### **Maryann Thexton – Guest**

Well, the organisms are everywhere. The organisms that we use are spore forming bacteria that are beneficial. They're everywhere. They're in the soil, they're in the air. They've been recorded as high as 70 kilometers up in the atmosphere in space.



The prebiotic fibers, we use all different fibers that are beneficial, so green banana fiber or organic sprouted pea fiber. There's lots of different types of prebiotic, and the definition is actually expanding as science learns more and more.

We get all of these different ingredients. We work with our own spore forming organisms as well as other people's, and we put our magic to it and put it in for food and beverages and skin, all sorts of applications.

**Rebecca Griffin - Host**

Why do we need them in our food and drink?

**Maryann Thexton – Guest**

People are starting to hear the word microbiome more and more frequently. We have trillions and trillions of organisms living on us and in us, and without them we'd be dead. These organisms actually perform very important functions for our health and wellness, so it's really important that we actually still have abundant and diverse microbiome.

**Rebecca Griffin - Host**

Because it sort of sounds like something icky in a way that you want to get rid of, but in fact, they're so important, aren't they?

**Maryann Thexton – Guest**

Absolutely. Our immune system, our mental health, our ability to manage our insulin levels, all these things are directly connected to the microbiome. If you've got a balanced and diverse microbiome that's doing its work, that's when people are healthy from the inside out. Gut health is important not just to process food, but for overall health and wellness.

**Rebecca Griffin - Host**

Maryann, what modern food processing challenges do they help with?

**Maryann Thexton – Guest**

When we used to grow our own food and live in communities, so paddock to plate, we ate the food we grew, we would always be exposed to these diverse micro ecosystems in our food. So you might wash a lettuce, but you're not going to wash all of the beneficial bacteria from that lettuce, so you're going to eat it. They will grow in your gut, perform their functions, producing metabolites to trigger immunity, et cetera.



Now we live in the cities. Food is manufactured a long, long way from where we actually buy it, and it's highly treated. It's terrorized, we call it, pasteurized, terrorized to kill bad bacteria. You don't want it spoiling. It's got to stay in a truck. It's got to sit on the supermarket shelf and be safe, but it also kills the good bacteria.

Our access to those micro ecosystems has been completely destroyed. We need food to be processed, but we don't get the good microbes as well.

**Rebecca Griffin - Host**

That's where you guys come in.

**Maryann Thexton – Guest**

That's where we come in, yes.

**Rebecca Griffin - Host**

You've developed a world first synbiotic ingredients. How does it differ to others? What makes it world first?

**Maryann Thexton – Guest**

I think people have been trying and companies have been trying to work out how they could keep beneficial bacteria in food where it would remain stable, it wouldn't get destroyed by the processes that keep that food safe.

And then it would get through the bile acids, through the stomach acids and bile salts in your system and reach the colon, which is where all the magic happens. That's like the big fermentation pot in our body. Even organisms that are in yogurts and things like that that are in the fridge, they're stable because they're being refrigerated, but some of them won't even make it to your colon where you really need them.

We've developed a blend of prebiotics, postbiotics, and we've got our probiotics to survive high temperatures, so you can pasteurize it. It will sit in high water activity, so it can go into beverages and sources or chocolates or all sorts of things, stabilize in that, and then when you actually eat or drink that food, it gets right through to the colon and then it would actually provide benefits for your health.

**Rebecca Griffin - Host**

It's a long trip down, isn't it, from the mouth down to the colon?



### **Maryann Thexton – Guest**

It is. The microbiome actually starts at the mouth. There's good and bad bacteria in your mouth, and we've developed an oral synbiotic ingredient that's now being used by toothpaste manufacturers. It's a whole universe of organisms that are interacting with us and creating benefit for us.

### **Rebecca Griffin - Host**

Maryann, you produce these ingredients using biotechnology. Can you explain what biotechnology is?

### **Maryann Thexton – Guest**

In a general sense, biotechnology is where you use biological processes, so nature's ecosystems and organisms to produce something. You can ferment things and make beers, or you can ferment and make some sort of fuel, or you can ferment and make beneficial metabolites that go in our ingredients and beneficial organisms that will survive that process. It's using nature's intelligence, we call it, to produce other products that are beneficial.

### **Rebecca Griffin - Host**

The technology you use is described as revolutionary, producing the world's best ingredients. What makes your technology revolutionary?

### **Maryann Thexton – Guest**

This is something that the biotech industry and science has been unraveling over the last decades. It's very obvious that we are learning more and more every day. What we've discovered is a way of actually preserving the stability and the efficacy of our spores that we use in our ingredient so that they will actually survive the processes and the gut.

Up till now, that's never been done. You'll see there's opportunities there where some products are trying to do this, but they always have at the time of manufacture on their label, which means that they can't guarantee that stability. They can't guarantee they're there. That was the challenge and the problem, and that's what we've solved.

### **Rebecca Griffin - Host**

Yeah, it's an incredible journey that you've had and it's only been quite a short one is my understanding. Can you tell me how the company started and the link to horses?



### **Maryann Thexton – Guest**

Okay. Well, I'm a passionate equestrian and trained horses all my life as well as having a beverage industry background. I got an opportunity to meet a microbiologist who was working in this space for horses, and we took that product out to the horse industry. The changes I saw in those horses was phenomenal. Horses went from perhaps not looking as good as they should, even though they were eating a really great diet, to looking amazing within weeks. We have hundreds and hundreds and hundreds of photos of horses before and after going onto a synbiotic that our microbiologists produced.

I went back to him and I said, "Why can't we do this for people? We have to do this for people." He gave me a dozen reasons why it would be too hard, because the benchmark for human grade product is way higher. But anyway, he's one of our co-founders, and off we went. We had a crack at it. We produced it in a beverage for children, and we realized very quickly that we'd achieved something special.

And so it was a journey of pivoting from saying, well, we're a kids drink company to, we've done something that can be applied across all sorts of foods, beverages, skincare, wound healing. And so we sold that brand and someone else took it to market, and we pivoted to being a synbiotic ingredients company.

### **Announcer**

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### **Rebecca Griffin - Host**

In 2021, you won the NutraIngredients-Asia Start-up of the year. What did that mean for the company? I mean, that's huge.

### **Maryann Thexton – Guest**

We were pretty excited about that. Yes. I think one of the key things that we took away from it was the quality of the judges. It's a very competitive set of awards. Big companies like Fonterra and Kerry, these big companies all nominate for it.

When a quality of judges that's across the sciences give us a really good report back and say, "Tick, you've covered all of those bases," we were really pleased to have that feedback and validation from them. Of course, our customers appreciate the fact that they're with the company that's had that validation as well.



### **Rebecca Griffin - Host**

Yeah, absolutely. It's incredible. And then a year later in 2022, bio-az took part in the LuminaX Accelerator Program. How did the program help the company? Because you were already doing so much and had grown so much.

**Maryann Thexton – Guest** Yeah, look, I think we were probably a little bit of a later stage than some of the other cohort, but that was good because we probably had not quite got ourselves organized in a way that startup, real genuine early startups. I guess we were potentially letting perfect get in the way of good in some of our decisions and some of the mentors and some of the sessions. It was almost like a little mini MBA, to be honest.

It just made us go back and review and go, "Well, hang on, why don't we just do that? Let's just take it in baby bites." I'm thinking more in sales and marketing. You could get buried under the doona of science, which is great, but you still have to commercialize it. It was about, well, what do we know we can do right now? What can we take to the market right now, and where do we take it? And so it certainly helped us there.

### **Rebecca Griffin - Host**

What would you say was your biggest learning from the program?

### **Maryann Thexton – Guest**

To ask for help, definitely. The mentors, the quality of mentors that we were able to access. Our company still reaches out to Dr. Chris Davis, who was the mentor from Griffith University. He's really happy to help us. So that was a big one.

### **Rebecca Griffin - Host**

Yeah, it's a great community from the program, isn't it, as well as the learnings and the connections. How have you seen your company change as a result of doing the program?

### **Maryann Thexton – Guest**

One of the good things was that the LuminaX team were quite flexible, so we were able to send a couple of our founders. It wasn't just me doing the program because we had four co-founders. There were areas that we all identified we might want to get exposed to new ideas or areas that might've been new to some of us. We were able to actually swap in and out our people, and that was really good because it got us all on the same sort of page or regroup, make sure that we're all on the same page.



### **Rebecca Griffin - Host**

You're based here at Lumina on the Gold Coast. How does the community here support you guys?

### **Maryann Thexton – Guest**

Well, I really love being here. We love the energy and the fact that everybody's on a similar journey of innovation and problem solving in the health and wellness space. Even though there's so many diverse companies here from AI type companies through to biotech, we reach out.

For example, today, one of the companies from here is giving our team a training session on a software platform. We can support each other. There's actually quite a lot of talent in house, and so we reach out to the community when we need to engage and get some help.

### **Rebecca Griffin - Host**

What do you like most about being part of the ecosystem?

### **Maryann Thexton – Guest**

Yeah, I think there's a couple of things. Being a biotech company in this ecosystem, we get noticed, so that's fantastic for us as a young company. In other words, state, local, and federal government authorities or people that are working to grow this area will ask us for our opinion or ask for input. That helps us communicate with external stakeholders really well.

I think if we were in a different environment, down light industrial area or a sciencey space somewhere else, we might not have the opportunities we have to converse with different government and opportunity driven organizations where they're trying to build out this community.

### **Rebecca Griffin - Host**

Now, it's obviously a very exciting time for bio-az. I'm actually quite blown away by how much growth you've experienced in such a short period of time. What does the next 12 months look like for you and the team?

### **Maryann Thexton – Guest**

We're really focused on growing our market now. We've got a very good range of offerings. We've got synbiotic ingredients that can be used in animal health, oral care, wound healing, skincare, and food and beverage. We've already established customers in all of those areas.

Our focus from an overall company purpose focus is to get out and present that to the world, but we're also going into the microbiome testing space. We're just about to start a pilot trial where we're working



with before and afters on our synbiotics so that we can demonstrate the benefits. We know they're there, we've already done that work, but now we will take it through to a more formalized trial. And then we'll take that out and offer that opportunity to our customers as well.

**Rebecca Griffin - Host**

Are you working with Griffith or anyone for that trial?

**Maryann Thexton – Guest**

Yeah, we've reached out to the Griffith spatial omics, but we've also employed in-house postdoc scientists that have got the capabilities to do a lot of that work. But we'll definitely be collaborating with universities as well.

**Rebecca Griffin - Host**

Yeah, great. Do you need people to sign up for the trial?

**Maryann Thexton – Guest**

Yes, we will. Yes, absolutely. We'll be reaching out to different cohorts, both here and in New Zealand, to ask people if they could participate with our before and afters. So yeah.

**Rebecca Griffin - Host**

Excellent. Maryann, if people want to find out more about bio-az, where can they go?

**Maryann Thexton – Guest**

Okay. Well, we have a website which is [www.bio-az.com](http://www.bio-az.com).

**Rebecca Griffin - Host**

You've gone from the paddock to a clinical space.

**Maryann Thexton – Guest**

Yes.

**Rebecca Griffin - Host**

How's that journey been for you personally?





### **Maryann Thexton – Guest**

Look, it feels like a dream really. If you're passionate about something, I can't believe it's now over three years since we made the kids drink. It's just gone so quickly. And very lucky to meet the right people along the way. I'm not the only founder. There's four co-founders as we realized we needed different skill sets and different talent and science knowledge in the team. I've got a big team of scientists around us now. I think we've got seven on board now.

### **Rebecca Griffin - Host**

That's an amazing journey in just three years, isn't it?

### **Maryann Thexton – Guest**

Yeah.

### **Rebecca Griffin - Host**

have started from this idea in the paddock to three years, only three years, and now you've got quite a team, that's incredible growth.

### **Maryann Thexton – Guest**

Yeah. Look, it's been a lot of R&D along the way because the ideas have to be validated. Everything we do has to be scientifically validated. That's a big journey. We've done all of that hard work now and that heavy lift, but we're still innovating. Our science team is still coming up with new ideas of ways we can build new formulations that would deliver health benefits for people and animals. We do produce products now for animals as well. And then we've got, I think around 20 brands in the market now with our ingredients in them. That's exciting.

### **Rebecca Griffin - Host**

Just before we let you go, I'm quite fascinated by your journey, Maryann. You said you were in food and beverage and then equine, and then you went on and did your MBA. How's life changed for you over the last decade?

### **Maryann Thexton – Guest**

Yeah, I know. It's been a interesting life and I'm loving it. I think I've never been afraid of following a passion. When we sold our food and beverage company many years ago, and I had an opportunity to follow my passion with horses, and I did, and that lent me to this journey meeting the people that are now part of our business.



I don't think you're ever too old to change or follow a passion. I think we are probably the oldest startup company in Australia. I think our average age from our founders will be about 60.

**Rebecca Griffin - Host**

Yeah, that's great, isn't it?

**Maryann Thexton – Guest**

Yeah.

**Rebecca Griffin - Host**

It just shows you that if you do follow something that you love, what doors open and who you can meet along that journey when you're really doing something that you love and what can happen in a short space of time.

**Maryann Thexton – Guest**

I agree. I think probably one of the key lessons that I've learned is you can't do it on your own. You do need to reach out and build a team. Very quickly I became we. And so it's not just me. There's four of us that really took a chance and followed this passion.

**Rebecca Griffin - Host**

Yeah. Well, it's really amazing. Congratulations on where you've come already, and I can't wait to see where you are in five, 10 years. Maryann, thanks for speaking with me.

**Maryann Thexton – Guest**

It's a pleasure. Thanks, Rebecca.

**Announcer**

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