

## SoT EP2 V2.mp3

[00:00:08]

### **Rob Henderson**

So welcome everyone to the second in our series of podcasts brought to you by Bio Talent Canada. My name is Rob Henderson. I'm the President and CEO of BioTalent Canada. And for those of you who don't know who we are, we support the people behind life changing science in Canada. So this podcast series, The Science of Talent, is here to guide biotech employers with real time information and hopefully some tangible takeaways so they can hear from industry leaders and navigate through the challenges and opportunities of Canada's growing biotech industry. And the bio economy includes bio health, bioenergy, bio industrial, and the agri bio subsectors. Today, we're going to be hearing a little bit from the agri bio subsector. Our focus for the series is on igniting the industry's brainpower and to bridge the gap between job ready talent and employers. We're hoping for ensuring the long term success for one of Canada's most vital sectors, which is the bio economy. So today joining me, we have Jacqueline Keena. Jacqueline is from EMILI, which is the Enterprise Machine Intelligence and Learning Initiative. She brings a passion for female empowerment, women's leadership and good governance to her role. She's a strong advocate for women entrepreneurs and the important role they play in society. She's managing director of EMILI and is a professional agrologist and holds degrees in agribusiness and public policy. Jacqueline is also a board director for Assiniboine Credit Union. Jacqueline, welcome and thanks for joining us today.

[00:01:37]

### **Jacqueline Keena**

Thanks very much, Rob. Happy to be here.

[00:01:39]

### **Rob Henderson**

Yeah. So why don't we start off with telling us a little bit about EMILI and your role with the organization and some of the projects that you're working on right now.

[00:01:47]

### **Jacqueline Keena**

Awesome. Sure. Happy to. It's great to be here. Thanks for the invitation. And it's really nice to be able to get out even if it's on a podcast and have some of these conversations after the last two years. I think it's just shown us how important the bioeconomy is and agrifood and digital agriculture. And so I'll talk a little bit about EMILI. As an organization, our work is to grow the digital agriculture ecosystem in Manitoba and with our partners across the prairies. We do this across four strategic pillars. So, when EMILI was founded by our industry-led board, we were founded on two of these four pillars to provide information and support to industry, as they're considering the potential of intelligent technologies like AI and machine learning and how to integrate them. And the second pillar being to ensure that people who will be working in these industries disrupted by intelligent technologies, have the skills and training opportunities available to them to make meaningful contributions. So, as we got started in this work, we already knew that people would have multiple jobs and careers over the course of their lifetime. And we wanted to play a part in ensuring that they always had the highly demanded skills to contribute in a significant way. So even if people will be changing jobs multiple times over the course of their lifetime, we wanted to make sure that they always had that toolkit of skills that was going to make them highly employable and always in demand in the market. And as we've as we've kept going, we've also added pieces about collaborating between industry and

academia, making sure that industry demanded innovation is communicated well to academia, and that all of the incredible research that happens at post-secondary is mobilized and integrated into industry. And maybe our very last pillar is around capital enablement. And so as we've worked across those other three pillars, we've seen companies scale through the integration of intelligent tech. They've brought on new people. They've been able to find new innovations to work into their products and services as a result of connection to academia. The last piece for us was access to capital and capital enablement to ensure that they could continue to grow and scale here in Manitoba and across Canada.

[00:04:00]

**Rob Henderson**

That's a heck of a mandate, Jacqueline. That's across a lot. And I mean, and you've got a very large geographic and technological area to cover in terms of that. Let's leap into some of those skills that you mentioned, some of those lifelong career skills. What are you finding out? And we're going to be tackling this in a couple of areas. Which one is going to be a regional one for the prairies, Jacqueline? And then the other ones, we're going to be talking about the subsector of Agri bio as well, because it's unique and it has its very specific needs. But from the skills perspective of what you just talked about, what are the skills that you have found that are those transferable skills, those career long skills that you were finding that the employers really require and that are so pivotal to make sure that these individuals can continue to advance their careers regardless of what industry they work in?

[00:04:50]

**Jacqueline Keena**

Yeah, that's a great question and it's certainly something that we've made a lot of progress on. But it's going to be ever evolving as skills needs evolve and sort of key demands of industry keep changing over time. But so far in the last couple of years of our work, we've come to land on a couple of key transferable, high level skill areas for people in agri bio or digital agriculture. And they are first and foremost to have a foundational understanding of agriculture so that, you know, really acting as that ground truth against all other information and having that key understanding of what the components of agriculture actually are. So it's not necessarily a complete understanding of literally everything under the sun, but it's having some foundational subject matter expertise in agriculture. And the second sort of bucket of skills would be technology skills or technical skills. And so, you know, sometimes people used to say things like, everyone needs to be a coder. I don't know that everyone needs to be a coder, but everyone needs to have some foundational understanding of the application of intelligent technologies. So even if you're not the person developing algorithm or code necessarily, although there are lots and lots of jobs in that area and especially in software development, being able to look at outputs of perhaps algorithms or things like that and understand what were the variables that went into that or what does that output really mean for me? And this is particularly interesting in agriculture as we talk about production or processing decisions and being able to understand some of that technical output. And then the last one, which is definitely not least, is this human or soft skill component. We like to call it human skills because this is what really differentiates people from the machines. And it's always going to be our unique value proposition. It's going to be extremely difficult for computers to replace this critical thinking and problem solving and anticipation element of what people can bring. And it is also actually what we are hearing over and over from employers is in part what some people are lacking when they first arrive on job as recent grads or people coming from other industries. And so we through a lot of the skills programs that we work on with partners or we talk about we talk

about the need to integrate that problem solving, critical thinking, even things like emotional intelligence, being able to communicate with a broad variety of audiences, communicate ideas succinctly, and really get to that. The why for your audience. All of those things are not necessarily taught in a single course, but certainly there's lots of this good education that happens at post-secondaries. But it's also learned through experience and things like on the job training or work integrated learning.

[00:07:38]

**Rob Henderson**

Right. And we're going to be touching on work integrated learning in just a minute. So in terms of some of the things that we've found and I think, Jacqueline, you and I have spoken, you know, and EMILI is well aware that there's going to be skills deficits coming along. They're going to hit every part of Canada. They're going to be hitting the prairies in the agri bio sector in terms of it as well. Tell me what kind of challenges you're facing in terms of not only regionally to attract talent to the region, but also to the sector. I mean, you know, in the age of COVID, you know, vaccine production is all the rage. And, you know, the life sciences sector from a biotech perspective, is a bit of the gorilla in the room in terms of talent. It's the logical one where everybody knows everybody. Most people associate biotech with that. But you just mentioned, obviously, some other sectors like I.T. in terms of coding and understanding intellectual property and some of that. How do you position how does the agri bio sector and the prairies position itself competitively in that kind of a in that kind of a hunt for talent?

[00:08:42]

**Jacqueline Keena**

Yeah, that's a good question. And it's certainly one that's on a lot of people's minds, because also through the pandemic, we've seen pretty significant talent, talent shortages in some key industries of agrifood as well. So, and that's not a new thing for that's been going on for years. And, you know, to your point and the great work of BioTalent with the recent LMI reports, we see that likely into the future, it's actually going to get worse. And so how do we sort of make the case in the economy for people to join the ag or bio or digital agriculture industry? I think it comes down to a couple of key areas, or at least I should say this is where EMILI has chosen to focus its efforts with the knowledge that we're not going to be able to do everything. So a couple of key things. I think, number one is doing a better job of communicating the great value and meaning that people can derive from work in agrifood. It's a really incredible industry. It has been for generations and will continue to be. Of course, people need to eat. But agriculture is also a key driver of the Canadian economy, really, for basically all jobs in Canada. They are either directly or indirectly related to agriculture. And so even though, you know, the majority of us live in cities these days, it doesn't take very long to see that direct connection back to agriculture. So, communicating that meaning and I think, you know, we've had lots of discussions about how this is not as well-known to people anymore. Especially for those people who have grown up in the city, they just don't. And you know what? I can't fault them for it. They just haven't been made aware of those opportunities, hasn't been made visible to them. So we need to do a better job of communicating that. When I talk about meaning, of course I'm talking about feeding people and how incredibly important that is and it is to do well. Canada has this incredible reputation as a producer of safe, nutritious, reliable food. I think it's not always known to us that shouldn't be taken for granted. That's not commonplace everywhere in the world. And so when you think about it from that perspective, that's work that people can get up every day and be excited about and really find true purpose in doing. Another piece of this, I think is maybe two pronged. It's about really making visible all of the opportunities in agriculture to people. And for that, for me, that's lots of pieces. I

work in agriculture every day. I get to talk about technologies and investment and innovation happening at post-secondaries and things like that. We also get to talk about incredible levels of technology and intricacy happening at the farm gate that does all sorts of things, you know, increases sustainability, increases production, which has huge impacts on the economy and on people's ability to increase their own food security. But it also really makes visible how technologically advanced agriculture is for people and sort of will draw their attention to all of the different kinds of jobs that exist in agriculture. I think sometimes people's perception of farming is not accurate. They don't have a full picture of how technologically advanced it is. But the other thing is there are so many jobs in agriculture. And so, when you think about all of the different ways that you can be involved, even, you know, all of the H.R. managers that are required to do a great job across large businesses and farming businesses and startups, there really is a place for really any skill set and any particular sort of area that a person wants to work in. They just kind of need to find that home within the industry for their skill set.

[00:12:19]

### **Rob Henderson**

Today's candidates interview employers as much as the employers interview them. To compete for talent. Bioeconomy companies must ensure their offerings are current and compelling, and a strong compensation package can make your organization stand out. BioTalent Canada's National Bilingual Compensation Guide is a must have for any bioeconomy employers HR toolbox. It provides an overview of salaries and benefits for 34 popular job functions within the industry. To ensure your offerings meet or exceed industry standards. Don't miss out on top end talent for reasons completely within your control. Get your copy today at [BioTalent.ca/slash/compensation/guide](http://BioTalent.ca/slash/compensation/guide).

Also. Let's talk a little bit about that skill set. You're a female leader. You're a board member at the Women's Enterprise Centre of Manitoba. You know, it's not intuitive. It should be. But I guess right now, it's not immediately intuitive to a lot of people that the agri bio sector would attract a lot of female leaders like yourself. So tell us a little bit about your experience as a leader, as a woman entrepreneur in the sector and in the prairies. And tell us a little bit about your experience in terms of trying to attract women to the sector. Because right now, as you know, we're not doing a great job of attracting women not just to Agri bio, but to the other subsectors as well. For some reason, we're educating them, but they're not wanting to work in the sectors. What are you doing and what is EMILI doing to change that? And what have you encountered personally and professionally?

[00:13:55]

### **Jacqueline Keena**

Sure. Let me try and address all of those questions. So I appreciate that. Those are nice comments. Thank you. Yeah, I, I have worked in agriculture for most of my career over the last decade, and I have had, by and large, very positive experiences. And so maybe that is actually part of addressing that, that need for more women to participate in agriculture. Certainly, I know there was lots of women and my friends in the Faculty of Agriculture a number of years ago. Why do they not all land in agriculture at the end? I'm not sure I know that there is this perception of there not being a lot of women there. And so that is intimidating. But I think it's intimidating, right until you get both feet in the front door. And then, like I say, my experience has been, you know, really positive that people are welcoming and that they want to make a space. And I don't come from a farming background. And so I've also found people to really make allowance for the fact that, sure, I have some great education in the industry, but I don't have a lifetime's worth of experience on farm. And so people have certainly made space for me to sort of catch up

on the first 20 years of my life where I missed that on farm. So that's a piece of it. I think it is intimidating. I think there are and I shouldn't say that. I don't know that that's the fault of anyone. I think lots of things are intimidating for people. And so I would encourage, you know, women and other people who are thinking about getting into the industry that, you know, you've got to sort of push through that and get your feet in the door. On the other hand, though, I think at EMILI, some of the things that we're doing is really being intentional to make space and think about ways in which we can reduce some of that initial trepidation for people. So, when we think about meetings and conversations and meeting with people, you know, things as simple as timing of the day. Is it going to work for people? The format of events, is that going to work for people? Is this going to foster an environment that's going to feel welcoming and feel appropriate for people to participate in? So, there are lots of things that I think as an industry that we can also do, and I've seen lots of that happen and be lots of people be really intentional about making sure that we can foster those environments. So that's kind of a high level answer about, you know, key things that I think people on both sides of the equation can do because certainly women, people from diverse backgrounds, traditionally underrepresented people in agriculture, we are in need of those perspectives in the industry. And so I think it's on everyone to make sure that we can engage a wide variety of people.

[00:16:31]

### **Rob Henderson**

And I agree. But the facts, the stats don't lie. We're not doing we're not doing enough. And I'm not just talking about women. You mentioned some of the underrepresented groups like right now our statistics show that, you know, the Canadian bioeconomy is employing less than 1% of our employees are from the indigenous communities. Less than 1% are from are Canadians with disabilities, while 60% of the STEM grads are women. Only one out of three women... like, why are we so bad at this? And it's not. It shouldn't be new. Like, you mean it's not like Canada's immigration policy or the or educated females or something that somehow a novelty. We are producing and we have access to a real font of strategically advantageous labour markets, including educating females, whether foreign or domestic, like newcomers or domestic, as well as a whole bunch of educated immigrants that are coming in. And we're just not tapping into those communities. Why is that? Why are we so bad at this?

[00:17:32]

### **Jacqueline Keena**

Well, that's a good question. I don't know if I'm going to be able to give you the full answer. I mean, there's lots of reasons. And I would say one piece of this, you know, we talk all, all the time about this war on talent, right? There are more great jobs than there are people in Canada, even when we consider immigration. So, I think some of the things we can do are around really raising the awareness of the opportunities, the real meaning that can be derived from these jobs. And also, I think significantly and this is particularly relevant after the last two years, this employment resilience that exists in agrifood. And I think we've seen this across the bio economy as well, that these are jobs that do not go away very easily. And that's particularly, I think, on the on the sort of people's top of mind lately. After these last two years, we've either experienced it or we've seen it in our friends and families life, where can I participate in the economy that's going to really take care of me, that I'm going to contribute meaningfully? But also this job isn't going to go away, and that certainly exists in agrifood. And so when I think about how do we raise the profile of these opportunities to people who it's not on the radar because it hasn't been either in their history or they're just not familiar with it in Canada. Something pretty exciting that we're doing is it's called the Explore Project with **Actua** across Canada and with AG in the

classroom. And this is a project co-invested by **Protein Industries Canada** and it is to work with students in all of K to 12, but with a focus on high school, using STEM programming with a focus on digital agriculture to make them aware of the kinds of opportunities that exist in agrifood while they're in high school. We see that students who don't have that on their radar in high school have actually, in a lot of cases, sort of opted themselves out of those opportunities through course selection so that by the time they show up at college or university, it's to sort of steep a hill to climb to be able to get those prerequisites back. And so if we can put it on the radar earlier and do it in a way that's relevant to them, where they're at as young students, I think that's going to make a significant difference. Of course, the difference is going to be seen in years from now. And so I really appreciate the sort of efforts and commitment of **Actua Ag** in the classroom and **Protein Industries Canada**. But I think that that's one real step that we have to take to make sure that people who don't come from farming backgrounds know about all the opportunities in agriculture. And I also think, you know, to our earlier conversation around how do we break down those barriers and reduce intimidation? I think there's no better way to reduce intimidation than by having that early exposure and also the exposure to things like, oh, I know what the language is, I know what the key terms are. I'm familiar with some of the players. You know, that company isn't scary to me. That I think goes a long way to providing a space for people to engage more significantly as they go through post-secondary and as they land jobs in their careers.

[00:20:24]

### **Rob Henderson**

Or being familiar with the nomenclature and with the industry, you said that a couple of times, that that's pivotal and it's really interesting because, you know, a lot of the jobs that we found out that are going to be lacking are not jobs that are behind a microscope. These are sales jobs, HR, Accounting, marketing, all of these and there tends to be at least I've encountered it, there tends to be a bit of an industry bias as if you have to have a Ph.D. in agriculture or molecular biology in order to sell within a company, we're going to have to change that. We're going to fill those jobs. I really like the idea of that K to 12. Is there something that you and EMILI are doing right now to try to attract some of those professionals who may not have the hard edge science background, but who could really make a significant contribution and find a really gratifying career within Agri biotech?

[00:21:14]

### **Jacqueline Keena**

Yeah, good question. It's definitely something we worked on over the last couple of years and we're probably just at the very front end of this. One of the things we did that seems kind of elementary now looking back, but was actually kind of difficult for us to figure out, is writing job descriptions in a way that deals with some of that need to know language before people know. Things as simple as, you know, not expressing everything, or I should say, expressing things in more general terms that are more easily identified by people from all different sectors. So, you know, we started off writing about agriculture policy analysts or innovation analysts and things like that. And we really have worked that back into much simpler job postings like policy analysts or research analysts in an effort to be relevant across sectors. And actually very recently we have we went through a really interesting experience where I actually think this is funded by a BioTalent program so I certainly need to shout out again the great work that BioTalent...

[00:22:10]

**Rob Henderson**

Yay, shout out to commercial advertising. All right.

[00:22:14]

**Jacqueline Keena**

But what we did was we interviewed a series of people who are just about to graduate, actually, with Bachelor of Arts degrees. And again, we had that similar posting, and this was a program set up by the university for us to meet a whole bunch of, you know, about to be recent grads. And we talked about people's ability to synthesize information, research, pulled together data presented in a tangible, sort of succinct way for a variety of audiences, because ultimately that's what that job is to do. But a couple of years ago, we would have written it in a much different way because of course we're an agriculture organization. And so having some foundational knowledge in agriculture is of course going to allow that person to go faster and you know, just make progress a little bit more quickly at the beginning. But it's not to say that that's a barrier or it shouldn't be a barrier, especially in the particular role that we were looking for, where if we can provide that information in the terms of on the job training or you know, I know when people started, EMILI, we sort of give them a whole bunch of relevant articles and videos to get familiar with over the course of the first couple of weeks. And we've also built a team that has a number of, you know, agriculture experts on it. And so how do we share that information across the team? And so I guess my point is there, how do we engage more people from more backgrounds? Well, part of it is going to be on us as an industry and the employers to make sure that we're also putting information out there that makes it possible for people from other sectors to apply.

[00:23:47]

**Rob Henderson**

Understood. And, you know, I didn't want to go through this podcast without touching on the regional diversity and the regional unique challenges that the prairies face beyond. We talked a little bit about biotech versus other industries and trying to attract and retain talent. What does the prairies as a region, what would you say is the single or the top couple of challenges that it's facing right now? And this is a general point because it's not just it's not unique to Agri bio. It's also across the industries. What challenges are they going to overcome in this very tight labour market in the coming months and years in order to propel it to success?

[00:24:28]

**Jacqueline Keena**

Yeah. Okay. So a couple of points there. You know, the first that comes to mind, especially for Manitoba and the prairies more broadly is we do have a bit of a brain drain, whether that's within Canada, which I guess is a slightly better scenario or to other countries. And I see that especially with younger talent. You know, actually I think when you sort of play the tape to the end, people often are returning to Manitoba later in their careers or they are attracted to Manitoba or the prairies for things like house prices and things like that later in their career. But early on, when people graduate from college or university and they're on their way to another province or another country, that's a whole segment of the labour market that's missing. And so how do we stop that? I think it's going to take all of us. I think it's a really multi-pronged approach. And so that's a difficult one, but that's a significant challenge that we need to overcome. Part of that, you know, the things that we can work on right now are making sure we have great working opportunities for new grads, not things where it's a push paper or real grind. I know there's elements of that actually to all

jobs, but making sure there's real growth opportunities for new grads or young people to get into jobs and have that serious mentorship and really line of sight to growth and development in their careers. I've been privileged to be a part of that. And when I look back and I think about how much time managers spent with me, I'm like, boy, what? How did they get their real work done when they were spending that kind of time with me? And so I'm super grateful for that. And I think that is a real incentive for people to stay and take on those kinds of jobs. The other one I'm thinking about is around this capital enablement or access to capital question. And it's relevant to recent grads. But I think the other pieces, in order to have more jobs for new grads and have this sort of healthy economy and growing businesses will also need real access to capital for those companies to be able to continue to scale in the prairies. And so that's I know there's lots of great people working on this, but I see that as a key challenge and I'm happy to see so many people really taking that on to make sure that we're doing a good job there.

[00:26:42]

**Rob Henderson**

Well, in certainly in terms of access to capital and access to talent, you and EMILI have certainly embraced the concept of the whole work integrated learning programs that we have around to make sure that I mean, these were co-op jobs. This was a very novel thing when I was going to school, you know, a couple of centuries ago. But now it's so accessible. And it's really I take your words to heart that some of these students are really going to have to take a good look and access some of these programs to inculcate themselves with some of the industry knowledge you're talking about, or at least to get them to understand different industries that they could work in, even if it's not within a STEM field, you know, or somewhere else.

Jacqueline Keena, the managing director of the Enterprise Machine Intelligence and Learning Initiative. Thank you so much, Jacqueline, for your insights today. It was fantastic. I look forward to hopefully having you back as we talk maybe in several months or a year or two where we can talk about how well we've tackled all of these challenges. For those of you who are joining us, thank you very much. This is the latest in a series of podcasts by BioTalent Canada and all about the Science of Talent. Thanks for joining us today. We'll see you next time.