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Speakers

- Facilitator: Isis Almeida | Bureau Chief, Bloomberg Chicago
- Chris Abbott | Chief Executive Officer, Pivot Bio
- Jason Cope | 2025 Top Agri-food Pioneer and Founder and Chief Intellectual Property Officer, PowerPollen
- Beth Dunford | International Development Sector Executive and Former Vice President, African Development Bank Group
- Stephanie Smith | Senior Vice President Growth Segments, Mastercard

Transcript
Isis Almeida:

Morning, morning everyone. Thank you all for being here. Technology has always been key to feeding the world. From developing high yielding seeds to getting the food from where it's produced to where it's consumed. Technological advancements have always played a key part in global agriculture.

And reliance on tech is only likely to increase with the development of things like AI, autonomous tractors, and some of the developments that we'll hear from this esteemed panel.

Today we have with us Chris Abbott, Chief Executive Officer of Pivot Bio. His company has engineered a nitrogen producing microbes that can replace about a quarter of the total nitrogen needed for corn crops.

We have Jason Cope, founder and chief intellectual property officer of Power Poland. His company has developed the technology to collect, preserve and apply pollen on demand to help improve productivity.

We have with us Beth Dunford, former vice president for agriculture, human and social development at the African Development Bank. The bank finances the agriculture industries with initiatives aimed at improving food production and food productivity.

And Stephanie Smith, Senior Vice President of Growth Segments at MasterCard, which is trying to digitize the very analog world of agriculture, particularly in East Africa. Over the next forty minutes or so, they will help us understand where we are and where the industry is headed. So again, thank you so much for being with us here.

Your businesses are all so different, right? You do so many different things. But one thing you have in common, there's innovation. You're innovators in this agriculture space. And that's an area that is super important if we are to continue to produce more food to feed the world, but also an area that's facing funding challenges.

A recent report released by PitchBook this year showed that venture capital funding for agri food companies dropped 65% from its 2022 peak. Talk to us a little bit about the challenges that the industry is facing and how do we ensure there's enough capital to feed the world?

Chris Abbott:

Yeah, I can start with that. So thank you everybody for having us. So my background, just to give a little context, is I built one of those firms at Continental Grain Company, an investment strategy and growth funding. And the challenge that we observe there and that we see even now today at Pivot is really a challenge in terms of how you align those interests. So you're exactly right.

Funding levels have dropped dramatically. If you look at 2018 to 2021, ag and food was the shining star of the highest growth rate of any sector of venture capital and growth dollars. If you look at '22 to today, that's down probably I'll take the over on 65%. It's probably much more than that. Just there's a lag in some of that data.

The challenge is you have institutional investors that face very strict or rigid guidelines in how they allocate capital to sectors, whether that's ag or any others. And so if I'm an investment manager, I have ten years to build, launch, deploy, and return capital. Ten years to do that in a fund management business. Well, I look at our business and other growth businesses, ten years is almost no time in ag to start a business, scale it, and exit to create liquidity for that shareholder. Ten seasons, that's nothing, including when you started the company.

And so you'd almost have to match up perfectly from the day they launched the fund to the day you launched your company and you only get ten years. And so there's an inherent challenge here in risk reward and just the structures of how capital allocators invest. Now you say, okay, so what do you do about that? Well, in Ag we just need to be much more narrowly focused when we deploy innovation because you need to get air under the wing fast is what that time crunch means. And so I don't know that the investment management structures are going to change.

We shouldn't wait for that as an industry. I think we as operators need to think how do I get the most amount capital efficiency in my business, use technology as a cost deflationary mechanism, whether that's for a farmer or business model innovation. It spans the gamut of how that cost profile works with technology. So get the amount of capital you need lower. You'll attract more dollars inherently, but stay very focused because you don't have enough time to get air under the wing of the plane, so to speak, right, to get that lift off in the business to continue to see that.

If that doesn't happen, then you should continue to expect a retrenchment of capital because the institutional investor just won't be able to generate the risk return.

Jason Cope:

Yeah, I would comment on that. In addition, I think those comments are spot on. Starting a start up about ten years ago, you go right into the trenches. The ability to raise capital ten years ago was reasonably sufficient to really drive a lot of innovation. I would say in a start up, you have to be as innovative with capital as you are with your technology, so you really have to continue to evolve.

Look at present day to day, and it's really honing our business model more around the revenue that we can generate just to make sure that we're literally minding our business. It's also being creative with how you raise additional funds. That could be federal, that could be state, that could be individual investors, and it's just really having the perseverance to keep your vision and your business alive. And I think that would be the common theme I would say today is it really takes grit in agriculture to drive a vision and a technology forward. Stick to that vision and that goal and really communicate and collaborate, and you'll find your way through it.

And good times lie ahead, but for now, it's just really buckling down and surviving through change in the commodities as we see them today.

Isis Almeida:

And you touched a little bit on the state help there and working with states. And you know, we obviously talked about these capital hurdles as we're seeing them in The US. Other parts of the world face similar challenges, but different challenges as well. I think is there a role for governments to help the industry in ensuring food security? How can companies maybe partner with governments to help fund the innovation that's still lacking? Is Public private partnerships a solution? I'd love to hear some success stories here.

Beth Dunford:

Great, thanks. I think that there is a huge role for public private partnerships in scaling innovations and for transforming agricultural economies. Yesterday I was on a panel with the ministers agriculture from Ghana and Sierra Leone. And these are two tremendously dynamic leaders who are very committed and energetic about transforming their agricultural economies. They have concrete plans and really what they want to do is incentivize investment in key areas, key geographical areas, but also key value chains and food systems where they know they need more investment in order to be successful.

And so what they're doing is making sure they have their policies right. They're making sure that they're providing the types of fiscal incentives that are needed, and really just creating the groundwork to really enable further investment. You asked about successful examples. I wanted to talk about value addition, is incredibly important for agriculture in Africa. A lot of Africa's agricultural production is exported raw.

I'm just going to give an example of cashews. If you look at cashews, to sell a kilo of unprocessed cashews is $1.50 and if it's processed, it's $20 So again, that's a lot of jobs and profit and economy that needs to be staying in the agricultural economy in Africa. And so what the African Development Bank has done is partnered with governments to provide the fiscal incentives, to provide the policy environments, to lower the barriers to entry for these companies that want to come in and invest in

value addition. Maybe it's infrastructure, maybe it's things like roads and water and sanitation, power, ICT, etcetera. Last year, I visited the Goluji Bay Special Agro Industrial Processing Zone in Benin.

The key anchor investor there is Arise IIP. And what they've done is come into this agricultural zone and set up shop to process cashews. And they've taken Benin from a country that processed 10% of its cashews in country to a country that they're on track right now process over three quarters of the country's cashews. So again, that's real impact at scale transforming the agricultural economy, and that comes from a very dedicated public private partnership.

Stephanie Smith:

I might build off Beth's answer. You spoke about public private partnership for physical infrastructure roads as an example. I think there's also really powerful examples of public private partnership driving digital innovation, which is so critical if we transform agriculture, if you want to unlock access to financing, create more open, efficient, transparent markets. You look across Africa as an example, most farmers are offline. They have limited, if any, connectivity.

I met a group of farmers in Kenya recently who they have one agro dealer in their village where they buy seeds, and they were sold fake seeds, literally a bag of seeds mixed with rock. If those farmers or that community had been online, they could have access to a number of different verified sellers. But bringing that community online is very challenging. Right? It's not as simple as asking a government to go and build a cell tower or asking private companies who might lack the commercial incentives to build digital tools.

So that's the gap that I think public private partnership can really play, and it has to involve a big group of partners. And it's coordinating all of them, not just in conversation, but really down to the exact same village, the same community. Right? You need the banks to lend, you need the agro dealers to provide the inputs and the seeds, you need off takers, then need donors to come in and de-risk because margins are so raised and thin. You need ag techs and governments to have the enabling environments.

So you bring all these partners together, and we've got some really exciting success stories that you asked for some examples. I look for example to the mobilizing access the digital economy alliance made. It's an alliance that we launched together with the African Development Bank. Beth and I worked on this extensively for many years. And we have some really exciting success stories.

For example, one of the first cooperatives we worked with, the Inhupke Cooperative in Kenya. We brought together through MAID, Microsoft and a local ISP to give them access to Internet. We worked with the local Kenya Farmers Federation to do digital skilling of the cooperative's agents. And then Mastercard provided the Community Pass platform, which is a digital platform that gives cooperatives access to a network of buyers and network of sellers. And almost immediately when this cooperative was lit up, they started going online and the agents were able to use their new internet access to go on the Community Pass platform, help their farmers buy and sell agricultural goods and start using the internet to diagnose diseases for their crops and other examples like this.

So it's a really powerful example of how very coordinated public private partnership can drive innovation. And we've since launched and brought this program to 12 more cooperatives, 10,000 farmers and are now planning for a national rollout.

Isis Almeida:

We know that agriculture has lagged other industries when it comes to technology adoption. Part of it because it's a very concentrated industry. Part of it's because farmers, as we know, are inherently conservative. In many cases, they only get one harvest a year, so they want to take risks, but they want to take measured risks. They want to know something works before they can actually adopt it.

So talk to us about the journey of getting growers to use your technology. And more importantly, we've seen the farm economy come under quite a bit of pressure because of tariffs. Is that slowing down adoption?

Chris Abbott:

Yeah, so in our case, our business today is primarily in The US several million acres of cereal crops, corn, wheat, cotton, sorghum. We've got approval in places like Kenya as

well, which we will seek partnerships and I'll come back to that point. But for us, it was really hard because our market in commodity row crop in cereals as well as in bulk fertilizers is very concentrated. We really in The US have three seed companies, we have about the same amount of fertilizer producers. And so you have a value chain, an integrated value chain that if one or two are slow or don't move or have a different perspective of innovation, it literally just stops the whole thing.

And so our business started actually leveraging some existing channels like the seed channel. Our product was going on the formulation as a seed treatment. And so we were amplifying the value of that seed, of that seed dealer who's selling that seed and improving the economics for that farmer, selling a reliable source of nitrogen on seed cheaper than synthetic. So we had to take the technological innovation, that business model or distribution innovation, and force them together because you couldn't get one without the other. It was not enough to get success.

As great as the technology was, it would have died without that business model innovation and distribution. You then at some point have to flip your brain into okay, well now we've got to my earlier point, you've got some air under the wing, you've got some momentum in your business, is that still the right path? And for our business the answer was no. We will continue to support distribution partners and that will continue to grow. But as I say, now you're big enough to matter.

So where do you have large distribution partners or fertilizer partners? The fertilizer industry is now starting to embrace new technologies like ours and other great fertilizer technology businesses. And so at some point you have to be able to flip your brain in terms of scale and distribution because it's not just a single track mind. And you have to serve the farmer in the way in which the farmer also wants to buy. And so really leveraging partnerships to deliver that value is key for our business and you just have to evolve.

It seems you know sort of simple or intuitive, but you evolve as the business grows. And in ag that's not just technology and building our business, it's how do we interact because we live in an integrated value chain. How do we interact with the system? And so we're always evolving, always signing new partners, always looking at new geographies. If we go to Kenya, we're not gonna go hire probably a bunch of folks on the ground in Kenya.

We'll leverage existing distribution networks, existing global fertilizer companies, banking and finance partners to deploy technology and manage that risk for the farmer. If you do that, now you're delivering premium technology, lower cost, higher performance and you're meeting the customer where they're at. We can't do that on our own, so we have to have partners.

Jason Cope:

Power Pollen has been very intentional from the get go about how we introduce technology to the grower and the farmer. I think I call it eyes wide open. We chose a path where we first worked with seed companies, because seed companies obviously interact with the growers at a very high level. And we chose a high value area in terms of the seed production. Our product is the ability to store and deliver pollen to increase reliability of production, but also yield within production.

And that approach gave the growers an opportunity to see the technology actually in action with the seed companies before approaching us and saying, how, hey, how do we get our hands on this technology? So there's been, I think, a good natural evolution there. And what we found and, you know, I really appreciate the position farmers are in, you can't have a bad technology year because it might be your last year. So you really make careful educated decisions. So by working with the seed companies first, it's really given these growers an opportunity to see and appreciate what the technology can do.

And now what we're doing is working directly with growers to help them understand what this technology would look like integrated into their hands, whether that's from a who services it, how do you actually harvest the pollen, how do we apply it, what do the financials behind that look like. And bottom line is, what does it do to make them more reliable and more profitable in their business?

Isis Almeida:

And have you seen farmers being a little bit more reluctant because of, you know, in terms of technology adoption, because of tariffs and because they are, the farm economy is under so much pressure?

Chris Abbott:

We've definitely seen it in our business. I mean, as we say that farm profitability, that's the barometer for willingness to adopt technology. Right? I mean these folks, to the point you just made Jason, they're running really hard small margin businesses. If there's volatility on, I don't know what the price of my grain is.

I don't want my I don't know what my input costs are. Tariffs mess with all that. I was on a call at 9:00 am this morning. There are ships just sitting in The Gulf that aren't coming to The United States because the price is too low. So now the industry is naturally restricting supply in the case of fertilizer.

What's gonna happen? Price is gonna go up and The US farmer in the spring is gonna pay more than anywhere else in the globe. Same thing happened last year. All those geopolitical and tariff challenges always get in the way. It's always risk and uncertainty equation, not just for a US farmer, but Brazil, Kenya, I mean everywhere, right? The global farmer faces these pressures, and the US is not insulated to that.

Jason Cope:

I would agree. Tariffs are a situation where, again, it's changed in the marketplace, and so you have to be innovative in terms of how you work with it. I would say we're changing our business model as we speak just to make sure that we can still do quality technology transfer and support the technologies that we integrate.

Beth Dunford:

So just to bring this back to the African context where we have 80% of the farmers being smallholder farmers, where yields are often a third of what they are globally. The need to disseminate technology is very urgent, it's one we've been working on for quite some time. And it's a really hard nut to crack. Improved seeds that can help farmers plant and changing climate, different shocks that come through Africa, etcetera, etcetera, different pests. So I think that the African American Bank has been working on pulling together a platform of actors and through a program called the Technology for African Agricultural Transformation, or TAAT, as we like to call it.

And so this program has really brought together international research organizations, domestic research organizations, extension agents, large private

sector actors, smaller private sector actors, some of these farm depots that you've been talking about. So I think that bringing these players together and also really leveraging large public sector funding, such as funding through the bank, They've been able to reach 25,000,000 farmers with improved technologies, and that's really been able to help farmers increase their yields very concretely with an increased production of 120,000,000 metric tons. So again, that's impacted scale, but really pulling so many different partners together to see how we can get these technologies out through commercial markets at scale reliably for these farmers that are often in very difficult to reach places and often have very small farm sizes is a really, really critical challenge. The technologies I'm hearing about today, I know these farmers would love to be able to access them. But again, it takes a lot of people working together to make it happen.

Isis Almeida:

And that really brings me to my next question. I'm very interested in the international perspective here. You know, we heard a lot about The US. I want to hear the international perspective on what technology adoption look like. I think, Beth, both you and Stephanie have quite a lot of international experience in Africa, but other parts of the world, too. Can you tell us a little bit about what you've seen?

Stephanie Smith:

Sure, I can kick off. You know, actually we heard a little bit earlier about some of the capital challenges that these US based ag techs are facing. There's a similar financing gap if you look at the smallholder farmers, as Beth talked about, right? I think it's 6% of smallholder farmers in Africa have access to formal credit. And that same financing gap exists across the world.

If I look across Africa, Latin America, Asia, there's a $170 billion with a B financing gap for these smallholder farmers. So how do you start to solve that problem? And you can look all across the world for some really interesting lessons. Most recently, I was talking to a colleague who did some research in Brazil. They have a number of really promising innovations from the financial sector.

You've got, for example, banks who are looking at farmers and saying, okay, they lack the credit history and the collateral that they would traditionally need to lend to that

farmer. But these farmers have huge production potential. So if we can digitize and give them a digital credit profile based on their farming practices, their land, what their crop yields have been and are expected to be, we can now know more about the farmer and make them a less risky asset to lend in. Other banks in Brazil are developing mobile wallets that have spend controls on them, so they know that when they lend to them, they can control that the funds are then used only for agricultural purchases, which again creates that trust that you need to lend to the farmer and also helps them then with their repayment rates as well. So it's these types of digital innovations that have helped Brazil to massively increase their rural credit programs over the past few years, talking about like 30% plus increase in rural credit across Brazil.

Those are the innovations that we're looking to to think about, okay, how do we pick those up and leverage those in an African context as well, and obviously tailor them to the value chains and to the players who are there too.

Beth Dunford:

I think just to add on to what Stephanie has said, which is all very, very true. Smallholder farmers and agri SMEs are commercial actors. They're smaller, but they are still commercial actors, and they cannot be successful if they do not have access to finance. There's a $75,000,000,000 annual gap in the financing that they need to be successful.

And so how do we make that happen? Financial institutions look at Africa as being risky. They look at small actors as being risky, and they look at agriculture as being risky. So you've got sort of this triple bias, this triple risk that you need to overcome in order to get these financial institutions to lend reliably to these actors that really need finance to operate their businesses. And that's a key element of them being able to access all this amazing technology that's out there.

So the African Development Bank has worked on putting together a lot of different models on how to get this access to finance scale sustainably. In the women owned SME space, again, broader than agriculture, the African Development Bank has brought together 185 financial institutions across Africa and really worked to provide first loss guarantees with partners and then focusing on getting their lending packages to be tailored to what women owned SMEs need. And with that, have been

able to unlock $2,800,000,000 so far, and they're gaining steam for lending to women owned SMEs in Africa. So we need that type of partnership to come together to lend at scale to this sector. Just a plug, the African Development Bank is hosting an event tonight at seven that's bringing together Stephanie and some other key minds in this area about what's working and how can we mobilize at scale.

The World Bank last week in collaboration with the African dollar bank at the annual meetings launched the Agri Connect. So again, there's there's a lot of momentum for this, but for farmers to reliably access technology, financing is a key nut that we have to crack.

Isis Almeida:

Super interesting. And one of the things that you guys touched upon was agriculture being a concentrated industry. I mean, we've seen that very few players dominate all over the world. I'm very interested in knowing how does that impact the environment technological development and the ability to scale up. And when we think about small holders, how can we even ensure that small holders have access to innovation, especially for the ones that sometimes are growing tree crops in one or just two hectares in places like West Africa?

Jason Cope:

I can take that first. For power pollen, you look at the scale we have here in the US, and part of our business story has been scaling up with something that's never been done before. How do you take preserve pollen now that we can preserve it for years and make the most out of the financial opportunity? And it's been a lot of equipment, a lot of time, a lot of development, a lot of testing. But we also knew that our technology needed a very pared down version, which could be hand carried into countries that have very small holdings.

And so we have built simple processes that are very tech transferrable, and we've built tech transfer departments that would work directly then with these smallholders. And really, the mindset is whether you're using really large machinery or you're using handheld tools, the end goal is the consistency of your output, the value of your output and increasing the yield, really the sustainability of the process. And so for us, it's been making sure that you look at agriculture in its entirety, and

you don't just cater to one market, and what we're finding now is there's a real pull for this technology, really in all regions of the globe.

Chris Abbott:

Yeah, I have a strong view on this. I sort of take a pretty crass commodity markets view with some of these things. Absolutely, it's an incumbent driven industry, very concentrated. Last time I checked, they're also under low margin business model pressure with heavy capex. The only way they're going to expand their earnings power or their multiple if they're publicly traded is the exact same way that farmers gonna reduce risk, improve profitability, is through new technology.

Just like every other industry, whether it's payments, whether it's healthcare, whether it's enterprise tech, technology has got to be cost deflationary. Now that being said, nothing in Ag is a silver bullet solution. Seed companies aren't silver bullet solutions, fertilizer companies, technology companies, they're not silver bullet solutions. So we've got to work together to solve those challenges. I'll give you two really powerful examples here.

One in mega farms in The US, but is now benefiting Kenyan farmers for our business. We scaled our business here in The US, which we're very fortunate to have access to talent and technology. Today, the lowest form nitrogen in the world is ours. We produce it for 99.5 %less than synthetic, and we can literally deploy it anywhere. You're transferring bits and bytes because it's fermented.

I'm not taking natural gas and moving a Heber Bosch facility, which is a pretty cool phenomenon. And we got to that point in scale here in The US. We partnered with a bunch of really smart and ambitious folks at MIT in Kenya where we got approval for our product. What they did, I wish I had my phone, your phone of our product is a 120 acres of our dust. That's the fertilizer content.

So it's very small. You think about what that unlocks from a supply chain perspective in places like Kenya. They then basically took that amount of dust, and they chopped it up and put it in ketchup packets. They put it in backpacks on motorbikes and drove it to the field. Luckily, didn't get duped with fake seed and rocks.

They poured it in, basically hand mixed that microbe, and those farmers saw a 70% yield gain. Well, what's powerful about that? The lowest cost form of nitrogen in the lowest cost natural gas market in The United States was transferred with bits and bytes digitally, has the capability to essentially be produced anywhere and then distributed at one twenty thousandth the volume of the same granular urea. So now you can serve a smallholder farm, whether it's our Kenyan farmers, our Brazilian farmers, our US farmers, that same technology platform, even though I hate that word, is true now because it extends across geographies. But we wouldn't have been able to do that without MIT, without people like One Acre Fund, without people like the fertilizer industry, without the payment folks.

Because I'm not going to Africa and Brazil if I can't get paid. My board will look at me like I'm crazy. I can't take bags of grain. I need digital infrastructure around payments and credit. Being able to bring those together, I think we probably saved 50% or more fertilizer costs for the Kenyan grower and improved yield 70%, with almost out even trying.

There's no optimization of the product there. So it's a pretty powerful example of how we as The United States can also benefit those smallholder farms. It's not an either or of a mega farm and a smallholder farm anymore.

Beth Dunford:

So, I mean I think there's a lot of ways to bring in different players. I think that if you look at the technologies for African agricultural transformation program, it's worked with 28 seed companies across Africa. There are a lot of American seed companies, bigger and smaller ones too, that are actually investing and growing their markets with the innovative technologies that they have. And I love ketchup packets and backpacks. I mean, if we can get technologies like that that can be disseminated, that's amazing.

And then to reach these millions of smallholder farmers and the ag SMEs that they work with, we need the financing that I just talked about very energetically. And then also, we digital access. It increases transparency so we know who's involved, right? Making sure that we're getting to the last mile to make sure that these farmers then have access to finance and then can also access markets in ways that are transparent. And I think that all of these things really do need to come together.

There are so many amazing technologies out there, and I think coming together, we can really get it out at scale, which is what these farmers need to be successful.

Isis Almeida:

And we're getting a really interesting question from the audience too, I wanted to bring the audience in a little bit here. And I think they were looking at should we be telling young professionals who are passionate about food security, what should we be telling them in a moment where we're seeing these funding cuts like?

Stephanie Smith:

I'm happy to kick this one off. And I think the theme that we've heard from all the panelists, right, is this idea of working together, working in concert. If we work alone, that really limits our results versus working in partnership and across sectors. And so I would say for young professionals, young individuals, graduates who are interested in agriculture, look beyond maybe the obvious agricultural jobs. Right?

We have representatives here from a number of different industries. You can work at a company like Mastercard in the payments and finance industry and go really deep on agriculture because, and this is my part of the business, we see agriculture as a huge growth segment for Mastercard because there are all these small and medium sized businesses that today are not banked or not transacting digitally, particularly in markets like Africa and South Southeast Asia. So that's a huge growth opportunity for our business. And you might not think off the bat of, you know, working in the finance sector or working in the tech sector, but actually that can be your inroad to agriculture. So my advice would be to, you know, think creatively and broadly about what you can do in the spirit of partnership for an agricultural means.

Isis Almeida:

Thank you, thank you all. I certainly can say I've learned a lot today. Just everything was so interesting. But before we go, I wanted to hear some solutions. I wanted to hear from each one of you, how can technology keep moving the industry forward and ensure that we can continue to feed a growing planet?

Chris Abbott?:

I am a broken record on this. It won't without partnerships.

Jason Cope:

Yeah.

Chris Abbott:

So as great as we think our technology is and a lot of familiar faces in the room, we will not do it without partnerships. So, it's a it's a fallacy to think that there's another way. There is not. We live in an integrated value chain, only industry that is start to finish an integrated value chain. So we've got to figure out how to work together.

That's a challenge to capital providers and technology companies like ours that like to think they're gonna conquer the world or disrupt the world, which is great. There's a lot of really good energy to channel there, but at some point figure out how to serve a partner and the same is true for the large incumbent. You need to look outside your four walls because if we don't figure out how to work together, then you just get sort of stuck in this doldrum effect and that's not good for anybody. It's not good for shareholder returns, not good for investors, certainly isn't good for farmers and consumers of food. So you've just got to be able to break down that mold, our industry has not actually been very good at that.

Very insulated, very humble, which are good things, but at some point you gotta sort of open up and invite the partners in.

Jason Cope:

Yeah, I think you stole my thunder. We're sharing a brain there. I think what I would add to that is you look at agriculture, and to the student that asked the question, it's really about perseverance, and it's really about remembering agriculture has the unique ability to help everyone on this planet in ways that very few other jobs could ever do. And it's something that I get emotional about when I talk about it, because it means so much to me. Do what you can do better than anyone else.

I know that's kind of a a common saying when it comes to driving something forward that you're passionate about. But I would echo Chris. Do it collaboratively, because there are other really smart people out there that have amazing ideas that when you put the two together, there's a synergy that you can't realize doing things on your own in a vacuum. And I'm realizing that more and more every day in this journey I've been on with my start up.

Beth Dunford:

I think what I would say, obviously, is technology and the advancement of technology is the only way that agriculture will continue to flourish. The points have been made again and again, just seeing the types of technologies you all are coming out with. It's amazing. But we have to look broadly. We cannot have I don't want to go again driving through the fields in when I'm out at work in Africa and stopping farmers and asking them what they're planting and hearing that it's a twenty, thirty year old variety.

We have to change that. We have to ensure that these innovations are getting out to the millions of farmers across Africa. Africa has a potential to grow so much further in agriculture than it already has. And this is also an important market for US, for The US agricultural economy. So we have to remember that, you know, let's come together and partner creatively, public, private, different tech companies to ensure that we can get these technology out to the people who actually need them.

Stephanie Smith:

You know, the one thing I would add to all this is it's partnership, and I think it's taking partnership in a really pragmatic way down to, you know, a village level or literally a cooperative or a farmer and saying, how do we do layered execution? My boss likes to talk about the idea of like a wedding bridal registry. You know, you you say, I know I need a fork and a knife and a plate. I don't want you have a list, You have the registry, but you don't need 10 plates. You need one of everything.

And I think it's the same when we're talking here about this partnership. We need to have the ag techs and the banks and the development finance sector. We need all these people to come together. And if we can do it in a really coordinated, very tactical way, we can start to see really meaningful change at scale.

Isis Almeida:

Thank you all. I think this conversation has been really in-depth. I think agriculture is so important. Feed in the world is so important, and you can see how big of a role technology plays and will continue to play. I think the perspectives can be quite different if we're looking at the big farms in The US, for instance, where financing has dried up, but it's still much more accessible than in other parts of the world where I am sure a lot of farmers elsewhere in the world would love to have big tractors, autonomous tractors, or access to AI and technology that we see in this country that sometimes we do not see elsewhere in the world as we've heard the perspectives here from Africa.

I think most importantly, it's interesting to think about how we can continue to feed the world in a changing climate, in a warming climate. We've heard about more higher yielding seeds or heat resistance and how important that is in different parts of the world. You talked about farmers using seeds that are twenty, thirty years old varieties and how technology can help us get there. I really appreciate everyone's time and thank you so much.