

**A CONVERSATION WITH THE 2016 WORLD FOOD PRIZE LAUREATES**

**Panel Moderator: Jeff Raikes**

October 14, 2016 - 11:00 a.m.

*Introduction*

**Ambassador Kenneth M. Quinn**

President - World Food Prize Foundation

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All right. Let me now invite Jeff Raikes and our laureates to come to the stage. And you saw the program last night. The laureates got a minute after they received the sculpture to speak, and you can imagine when I told them that – “What!? A minute? You know, we have so much to say about this, our research.” And I said, “Don't worry, don't worry, don't worry. You'll have your chance tomorrow to be on the panel.” So I'm making good on my promise so that you see you have a chance to talk about what you've done.

I'm especially grateful to Jeff Raikes for his willingness to moderate this panel. There were two dates that are in my memory forever about the World Food Prize. They came within one month of each other. September 12<sup>th</sup>, 2009, Norman Borlaug passed away. One month later on this stage, Bill Gates came on October the 15<sup>th</sup> and launched his African Initiative. And I sat over on this side next to Jeff Raikes, who, as the CEO of the Gates Foundation, had done all of the work and coordination and management, along with Sylvia Matthews Burwell and Rajiv Shah in putting this all together. And it will forever be a point of pride.

So, Jeff, thank you. Jeff had a terrific career at Microsoft leading the Gates Foundation. Now he has his own foundation, but what you really have to know about him is, he's a Nebraska guy, farming. So, Jeff, thank you. Over to you.

*Panel Members*

**Maria Andrade**            2016 World Food Prize Laureate

**Howarth Bouis**            2016 World Food Prize Laureate

**Jan Low**                    2016 World Food Prize Laureate

**Robert Mwangi**            2016 World Food Prize Laureate

*Panel Moderator*

**Jeff Raikes**

Co-founder, Raikes Foundation

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Super. Well, thank you very much. It's a great pleasure to be here. And, Ambassador Quinn, I appreciate your remarks. But I do just want to say that the success of the Gates Foundation

really is not its financial... will not be determined by its financial endowment but it's intellectual endowment.

And so, given the laureates we have here today, I want to do a special shout-out to a great example of that intellectual endowment. And that's our program officers. Laurence Kent is here in the audience today. And it wasn't Bill Gates and it wasn't Sylvia Matthews Burwell, and it wasn't Jeff Raikes who figured out the potential of what we have here today. It was Laurence Kent, and so I wanted to say, thank you, Laurence for bringing us here today, because you played an important role. You get the assist.

So I know we have a short period of time, so we're going to dive right into questions. And I want to start out with the question of evidence. You know, we've had a lot of discussion about how people suffer from nutrient deficiencies, how biofortified crops can raise the level of the micronutrients. But I think at the end of the day, what we have to know is—is that showing up in terms of addressing those nutrient deficiencies and improved health outcomes?

So, Jan, maybe I'll start with you. What are your thoughts, and how would you support the evidence?

Low Thank you, Jeff, and I'm very pleased because in the past two or three years, several reviews have come out looking at food-based approaches for combatting malnutrition; and they all mention in these reports that the best evidence base comes from the work of an orange fleshed sweet potato. And this didn't happen overnight; it's been a 15-year or so process. But there are many, I would say, effectiveness and efficacy studies that were done where you have intervention groups and control groups. There was work done of a controlled feeding trial at a school in South Africa where they used a modified dose response and showed the impact on vitamin A status.

I led some work in Mozambique that was funded by the Micronutrient Initiative and USAID and Rockefeller Foundation initially and HarvestPlus where we showed really that we used an integrated approach of introducing the orange fleshed sweet potato but combined with nutrition education at the community level. And we were able to see a reduction in prevalence of vitamin A deficiency among young children of 15%.

And then after that, the Gates Foundation financed HarvestPlus to lead a big study where we went to scale in Mozambique and Uganda and really gathered even more evidence to show the impact of the integrated approach on a young child's vitamin A intakes and the intakes of their mothers. And the increases in both countries ranged from two to three times compared to the control group. And in that study we saw the impact on vitamin A status that was measured in Uganda.

There's been work done led by Marjorie Haskell in Bangladesh that showed the conversion rate. So 14 units of beta-Carotene in sweet potato converts into one unit of retinol, the vitamin A, in the body. So we have one of the best evidence bases, and again I would say what it's saying is it's not a magic bullet. We have to do these interventions with good nutrition education at the community level, but the evidence is clear, we're improving knowledge for the long term for the next child, and we're making a difference to the current household.

Raikes Fantastic. Any of the other... Howdy, do you want to chime in?

Bouis Yeah, there was a lot of skepticism among the nutrition community when we got started. They felt that the percentage of the nutrients that would be absorbed would be too low. That was the question. So HarvestPlus has commissioned 14 efficacy trials for different crops and different nutrients, and most of those studies are in now. I'll talk a little bit about the iron crops. So we've shown that the high-iron beans and the high-iron pearl millets will improve iron status, reduce iron deficiency. And in addition, we've shown functional outcomes. With the pearl millet, the children who ate the high-iron pearl millet, their cognitive performance improved. The women who ate the high-iron beans in Rwanda, their work performance improved.

We have now the zinc crops; efficacy trials are out in the field, and we're waiting for the results. But the bioavailability, the percentage of the zinc that has been absorbed, is up around 15 to 20%, which is where we need to be to show that the zinc status will improve.

Raikes Oh, that's fantastic. In a moment I want to go to some questions about breeding. But before I do that, one of the things that I'm very interested in, and I think the audience will be interested in, is that there's a lot of attention to a single micronutrient, vitamin A. But as we well know, most people suffer in hidden hunger from lacking in multiple micronutrients. And so Howdy, you in particular... I'd like to hear your thoughts on how you think that biofortification can do more to deliver the full set of micronutrients that are required in deficient populations.

Bouis Well, I think my first point is that we have to keep our eyes on the final goal, which is improved dietary quality. Everybody needs to eat the full range of fruits, vegetables, pulses, animal products. That's the final solution. Now, what biofortification does is deliver some nutrients in a very cost-effective way.

So when we, for example, to give another example – when we iodize salt, that's a single nutrient, and it's delivered cost effectively. So let's not think that biofortification, we're going to solve the whole problem by putting all the nutrients in all the staple food crops. That's not the concept. So we're looking where we can deliver certain nutrients cost effectively. It's very difficult to use conventional breeding to breed multiple nutrients in the same staple food crop. It takes a long, long time to do that.

Having said that, a very promising strategy might be to breed more prebiotics into the staple food crops. Prebiotics improve gut health, and they may be able to increase the bioavailability of a range of trace minerals. And that may be a very promising strategy in the future.

Raikes That's fantastic. Let's turn to breeding, and I thought Jim Kim's speech, by the way, yesterday was really fantastic. I hope everyone here had a chance to hear him speak. It was very inspiring. But one of the things about his speech is it really clearly articulated the magnitude of this issue. And I think he also did a good job of suggesting a sense of urgency. I grew up, you know, my family were hybrid seed

corn producers and certified seed. And it takes a long times sometimes to see some of these improvements get there.

So the breeding cycles can be very long, but I think there's been some breakthroughs; and, particularly, I've heard a little bit about the ABS, the revolutionized speed of the alternate breeding scheme. So, Maria, perhaps you could share a little bit about that breakthrough.

Andrade Thank you very much, Jeff. To really talk about ABS, alternate breeding scheme, I would like to give you in a very simple way the breed cultivation, sweet potato breed. Breeding sweet potato is very complex, because the genetics of sweet potato is an hexaploid, so if you see during the sexual reproduction, when you see the six set of chromosomes being, during the reproduction, anything can happen. That is why the variability, any seed that you cross two parents, any seed you collect, you can select for anything you want.

So a conventional breeding process takes many years, because you planted a seed in the nursery, then they germinate. Then you take this seed into what you call the next step, which is the clonal evaluation. Then you go, for example, to other stage, until you release a variety. It takes seven to eight years.

If you are talking in a country like some parts of Uganda where you have the bimodal type of rain for distribution. But if you're talking in a country, like for example, that just have one unimodal rain pattern, then it may take you much more time. So as you cross your seed, then you increase the amount. You take it to one location, then it goes to two locations, then it keeps on going until you are in the stage where the farmers are able to come and the farmers are able to select, together with the researcher, what they need.

So this takes so many years, and usually we find a lot of constraint in the past, because donors are not willing to sponsor any program that takes so many years to deliver one output. So, therefore, together with our colleague in Lima, Peru, we developed what we call alternate breeding scheme, which cut the time to release the variety in half. Instead of taking eight years, we cut it to four years. But on what consists this breeding scheme. Usually, instead of taking the material, the cutting, to several, year one in one location; then you increase in another location. What do we do? One seed, one seed is multiplied very, very fast in this greenhouse after you germinate them. It gives you, for example, 12 different plantlet that we take to several agroecology at the same time, simultaneous. Then you evaluate them in simultaneous. But if you look into the whole environment, which is Southern Africa, when one of our major constraints is a doubt, so you evaluate them under the drought. You impose that drought, and then after you finish that, when you take those other sites where you have the virus and maybe nutrient deficiency. And the first year you do... The first year you finish your evaluation trial or your clonal evaluation. Say it comes here, you do a preliminary and advance to new trial. On the third year you are already inputting in your multi-location trials in every site together with on-farm trial. So in the fourth year, you are able to really get all the information.

But what helped us very much on this process is because you have this rapid screening, the near infrared, which help you very fast to see what material has the nutrients you need, and you select them and you take them up. Of course, our breeding program is to look into high levels of beta-Carotene, drought tolerance and also the taste. But no matter what you do, if the sweet potato does not taste very good to the farmer, it will not be adopted.

So in this process we manage to, in Mozambique, to have two deliver of material that is drought tolerant. For example, in 2011, using this select breeding tool, we released about 15 drought-tolerant varieties. Four years later, we released another seven drought-tolerant varieties, in 2016 February. So it is possible, and we speed up, and those materials are very much taken by the farmer.

Raikes So this accelerated breeding scheme really has revolutionized the speed at which you can take it to the farmer. But I think of taking it to the farmer in another dimension as well, not only how quickly the innovations and the improvements can get to market but also broad geographic scope.

And I learned of another interesting approach that really helps on that second dimension—having a community of practice of the breeders. And I think, Robert, you've been instrumental in that, so can you share a little bit about how that community is structured and how you were able then to expand the geographic scope? My understanding is 2005, there were maybe two countries that were doing the sweet potato breeding. Where are we today?

Mwanga Thank you. First of all, before 2009, there were really two or three national breeding programs that were actively breeding and raising varieties. That is Uganda and Mozambique and Ghana. So the others, really if they were active, maybe they were just selecting varieties.

So the other countries had to be brought up first of all, the capacity. That is, the breeders had to be trained, and here we thank AGRA, Alliance for Green Revolution in Africa, had to support training, PhD, master's level, breeders to come out and start breeding, and then to fund the national programs to do the breeding. In the meantime, the Bill & Melinda Gates Foundation supported what we call, support platforms, the programs in Uganda, Ghana and Mozambique who have capacity, the infrastructure, the equipment, near infrared spectra copies that Maria has mentioned, who could do the rapid screening and handling large numbers of breeding materials.

The national programs had to be trained. You know, the cereal crops are far ahead compared to the sweet potato. And so you either speak the same language and understand each other, then you can compare results, or if you don't speak the same language, you will be doing these different things, and you can't move together.

So there is this training we had to actually copy and modify what CIMMYT is doing, the so-called CIMMYT field book. And we designed something similar to that so that breeders can select and do the breeding and release varieties in a similar manner. And this way, in combining what Maria has described, accelerated breeding, with the training and meeting and exchanging information from different places on the

continent, even outside the continent. We had at one time to go to Ghent for breeders to update their knowledge in terms of handling materials and analyzing data and releasing these varieties, taking care of what actually is necessary to release a variety that will stand and that is required by the farmers and the consumers.

And so in this way, we have developed a community of practice, breeders speaking the same language, breeding in a similar way, following similar protocols, so that results are comparable. And we have been able also to bring up on board projects on developing genomic tools, because we don't want to lag behind. And so we are working together, basically, to try and solve the problems that are preventing increasing productivity but also producing varieties that are preferred for the farmers. We are talking about orange fleshed sweet potato high in beta-Carotene, high in vitamin A. And so the focus is, solve the major problem – in East Africa, Eastern and Central Africa is viruses, Southern Africa is drought, in West Africa the problem is a bit different because we are breeding for less sweet, sweet potatoes. But in each of these sub-regions, there is a major bottleneck – you get rid of that, and then you go ahead with the rest of the required varieties and combine them.

So each national program needs to tailor to target the consumers. They are a bit different on the continent, so in this way we have been able to quickly release varieties that meet the farmers' needs and consumers' needs.

Raikes I love that. So you had different outcomes that were desired, but you had a common support platform and a common language, kind of like in software, having a consistent user experience – right? I appreciate that. Oh, Jan.

Low Yes, Jeff, I can just add. We call this the speed breeders under the Sweetpotato for Profit and Health Initiative; they meet annually. They have very cool orange sunglasses, and I was really proud this year, because when I walked into the room, combining with the breeders that we work with in Peru and the United States, there were 33 sweet potato breeders, and that is truly a community of practice. So since 2009 we have now released over a hundred sweet potato varieties in different countries, of which 70 are orange fleshed.

Raikes Wow, very good. Speed breeders – that's pretty catchy, Jan. Okay. I want to continue on the thread on breeding. I think your results were largely or exclusively delivered through conventional breeding. If I remember correctly, about three years ago the laureates were recognized for work in biotech crops. So I'm wondering. When it comes to addressing these micronutrient deficiencies, do you see cases or instances where you think biotech approaches are going to be necessary or justified in order to be able to get the outcome that we'd like to see from a health standpoint? Howdy, your thoughts.

Bouis When we started with HarvestPlus, we had to set targets for specific minerals and vitamins for a specific crop. So, for example, white maize has zero vitamin A in it, and we had to ask a nutritionist – how high does the vitamin A have to be to have a public health impact, and they told us 15 parts per million. Then we took that number to the breeders, and we said, "Can you breed for that?" And they said, "Yes, we think we can. Then we showed them the number for iron, and they said, "No. Based on what's available in our germplasm bank, we can't. We can't breed for iron in

maize.” And we got the same answer for rice, and we got the same answer for wheat for iron.

So HarvestPlus commissioned some upstream research. Well, maybe, maybe there’s something that could be done with iron. We can’t address it – those are the three major food staples in the world. Maybe we can do something with transgenic approaches for iron, maybe not. So we commissioned some upstream research, which started in Australia and continued to IRRI and was also tested at CIAT in Colombia. And now we have a proof of concept rice, which meets our target for iron. Rice has two parts per million iron, the normal rices and milled rice. This transgenic has 15 parts per million iron, which should have a public health impact. It’s the most widely eaten food staple in the world, and iron deficiency is the most widespread deficiency among micronutrients. It could have a tremendous impact.

And what was a bonus, an unexpected bonus, the zinc went up higher than we were able to breed conventionally. Even though we hit our target in the conventional breeding, this same rice is much higher; it went way above the target. So it’s high in iron and high in zinc. So, because of all the constraints, the extra hoops that you have to jump through in deregulating and being able to release the transgenic, it’s still five years away at minimum before we can make that available to farmers. So definitely there’s some real breakthroughs that can be made in biotech.

Raikes      Fantastic. And, Robert, I’d like to get your perspective, being located on the African Continent and how you’re thinking about the balance of conventional breeding, biotech breeding in this instance.

Mwanga     We would have already been into practice if the sweet potato wasn’t complex. Maria already mentioned that sweet potato is hexaploid has 90 chromosomes. They are tiny. The more the number of chromosomes, the more headache you will get. Until now, the science, the biotechnologies are still struggling. It’s not easy to deal with.

But the thing is... take, for example, a sweet potato weevil, the breeders have been breeding, entomologists have been breeding since I was born, and I’m already 62 years. We have no solution. In a case like that where you don't have a solution, the breeders are telling you they are going to break through, and nothing comes out. And if you looked at the crops and you have solutions and you think it’s going to work, then you take that way. The wheat we have, we’re eating now. The useful genes for this resistance – many of these diseases came from the wild. and so they were brought into maize, into corn.

And so, if you have genes that will work and solve the problem, then you test that channel instead of waiting and the answer never comes. And so, yes, we are working for if we can come up with molecular markers that can help us solve the problem of viruses and then for transgenic approach for a solution to get rid of the weevils, then we will take that route.

And so really the questions that we really ask is – Is there a shortcut using conventional breeding? If the answer is no but there’s a possibility of using transgenic approach... If you don't feed the people, you only feed the weevils.

Raikes I like that. We should take that to the public. Let's switch gears. I think one of the things that fascinates me about your work is the way in which you develop partnerships. Take, for example, the intersections between agriculture and human health. It's, I don't think, all that typical, in history, that you've got plant breeders and nutrition experts working together, yet that was a fundamental part of the success here. So I'd like you to share how you were able to build these strong partnerships between the communities and then also how you made the case to donors that these were high-leverage investments. Jan, maybe let's start with you.

Low Thank you, Jeff. Well, I think, you know, I've told this story many times when I first went around with the proposal to do the research in Mozambique, it took me three and a half years to get it funded, because I would go to the donor community and the health people say, "Well, this is an ag proposal." I go to the ag people, they say it's a health proposal. And I always will deeply thank Venkatesh Mannar of the Micronutrient Initiative, because he saw the potential and the linkage. And once he was on board, then I was able to get additional support from the USAID and the Rockefeller Foundation and start.

But I think even when you have the two different people in the room, you have to have them listen to each other and learn each other's language, because they speak different languages. Breeders talk in PPMs, and nutritionists talk in retinol activity equivalent units – you have to give them a conversion table so they can start talking in the same units and communicating with each other. And you have to at the beginning. Now we don't have to do it, but my team, which is not just breeders and nutritionists but economists and agronomists and food scientists, you have to make them sit in the room and listen to each other. Because everybody's too siloed, and it's breaking down the walls. You have to learn enough about the other field to appreciate the other field. And that's taken some time, and people often say, "Well, I'm busy. I'll just sit in on my sessions," and I say, "No. You have to sit in on all the sessions, because if you don't understand what your colleagues are doing, you can't see how you can work together."

Raikes Yeah, yeah, that's fantastic. My experience in working with academia is that, to some extent, they necessarily did need to create the silos in order to get the deep expertise, yet what we really care about is how we can adapt what we learn to solutions; and the interdisciplinary approaches are critical. Anybody, any other comments on this? Howdy.

Bouis I'll just give the example. I spoke before about setting a target for the breeders. When we first asked the nutritionists what the numbers should be, they said, "Well, it depends – depends on how much people are eating, it depends on whether it's a child, it depends on whether it's a mother, it depends on the bioavailability. So you can't pick a specific number. And it took them a while of talking to the breeders to understand why the breeders needed a single number. And finally they understood it, and finally the nutritionists were able to say, "Okay, we'll pick a number, and under these assumptions, this is the number we've picked."

But I think in addition to that, we do have different institutions and different disciplines working together. And I think everybody's got to have the vision – you have to give them the vision. So I sometimes say that I hope a grandchild 20 years

from now will ask her grandmother, “Did there used to be white maize?” – you know, that it’s all been converted over. Carrots used to be white, now they’re orange. The same could happen with maize. And once you give the breeders and the nutritionists and the extension agents and the communicators and everybody that vision, then everybody understands – okay, we’ve got to work together to make this happen.

Raikes Okay, great, thank you. I want to expand on the partnership point, because I think as I mentioned earlier, a key to success here is how we have interdisciplinary approaches and adapt. And one of my experiences at the Gates Foundation, a lot of emphasis on the upstream work, but at the end of the day, we’ve got to have the so-called downstream delivery work. And I think part of the success here and part of “taking it to the farmer” has been the way in which you’ve approached the combination of not just product development but product delivery. So maybe, Maria, you can share a little bit about how you formed a comprehensive approach over the course of these projects to really ensure that what was created got to the farmer.

Andrade Thank you. So as a breeder, we produce varieties, but if these varieties stay with us, it has no meaning. So I see a breeder as a potential extension agent. So when I talk about delivery, we are talking about vines delivered to the farmer. But there are a series of steps that you have to take along the pathway to make sure that through this delivered, process, you are successful.

For example, it’s very different if you are delivering a vine in a place where you have problems with drought, or if you are delivering a vine in a place where you have normal rainfall distribution.

So also you have to really look on the capacity of those people, what Jeff was calling partners, that are assisting you in this delivery process, if they really know how to deliver. For example, in my delivery, I always make sure, if I’m talking about the variety Melinda, that everybody is helping me bring this variety in to the farmer, they understand this is Melinda, and they understand all the attributes of this variety. So you need to be very sure that Melinda is not the variety called Lawrence that was released very recently. There must be a clear, morphological distinction, because you don't want them to mix. So all these partners must have a common language, a common understanding of what varieties and which agroecology each of every one of these varieties are to be very successful and later on to be released, later on to be adopted.

So there is a series of planning process throughout, because you don't want to come and deliver in a place where there is a severe drought. The farmer will take your materials and trash it under the banana tree if the banana tree is still alive. So you fail completely. So all the steps are planned in such a way that everything is coming at the right place at the right moment, using the right person to deliver. That is why there is a comprehensive training from the public extension service, private sector. All those that are having a common goals are in the process to deliver the seed.

If we see, for example, during our stages in Mozambique, we have several stages, because Mozambique is a country of catastrophe. You have drought this year, next

year maybe is a flood. So you have to come with a mechanism to really look into sweet potato as a food security and deliver the seed at the right time. So we are constantly on planning process to make sure that sweet potato will be available for food security and also for nutrition.

For example, during the emergency that we had a lot in the year 2000 or before, we multiplied the planting material at the research station. And then what we did, we fill up lorries and lorries, we painted these lorries in all different colors, the orange colors, all design, and come into the village. We got in the village, but there was no radio program, nothing. As we reach in the village, maybe there is a funeral, maybe there is everything. We delivered the seed and went back to where we came from, and nobody planted any seed – and nobody planted any seed. And that is why, for example, later on we modify our system and we put it like what we call decentralized vine multiplier, which is a multiplication that is taking place in the district, around the community and serving the community. And you with seed voucher, that whenever the farmer thinks is the time appropriate to go to this multiplier and get their seed, they call it, they go.

But around this DVM there are many training program taking place, because DVM is a promoter there. Any farmer coming to collect the seed, he is the one to teach the farmer how to plant and when to harvest. What are the pests and the disease they should take care during, throughout the growing? So we create a lot of demand, a lot of training, demand creation. If you see, coming to our field, you look from the far distance, the labeling is all orange, and we create... Also around the road we put the name of this decentralized vine multiplier, their name and their telephone number. If anybody is interested in getting the seed, they will call, they go, they purchase, or maybe they have the voucher, they come, they collect.

So there is a lot of planning process to make sure that this takes place. But doing this demand creation, you see it's quite interesting. Sweet potato, when in Mozambique in the year 1996, nobody wanted to talk about it, because it was a poor people crop. One time in 1997 I went to Nambula. I went to this village they call Murrupula. They were taking breakfast with sweet potato. The wife of this man called Portugal hide, because nobody can eat sweet potato in there. But today the government of Mozambique includes it in their agricultural investment plan. It is considered one of the first priority for the country, and it's taking up, it's is no longer a poor person crop.

Raikes Great, thank you. That's great. Thank you. So we're almost out of time, and I want to make sure that we get your thoughts about the future. You know, two billion people around the world suffering from micronutrient malnutrition – how should the ag and nutrition sectors really take this work forward? What do you see as the most promising pathways, and use this as your opportunity to give your final thoughts. So I'm going to let each of you go ahead and address this. So first, Jan, I think you had a sense of a pathway.

Low Well, we've talked about the ag nutrition pathway, which we need to continue to expand, but I have to show... This is shelf-storable sweet potato puree, steamed and mashed sweet potato in a vacuum-packed bag, which we've had for four months with preservatives. And we feel this could be a breakthrough product for

- incorporating sweet potato into bakery products in Sub-Saharan Africa. Many countries import most if not all of their wheat flour, and we can have farmers substituting this, can substitute 30 to 50% of the wheat flour content, making a golden product. And if you look to Asia, most of the sweet potato is used for processing or animal feed. Only 10% is eaten boiled or steamed as they do in Sub-Saharan Africa. So we feel this opens up new markets for farmers and is one innovative way for moving forward.
- Raikes Thank you. Robert.
- Mwanga Big success story, but it's like today you have a new baby, but you have lost one child is dying. Can we arrest that by working together? It's possible.
- Raikes Thank you. Howdy.
- Bouis If you come back 20 years from now, all the current crop varieties being grown will have been replaced by new varieties that have come out of agricultural research centers. So one of the main things that we have to do is mainstream breeding for these minerals and vitamins in the breeding programs. You can't see iron, taste iron, can't see zinc, can't taste zinc. So, for example, if you have a heat-tolerant bean that's going to spread around Africa as the temperature gets higher and higher and you piggyback on high-iron and the heat-tolerant bean, pretty soon most of the beans being grown and consumed will be the high-iron beans. So to me that's the basic strategy, and that's what we need to do.
- Raikes Great. Thank you very much. Maria.
- Andrade Yeah. The factor is multisectorial. But I would say my boss, Wolfgang Gruneberg, in Lima, Peru, always tell me, "Maria, the pump must run." It means the work is continuing. So I look into research to fund all the time, but at the same time we need to look into markets, into processes, and also the policy – we have the minister here – must be in place to really help us to really take the malnutrition up where it needs to be.
- Raikes We've got to get the job done. Now, Jan, sweet potato puree, is that what our lunch is today? Just checking in.
- Low I would hope so.
- Raikes Great. Okay, I want to turn to the audience and say – here are your 2016 World Food Prize laureates.