2025 Norman E. Borlaug International Dialogue
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Speakers

- Emcee: Han Chen | 2024 Top Agri-food Pioneer and Co-Founder and Chief Executive Officer, ZeaKal
- Matías Badano | CEO and Co-Founder, APOLO Biotech
- Manoj Kumar Rupa | Founder and Managing Director, Capsber Agriscience
- Terese Shadrach Akpem | Founder, Vet Konect

Transcript
Video Narrator:

The World Food Prize Foundation Innovate for Impact Challenge in collaboration with America's Cultivation Corridor is a game changer for the future of agriculture. Launched to accelerate innovation in ag tech, this bold initiative aims to remove barriers and empower the next generation of visionaries tackling global food security. By supporting early stage startups developing breakthrough technologies, the challenge amplifies the impact of cutting edge solutions that can revolutionize agriculture productivity and sustainability. Eligible companies must be for profit, tech driven, and in their early stages, from validated concepts to pre series A funding. With at least one founder dedicated full time to the company, these startups are driving change while aligned with the foundation's mission and the United Nations' sustainable development goals.

Key evaluation metrics include innovation impact, market potential, sustainability contribution, performance, scalability and replicability. These criteria help identify companies whose technologies can transform the future of agriculture. Three winning startups will receive significant financial support: 50,000 for first place, 10,000 for second, and 5,000 for third. These prizes will fuel the success of tomorrow's ag tech leaders. Innovation is the driving force that turns today's challenges into tomorrow's solutions.

In the face of pressing global issues like food insecurity, climate change, and resource scarcity, inspiring innovation means empowering visionary thinkers to push boundaries and break new ground. It's about cultivating a mindset of creativity and

resilience where bold ideas meet cutting edge technology to transform industries and uplift communities. By fostering a culture that encourages risk taking and embraces novel approaches, we can unlock the potential to revolutionize agriculture, protect our planet, and create a sustainable future for generations to come. The World Food Prize Foundation is committed to elevating innovations that hold the promise of transforming global food security, always in search of the next Norman Borlaug, a visionary who will revolutionize agriculture and help feed the world.

Han Chen:

Good afternoon, everyone. It's great to be back here again. My name is Han Chen. I'm the CEO of ZeaKal and I have the pleasure of being your emcee this afternoon. Before I start, I want to make this kind of interactive.

How many entrepreneurs or aspiring entrepreneurs do we have in this room? Raise your hands up high, don't be embarrassed. Wonderful, wonderful. Well, this amazing stage today is going to be filled with three entrepreneurs who have worked tirelessly over the past nine months to showcase their companies and to be on the largest stage today created by the World Food Prize. But just know that even though you're going to hear a five minute pitch, that this represents years of dedication, sacrifice, and purpose driven mission.

So I had the pleasure of standing here last year when this Innovation for Impact Challenge was announced. I was here with Mashal and she said, the world food price is always focused on science and research. Honoring Doctor. Borlaug's legacy, we know the power of technology and what it can do to reshape the food and ag landscape. But we want to make sure that this legacy and this impact was also extended to entrepreneurs who may not always get the stage that they deserve.

We want to make sure that we're reaching out to all corners of the world in order to find the best new technologies that were not only serving their local communities, but had a chance to scale and have impact across the world. What was amazing right after the challenge was announced was that we had three eighty seven submissions across over 60 countries and six continents. So aside from the Penguin Innovation Community of Antarctica, I think we have a pretty good cross section of entrepreneurs and innovation landscape. The World Food Prize Foundation as well as our judges and many others have worked tirelessly over the past few months to

evaluate all of these candidates and we saw some amazing, amazing submissions. These were whittled down in a very, very brutal and tough selection process through many months.

And today, we get to see our top three finalists. The top three finalists will join me on stage in a bit and they get to share their innovation journey. And they were competing for three prizes that are coming from our very, very generous sponsors. In addition to being on the world's largest stage, they get to network with 1,500 Ag leaders across 70 countries, and they get to finally put their journey in front of all of us and to then really share what this means to them. Of course, I can't do this alone.

So sitting in front of me today, have a panel of very illustrious judges that all represent leadership in our industry. So to start, we have Chris Abbott with Pivot Bio where he serves as a Chief Executive Officer. Pivot Bio's goals are to enhance farmer profitability and resilience while advancing environmentally sustainability across the agricultural supply chain through innovative crop solutions that can replace synthetic fertilizers. Thank you, Chris.

Up next, we have Kay Kuenker, who is the Chair of Agritech Venture Corporation and serves on the Board of the World Food Prize Council of Advisors. She brings extensive experience in agtech having held senior leadership positions at both Advanced Agrilytics and Corteva.

Next, we have Chris Nelson. Chris is the Chief Executive Officer of Kemin Industries, a global ingredients manufacturer that supplies over 500 specialty ingredients across the globe. A scientist and entrepreneur, he holds 10 patents and has built a career rooted in innovation and leadership. Thank you, Chris.

Local hometown favorite, Judd O'Connor of Corteva. Judd is Executive Vice President of the Seed Business Unit, where he has spent more than twenty five years advancing the company's growth and innovation. He brings deep expertise in agricultural business, marketing, seed treatments and commercial strategy.

And then last but not least, Stephanie Smith is the Senior Vice President of Growth Segments at Mastercard. She is dedicated to collaborative efforts and sustainable digital infrastructure, bringing education, healthcare and commerce to rural communities through innovative technologies. So thank you very much, Stephanie.

Okay. So the format of today's challenge would be each of our entrepreneurs will have five minutes to give their pitch. The judges afterwards will deliberate backstage and will come back on stage to announce the winners. And of course, the winners and the prize would not have been made possible without our very generous sponsors who I want to recognize right now.

So first off, we have Pivot Bio. So driven by a focus for farmer needs and crop nutrition that is safe, predictable and profitable, Pivot Bio is dedicated to supporting farmers with products that optimize crop production through specifically timed and placed nitrogen delivery. Our second sponsor, CoBank, is one of the largest private providers of credit to the U. S. rural economy, delivering loans and financial services to the agricultural sector.

And finally, America's Cultivation Corridor drives the growth of Iowa's agriculture and bioscience economy, connecting innovators and leaders from around the world with opportunities, resources, and talent in the state. So, the representatives of these organizations will join me later on stage as we announce the winners and hand out these awards. So, with no further ado, I'm really happy to introduce our first entrepreneur. So our first finalist of this evening is APOLO Biotech, a company pioneering RNA based technology to help agriculture adapt to the impacts of climate change while reducing dependence on synthetic pesticides. With our GMO free approach that enhances pest resistant crop yields without the use of potentially harmful pesticides, fungicides or herbicides, from Buenos Aires, Argentina, please welcome Matías Badano, CEO of APOLO Biotech.

Matías Badano:

Good afternoon. After our scientific team discovered a gene in a plant, an RNA in a plant that was named APOLO, we unlocked a game changing capability about using RNA spray to communicate with plants, to make them adapt to different environments and to activate natural defenses. At APOLO Biotech, we are a biotechnology platform where we can modulate genes in plants and pathogens with a free CMO approach using our RNA technologies. We have developed two RNA prototypes, one for gene silencing, which targets a specific pathogen like a vaccine for crops, and one for gene modulation, that we can boost plant defenses and also we can mitigate different environmental stresses. Due to our bioinformatics platform

powered by AI, we can do product security by designing product solutions, comparing thoroughly to different off targets to secure safety and precision.

We know how to move from science to the farm. We have over 50 RNA programs in our product pipeline in more than 15 pathogens in more than 15 crops and pathogens. We have ongoing projects on what we consider our blue ocean, solving high impact problems like black spotting lemons or mitigating the crops to tolerate environmental stresses, like straw or heat shocks, as you can see on the screen. We have a clear example of what we are doing in the field. We have over 50 field trials across Latin America and Europe in more than 15 crops and 10 pathogens, like botrytis, sclerotinia, fusarium and Black Sea Atoka.

One clear example in bananas is that today's farmers are applying chemicals once or twice a week to control Black Sea Atoka. But due to the Farm to Farm disposition, those chemicals are being banished, a $1,000,000,000 opportunity only in Latin America. At APOLO Biotech, we have discovered and we have a solution for Black Sea Atoka, as you can see on the screen. And now we are presenting our first regulatory process for key production countries, such as Costa Rica, Colombia and Ecuador. We are not alone on this mission of scaling RNA technology.

We have built a world leading team in RNA technology with our co-founder, who is one of the top 2% of plant scientists worldwide by Stanford Rankings, with more than 150 RNA publications in top scientific journals. We also have a validated B2B business model. We have a pre commercial agreement with global distributors and with corporate farmers, powered by APOLO Biotech business solution. Last year, we built the first RNA pilot plant in Latin America. We could reduce our production costs over 99%, making this technology affordable for farmers for the first time.

This year, we are expanding into Europe and the U.S., launching field trials in St. Louis and also opening labs with our main advisor in Paris, Doctor. Martin Crespi. We are now opening our first investment round after three and a half years , in order to increase our product pipeline, to file our patent and to do the product registration in Latin America.

We believe RNA is the next ring revolution, and we are ready to scale this technology globally to shape the future of sustainable agriculture. We are APOLO Biotech. We are making plants smarter. Thank you.

Han Chen:

Wonderful job, Matías. That was a great pitch. All right. Now for a second entrepreneur. Hailing from Bengaluru, India, Capsber AgriScience is tackling the challenge of declining soil health through the power of soil native plant symbiotic microbes.

Their innovative technology reduces the need for chemical fertilizers while boosting carbon sequestration and improving water use efficiency. Welcome Capsber AgriScience founder, Manoj Kumar Rupa.

Manoj Kumar Rupa:

And I hope all the members present in here would agree with me that soil is living. And, yes, soil is also losing its life. And according to the statistics of FAO, more than 1,000,000,000 acres of sorry, 1,000,000,000 hectares of farmland is deteriorated, which means the farmers are applying a lot of fertilizers, but still it is not reachable to the plants and getting locked in the soil. And this is actually causing losses to the farmers, productivity is lost, and profitability is lost. Hence, several small order farmers across the globe are quitting farming.

And we at Capsber are addressing this issue using microbial solutions for making the fertilizers smarter, profitable, and soils healthier. And we have developed a platform for microbial intelligence that is Biointel-X using 24,000 microbes collected from 127 agro climatic zones and covering 62 soil types. With this, we have actually covered 3,000 extreme extremophiles, which are from different extreme weather conditions. And we have optimized their functionality using metagenomics and customized their applications to crop specific and soil specific needs. We have developed Capsulicit and Capsulix, which are the patented platforms for intensifying the biometabolite production and extending the shelf life of these microbes, which is the major problem that is across the world.

And we have developed the platforms that align with seed industry, fertilizer industry, and ag biological industry. With this, we are able to code the fertilizer granules and the seeds for increasing the nutrient use efficiency and vigor. We are ambitious. Today, are catering about more than three lakh farmers in India and Sub

Saharan Africa, whereas in the next five years, we aim to cater more than 50,000,000 smallholder farmers across the globe and 30,000,000 hectares to be rejuvenated and reducing 550,000,000 metric tons of greenhouse gas emissions and saving 2,300,000,000,000 liters of water and increasing $111,200,000,000.0 revenue to the smallholder farmers globally. And we have partnered to scale up with IFSCO, the largest fertilizer and world's largest farmers cooperative in India with about 45,000 outlets across the country.

And we are able to beat five sustainable developmental goals and reduce the fertilizer burden on the government and the farmers using it more efficiently. A case study in PADI demonstrates that the nutrient use efficiency using Kaflo biologicals has increased 2x compared to the traditional farmers application method. And an increase of 15% increase in yield demonstrated in around six fifty trials that are conducted across India with the support of Gates Foundation and Cisco CSR, along with Indian Council of Agriculture Research, demonstrated a 35% reduction in fertilizer usage with an increase of 1.2 metric ton in tidy, that is from 6.5 to 7.7 metric tons yield per hectare, which accounts for $410 extra revenue to the farmer plus the fertilizers saved. With this, I would like to close by saying a statement given by Dr. M.S. Swaminathan, the earlier Laureate who has mentioned that if agriculture goes wrong, nothing else can go right. And for agriculture to be right, the soil has to be healthier and lively, and that is what Capsber is doing.

Thank you.

Han Chen:

Amazing timing Manoj, three seconds left on the clock. I was asked to very unceremoniously dismiss any entrepreneur that went over in the spirit of fairness and equity. So our next entrepreneur, who I had a pleasure reconnecting with, he was known as a selfie guy from last year's TAP awards. He took the very famous selfie that's been circulating around LinkedIn. But founded by a veterinarian, our final contestant really bridges the gap between farmers and essential livestock across Africa.

Through mobile connectivity, AI powered disease prediction, and smart feed calculation, Vet Konect ensures animals receive quality care no matter the distance.

So all the way from Nigeria, please welcome to the stage Vet Konect founder, Therese Shavrak Akpan.

Terese Shadrach Akpem:

Cheers. Good evening, Iowa. Good evening. How are we? Good. So I wanna do three things that in the next four minutes, give or take. One, I'll tell you about the animal health crisis across Africa. Two, I'll tell you what I'm doing to solve that problem. And three, I'll tell you why you should care and join me in addressing that challenge.

Over four hundred and forty five million dollars is lost across Africa annually for two primary reasons. One, preventable livestock diseases. Two, lack of access to animal care. But I want us to look beyond the numbers and what you find are millions of livestock farmers across the African continent who are losing their income and livelihoods on a daily basis. And also animal health professionals who also potentially are losing jobs.

The problem really doesn't end there. Because livestock farmers are having challenges accessing animal care services, they are also increasingly misusing antibiotics. This is translating to a big challenge regarded as antimicrobial resistance. Why does it matter? The animals that are exposed to these antibiotics end up on our tables, which we consume.

And according to the World Health Organization, over seven hundred million Africans are dying annually across the African Continent due to the challenges of antimicrobial resistance. Now this is what we are doing about it. Vet Konect has built a comprehensive digital animal health platform that leverages mobile connectivity and artificial intelligence, where we're directly connecting livestock farmers across Nigeria and other African countries, to animal health professionals, veterinary clinics and vendors in real time. Our AI powered disease predictor and feed calculator are helping farmers in disease management and farm productivity in real time. Again, because we understand that over 60% to 70% of livestock farmers across Africa are residents in rural and underserved communities, where they either do not have access to internet connectivity or smartphone ownership, while built and deployed USSD codes, which are enabling this smallholder farmers across these locations to access animal health care services in those locations simply by dialing short codes.

Since launching in 2022, we'll be able to onboard over 3,000 animal health professionals spread across eight African countries. We have served over 150,000 animal owners, over this time frame. Because climate change is also heavily impacting smallholder livestock farmers, especially across rural communities, we deployed this year what we call the Vet Konect Early Learning and Warning Systems. What this does is to provide targeted notifications on disease outbreaks for climate induced disease conditions across smallholder farmers, where over 4,600 of these farmers today are receiving notifications and veterinary advisory through this network system. Picture this for a moment.

If the number of animal owners across Africa was a continent, it is going to be the fourth largest continent with over 600,000,000 animal owners, supporting 1,400,000,000 livelihoods across the continent. That is the demographic that I'm serving. That is the demographic we cannot afford to ignore. What I'm looking to do in by 2030, is to connect over 5,000,000 Africans directly to animal care coverage. With the support of $50,000 today, we'll be able to effectively double our impact by reaching over 150,000 livestock farmers across Africa in the next one year, while also onboarding 10,000 animal health professionals.

This would effectively reduce the impact of disease outbreaks and also farm management practices across the African Continent. Norman Borlaug, in one of his last reminders to us said, take it to the farmer. This is a living reminder to tell us that no matter how brilliant our innovations are, if they fail to get to the farmer, it amounts to no consequence. VertConnect effectively is putting the right resources in the hands of livestock farmers, to ensure that our productivity is unlocked. And with Africa's population predicted to double by 2,050, it means that we are going to have a lot of pressure on our livestock resources.

How best are we going to preserve that population if we do not address those challenges today? And that is why I hope that you are inspired beyond what happens here today to join me in sharing in this passion and ambition to ensure that every livestock farmer across the African Continent is connected to animal care. Thank you very much.

Han Chen:

Wow, I think that was a real treat for everyone here. You can really sense the passion, the commitment of all the entrepreneurs that just presented. So what's going to happen now is our esteemed judges, we will retreat back to the Green Room and we'll have a period of deliberation on who will come out as the champion of the first challenge that we have this year. I'm glad that the audience is still here. So thank you so much for your patience, but all good things are worth waiting for.

So in this magical envelope, we have the winners and we haven't seen this yet. So thank you judges for taking the time to deliberate. I know that this was not an easy task. We had three great companies and I know that these are companies that we've gotten to know over the past nine months and they gave amazing presentations today. And of course, once again, this wouldn't have been made possible without our sponsors.

So please right now, love our award givers to join me here on stage. So again, once again, you very much to America's Cultivation Corridor, CoBank, as well as Pivot Bio. Wonderful. Now I'm going to call out our three entrepreneurs to please join me as well. Don't shake their hands yet, you don't know who's actually gonna.

Wonderful, well gentlemen, congratulations on a very hard fought battle. Thank you for telling the stories of your company so succinctly. We could feel the years of passion come through in those five minutes. And just so you know, you're all winners tonight. For anyone that's ever been an entrepreneur, we understand the sacrifice, how lonely the journey can be.

We understand that moments like these, that the capital that can be provided could be game changing for your journey, and we can't wait to see how you all continue to develop your companies. So congratulations once again just for making it to the stage. So I really don't know what's in here. So my reaction is gonna be in real time. Drum roll, please.

Alright. So to present the award for second runner-up, my very good friend, longtime advocate, Ms. Billi Hunt from America's Cultivation Corridor. The second runner-up of the first Innovation for Impact Challenge going home with $5,000 is Capsber AgriScience. Kind of the moment of truth now. To present the award for first runner-up, we have Steve Wittbecker from CoBank.

The first runner-up will be receiving the investment amount of $10,000 and we have Vet Konect. Now I'm not gonna take away from the tension of this, but obviously, we can do the math. However, finally, the moment we've all been waiting for. We have Karsten Temme from Pivot Bio to present the first place award to our champion of this round. The winner of the 2025 Innovate for Impact Challenge and recipient of $50,000 we have APOLO Biotech.

Please come to the middle for a picture. World Food Prize leadership join us on stage for a final photo op. Maybe not.

Well, and gentlemen, this concludes our first and inaugural Innovate for Impact Challenge. This is an event that will be coming back. We really look forward to welcoming the next class of entrepreneurs. Look forward to all of you continue to follow their journey and to support them on making agriculture more productive, more resilient and more sustainable. And thank you all for your time tonight.