



AGRILINKS

AG SECTOR COUNCIL: SANITARY AND PHYTOSANITARY PRIORITIES FOR SUB-SAHARAN AFRICA: OPPORTUNITIES FOR EXPANDING REGIONAL TRADE AND IMPROVING FOOD SAFETY

QUESTIONS & ANSWERS TRANSCRIPT

THURSDAY, SEPTEMBER 22, 2016

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Julie MacCartee:

We've been collecting your questions and we'll go ahead and start asking some of those to our presenters. Please continue to put your question in the chat box. We have up to about 11:00 A.M. Eastern time to answer questions so we'll get to as many as we can in that amount of time.

First off, there were a number of question that came in during Sophie's portion of the presentation that focused on a few aspects of May's disease, some clarification. So I thought I would go ahead and ask those first.

Dirk Striker asked are the hybrid varieties of maize in eastern southern Africa more susceptible to disease than West Africa, higher yields but greater vulnerability.

Sophie Walker:

Thank you, Julie and thank you, Dirk. Absolutely truthfully, I'm not a quick reader and I'm not going to be able to answer this entirely fully. I can mention that there is very little difference in some of the hybrid varieties in east Africa and the local varieties susceptibility to aflatoxin. What we have seen in that the varieties that the cover of the maize is open at the end are more susceptible because more moisture gets in and there's more access to spores to sit on those ends. And that's where you get higher contamination levels.

Again, I don't know whether Andy has any better knowledge on this, but I don't think there's been a lot of research on the West African maize versus South African or the east African hybrids.

Andy Cook:

I'm not aware. This is Andy.

Julie MacCartee:

Great, thank you. And there were two questions that came in from Patrice Hakibanzana who asked a couple of questions about Maize Lethal Necrosis. One was can you explain whether crop diseases like MLN in maize may cause harvest loss but not health hazards as mycotoxin and aflatoxin, or do they also cause health hazards? And then how efficient will investments in MLN control without resistant maize varieties available for farmers?

Daniel Plunkett:

Well, in southern Africa, we looked at this question a little bit. As far as is known, there aren't real health risks related to Maize Lethal Necrosis, but there needs to be a lot more research. There is some concern that it might cause mycotoxins in the plant materials that are left. Sophie, do you have perspective on this?

Sophie Walker:

Thank you, Daniel. Two aspects. The _____ is a plant disease; it kills the plant. It doesn't have residue left that will contaminate human food in any way that will effect human consumption. And Daniel is right. If you leave the residue in the field, it's quite possible that the viruses that are propagating there, then it's easier to spread to the next field and everything else. But there isn't an interaction with human health.

For your mycotoxins, the funguses that grow, as they grow and propagate, they deposit this toxin, and that's what's poisonous. It's a byproduct of actual fungal growth and it's just a toxin that's deposited and is contaminated.

In terms of looking at the different varieties and looking for MLN resistant maize varieties, that is going on at the moment. But in any variety development, it takes years to look at the different maize strains through the prompt reading, process through, check if it's MLN resistance in control there if it doesn't actually allow that to spread, and then to look to see whether it has the right climatic conditions to burn the area where the disease is, and this is easily spreading over all climatic conditions in eastern Africa.

And then finally, does it have sufficient yields to actually make it marketable on the market. Its surveillance and control at the moment is the more viable solution. And Kenya and Uganda have been fairly effective at this point of finding it, destroying it and preventing it from spreading too far. Thank you.

Julie MacCartee:

Wonderful. Thank you, Sophie. As long as we're discussing maize and maize disease, a question just came in from Margaret McDaniel. One of Daniel's slides said that there's a regional standard for aflatoxin in eastern southern Africa. Can you, Daniel, discuss this a little bit further, please. What are the regional standards for what crop and for what end use?

Daniel Plunkett:

That's an excellent question, Margaret. There is not a simple, easy answer for that. The regional standards are being organized through Homasa and SADC, the Southern African Development Community, some of which have overlapping membership, of course. What they have generally done, those regional economic communities in their SPS communities on which each of the national governments is represented, they have gone with the CODEX standard which is ten parts per billion for maize. There is a standard out there of 15 parts per billion for ground nuts as table nuts. These standards are not binding regional standards; they're more guidelines that the Homasa and SADC countries are essentially affirming that CODEX provides which is based at FAO in Rome and is recognized by the WTO is the standard setting body or a

standard setting body throughout the world, and that these standards are acceptable which in each of those regional, economic communities. But each national government retains sovereignty over their SPS rules and can pose a higher standard if they wish.

So the regional standards are still at the national level. You bring up the interesting question, Margaret, about different uses. This would be one of the really good areas for helping the national governments and the two _____ throughout Africa to delineate what the acceptable standards for aflatoxin are based on usage, whether it's for human consumption, whether it's for animal consumption, which type of animal.

From the research that we have done in our three regional reports, the larger the animal, the less susceptible to aflatoxin they seem to be. The older the animal, the less susceptible. Dairy and certainly breeding animals are considered amongst the most susceptible. So this is an area that really could be fleshed out much more in the future.

Julie MacCartee:

So Daniel, there is a question coming in from Frieda Lavichi who works for the Soybean Innovation Lab in Mozambique and who stated, 'On my last visit, I noted a regrowing market for poultry byproduct such as gizzard, liver and heart, dominated primarily by women. Recognizing this as a cheap source of animal protein within the informal market, do you have any suggestions on how SPS can be addressed in low end markets?'

Daniel Plunkett:

It really is nice to be amongst a community of researchers who pose very probing and interesting questions because this is an area that certainly gets into product differentiation and many places around the world are very different than the US which, for poultry meat, prefers the white meat. The organs, the awful parts, are very much prized elsewhere around the world and I think it's a positive sign if the kidneys and livers and other organ meats are being sold on a separate basis. Each of those has a separate SPS risk. I'm wondering where Frieda has seen these being sold, whether or not the cold chain is being guaranteed throughout the process or even at the point of sale. There are a lot of sort of basic, common-sense things related to SPS and food safety that, in the US, there's a great deal of information out there through the USDA and FDA about food safety techniques that consumers and certainly marketers can use.

I would say that it would be a combination of how to improve the system would be the marketers and retailers and the cutters, the butchers of these poultry, understanding where the critical control points are. We talk

about _____ and what are the investments they can make to make their product safer. And then to gain a reputation for safer products and also for those private sector people to reach out to the government officials and say am I meeting the standards. What are your programs to help me and what can I do myself. So starting a dialogue about food safety in these poultry parts markets.

Julie MacCartee: Thank you, Daniel. There was a question I think I'll send over to Sophie about giving an update about the actual African countries currently effected by Maize Lethal Necrosis.

Sophie Walker: Thank you for the question. According to CIMMYT's latest information, currently MLN is in Ethiopia, Kenya, Uganda, Rwanda and Tanzania. That's where it's known to be present. The surveillance has been going on in Malawi and Zambia. They were using test switch, only test the one virus on the grounds that if one virus is not present, then they can't have Maize Lethal Necrosis. Those surveys that were done earlier this year showed no sign in northern Zambia and northern Malawi. The emphasis is that needs to be redone regularly each season that they have mass production to ensure that it isn't spreading further south. Thank you.

Julie MacCartee: Thank you. I'm going to just test one more time and see if Andy's voice is coming through. Andy, if you're there, will you speak up?

Andy Cook: Yes, I am here.

Julie MacCartee: Wonderful. A couple of questions came in during your portion focused on livestock so I thought I'd just fire up two of them quickly from Dick Tinsley. How much of Sakura poultry tends to be _____ feed and how long does it take to get marketable _____ tough meat problems. It sounds like he's wondering if feed effects meat quality. How does that ultimately effect marketing. And just also a curiosity about branding on cattle. Most cattle he's seen has massive brands on them, perhaps not coded but definite scars, and you had mentioned no branding on cattle. Wondering if you could clarify a bit about that.

Andy Cook: Okay. Thank you, and thank you, Dick. The short answer about the diet of the _____ poultry is that I don't know. We didn't get into a lot of detail about this. I think the main point was that as far as we could find out, there was very little in the way of maize being consumed. I think Dan made this point. Therefore the aflatoxin threat put that – that poultry value chain was very limited.

In addition, something which may go contrary to the assumption on which the question is based, it seemed there was a very positive preference among many people in West Africa, certainly under certain

circumstances and I'm thinking of being in restaurants, for the albeit _____ tasty backyard chicken, and I did not get any feedback suggesting there was a problem with it. It was actually actively preferred under those conditions to the perhaps more succulent farmed chicken. That would be my reaction to the first question.

Then I've lost the second question. Just a second. Oh, the branding. I think it's a confusion to do with the two meanings of the word branding. I wasn't using branding in the sense of branding cattle. I was using branding in the sense of branding perhaps the meat, the supermarket branding that would apply so a supermarket would have an interest in defending the quality associated with its brand with respect to its consumers, and that would mean an interest in an up the market chain, what was happening and knowing through traceability where that steak was coming from. The means of traceability might involve branding in the other sense, but I haven't got into that, thought that through in any great depth.

I'm afraid that's all I have in response to those two questions.

Julie MacCartee:

That's great, Andy. Thank you. A harder question came in in response to the various slides all of you shared about investments that can be made in SPS. And this is a question from Dirk Striker again. It's easy to specify various recommendations for improving the situation, but where should priorities be placed? The problem is that successful implementation of these recommendations require substantial changes in institutions, trade mechanisms, etc. do you know of any tests on the viability of different approaches using randomized controlled trials on any of these recommendations? Or if not, do you have any comment on the priority level of certain investments.

This is something everyone can weigh in on. Daniel, would you like to start on this one?

Daniel Plunkett:

Sure. Dirk Striker is kind of the secret shopper because both Andy and I have a long relationship with him. Appreciate the question.

I would say in terms of aid effectiveness or, under the British Development Agency _____ they call value from money, I don't think there are a lot of really good ways to determine which are the best approaches. In the recommendations we're making, we try to have both large and small. But with bite size that perhaps a small, bilateral donor agency might address or a foundation of some kind would see an interest in as well as larger scale ones, and also having recommended

investments at both the national and regional level. What is being suggested is it's very important to monitor the effectiveness of these different approaches and try to learn from them for the future activities that might be undertaken.

Andy Cook:

If I could add to that, this is Andy. I think one thing the study in West Africa didn't do is get a detailed understanding of what all the other donors are doing, and this may be partly repeating what Dan has just said. I think within a coordination with other donors, it would probably be transparent that the other donors were covering quite a lot of these things which would limit the options. It would still have a prioritization problem, but perhaps not such a big one.

I think it's also a question of short term against long term. It would be nice certainly to make some investments in improving regional and national institutions so that if they become stronger – if – some of the problems or equivalent problems in five years' time would be fewer and less severe. On the other hand obviously and maybe this is a bit simplistic but I'll say it nonetheless, the short run as emergencies come up, they have to be dealt with so that people can be fed. Thank you.

Daniel Plunkett:

One of the things we had discussed, just to chime back in, was that many of the most significant reports in SPS systems occur due to food safety incidents, if you will, scandals. In South African ten, twelve years ago, it was found that the peanut butter being given to the children in the school feeding program was well above the permitted level for aflatoxin, and this led to significant reform within South Africa's sector. As far as I know, they stopped serving peanut butter to the children. If the peanut butter is safe now, maybe they can reconsider.

Sophie Walker:

I just want to add something on the randomized trials. _____ has been extensively tested, first laboratory then in control trials and then randomized trials on farms in various areas. Another randomized trial that happened recently was carried out by IFCRE in Kenya where they looked at the effect of different post-harvest practices on aflatoxin _____ months later. So they had traditional drying of maize, then they had it on plastic sheets, then they had it using the easy dry and 500, and then they had a small trial with the hermetic bags. That showed that using plastic sheets reduced the increase in aflatoxin by 26 percent. The drying reduced the increase by 77 percent, and the hermetic bags reduced the increase by 95 percent.

So yes, there have been randomized trials. And then looking at the economics of those different interventions is also included in some of the literature. Thank you.

Daniel Plunkett: When Sophie is talking about the hermetic bags, those are bags that were developed as part of the Cowpea or _____ protein crop sector for West Africa. They're called PICS bags, or Purdue Improved Cowpea Sacks, and they have the traditional jute bags with then two layers of plastic bags inside. While this was found to be quite effective from preventing weevils from getting into the Cowpea _____, I believe, Sophie, it's been shown that they're very helpful on maize and they're doing testing to see if these PICS bags will be helpful on ground nuts.

Sophie Walker: It's not just PICS bags. Any hermetic bag will prevent aflatoxin increase. What you need to look is its resistance for insect penetration from outside. The _____ simple goes dormant when it's in this low oxygen environment. When oxygen comes back in, the _____ reactivates and starts growing. They have been trying hermetic bags with ground nuts. It's not been as successful as it has been with the non-oil seed crops as yet, but they're still working on it. It has to be a lot drier.

Daniel Plunkett: And I think one of the things I've certainly learned from you, Sophie, is that in storage, whether it's maize or ground nuts, the levels of aflatoxin often have the tendency to increase in storage when the crop is just piled on top of each other and care isn't taken to aerate it properly. It's a complicated thing.

Sophie Walker: Aflatoxin does increase in storage. The concept at reducing the moisture to below 13.5 percent would stop aflatoxin increases works for some strains, but there are strains in Kenya that quite happily propagate at 13.5 percent moisture and less, at 55 to 90 percent per month increases.

Julie, back to you.

Julie MacCartee: Thank you. It's great to have some of this conversation back and forth from our presenters who are joining from wildly different locations. It's exciting. Thanks for those responses.

We have about 13 minutes left for Q&A so we'll chug right through a few more. One question came in from _____ about the cost seed. How does the cost seed affect the manner in which farmers can adequately grow and protect their crops? What strategies are being developed to facilitate farmer's ability to leverage these costs? This seems like a question for Andy.

Andy Cook: I'm not sure I have an answer. I'm still trying to find the question. Right.

Julie MacCartee: It's the second one in our Q&A box, our private presenter Q&A box.

Andy Cook: Thank you. I don't think I have an answer to this one. I have to be honest. I'm sorry. This is outside my area of expertise.

Daniel Plunkett:

I can take a stab at it.

Sophie Walker:

So I think the cost of seed and whether farmers will adopt it is very dependent on how active the market is in terms of actual access to market. So if you look at the Kenyan market particularly in the north _____ areas, we have moved from very low levels to approximately 96 percent of the small holder farmers up there now use hybrid feed because the yields are so significantly higher than the local varieties. If you move down to Eastern Kenya, though, although almost every farmer still uses some hybrid field, they tend to have up to five varieties on their fields and this is because they're using strategies because the hybrid seeds need more water but they could have a climatic problem with lack of rain so they also plant the local varieties that they think is more resistant to drought. So Kenya is one of the more sophisticated seed buying and seed producing countries in the region.

As you move out from there, you move down into Northern Zambia, there has been low seed adoption which is changing now, again, as that market drives the security that you can sell your product, your ability to invest and knowing you have a market at the end increases so your willingness to buy seed increases. Thank you.

Daniel Plunkett:

Yes. The question of what type of seed does a farmer plant is a key economic question throughout Africa. Hybrid seeds are generally available, whereas most African countries don't offer pre-harvest finance; the farmers need to have the money to purchase the seeds. Any programs that are designed to encourage them to adopt new seed varieties, improved varieties, certainly the first year if you give it to me I'll plant it and hopefully see there's greater yield and less pest resistance.

I think one of the conclusions from research is that the improved and hybrid seeds are generally more resistant to aflatoxin and fumonisin and other plant diseases. And there's research through CIMMYT and IITA going on to try to develop MLN resistant varieties or identify which variety. So the choice of seed in terms of the ultimate impact on SPS and food safety is a key element. I think most farmers do it by sense of touch by his or her sense of which ones are going to be most profitable. As Sophie said, it's kind of a survival thing strategy of going to plant some of these that I paid for and then some that I saved from last year, the open pollinated varieties.

Julie MacCartee:

Excellent. Thank you. Recognizing that we only have about ten minutes left, I think it's a good time to go and pull up a few of our ending polls. We hope you stick around for another ten minutes, but recognizing a few

people might need to take off, please go ahead and take these polls which will help us shape and improve our future _____ webinar.

A few more questions in our queue here. This one I'll direct to Sophie, which is ground nut seed treatment with permissible chemicals as an option to control aflatoxin prevalence?

Sophie Walker:

Thank you, Julie. The IITA is currently trialing Aflasafe with ground nuts. I know it's been trialed in _____ to see whether it will be an effective mitigation method there. I know that there were trials with fungicides, trying to reach the soil and the crops, that were not particularly successful. Not a huge answer, but it's on its way.

Julie MacCartee:

As long as we're on you, Sophie, you may be answered this in the chat box but it would be good to call it out since the question came up again, which is the question from Randy Shackelford, a question regarding the use of M-Reader in Colorado. In countries other than Zambia for quicker, less expensive aflatoxin testing, he has used this testing method in villages without electricity and had results in approximately 15 minutes, which is pretty exciting.

Sophie Walker:

Thank you very much, Randy, for that. There's a new, exciting development also from ICRISAT which has just been launched in Malawi where they also have a portable field trial. The response is I think in ten minutes and costs \$2 per test. These other countries that have used the mobile, I know Kenya has used it and I'm pretty certain _____ has used it as well, but it hasn't become very popular yet.

Julie MacCartee:

Alright. And then a topic I think is always brought up in food safety and trade discussions is that of GMO or Genetically Modified Organisms. Dirk had asked about the speed of developing great resistance to disease might be increased with recent advancement in genomics. It's very important because the use of these varieties is likely to be more cost effective. What resistance have you seen because of concern over GMOs? Why don't we send this one to Daniel?

Daniel Plunkett:

This was one of the things that we studied as part of the Southern Africa SPS report. We have four target countries under the Feed the Future, Malawi, Mozambique, South Africa and Zambia. South Africa, there is a whole procedure for approval for the planting of GMO crops and the marketing of them. That is I would say the predominant type of seed used in the soy sector and in part for the may sector as well.

Interestingly, the other three countries, Malawi, Mozambique and Zambia, each to varying degrees, is less accepting or not accepting at all of GMOs and we were able to do some preliminary analysis, given the

time permitting, about that GMO acceptance. This is a question certainly both in East Africa and West Africa. Sophie, Andy, do you guys have perspective on the GMOs?

Andy Cook: No. It didn't come up in our study, although we weren't asking specifically about it.

Sophie Walker: In East Africa, there is still significant resistance to GMOs. It's not an area, while I think Kenya has recently started GMO trials, there are still huge feelings against it even though they're not necessarily useful in terms of productivity. Thank you.

Daniel Plunkett: And even in South Africa, the market that has been more accepting of it, there are certainly in consumer retail outlets products that say produced without GMOs. So those products attain a certain cache and perhaps they would command a price premium for not being GMO-derived.

Julie MacCartee: Excellent. Thank you. I think I'll go ahead and take the facilitator's prerogative to ask one last question for our webinar today, and that is a question I'll direct to Andy. Are the SPS standards for livestock realistic? Should standards fall at the highest level of CODEX or should we be trying to hit lower quality markets first? Is there a standard for how we address these standards, or a recommendation going forward?

Andy Cook: I don't think we've got to that stage yet. West Africa where I was doing the field work has got a situation where the two regional economic communities, ECOWAS and _____, each have a set of regulations about SPS but they've not been able to enforce them. So you've got diversity across countries. And then you've got the problem where the countries _____ whatever laws they are going to implement, they propose to implement, which may not be the same as the regional norms. Then there is a difference between the implementation and the national norms. So you get to a situation where there is such a diversity and mixed up set of norms that it's very difficult to work out which is most appropriate.

It would be good if the two regional organizations could, as they're planning to do and have been promising to do for the last five years, could harmonize their regulations and then get down to the nitty gritty of coming up with regulations and standards which could then be evaluated.

I suppose it would be possible to evaluate across the different standards that are in practice being used between the different countries. We didn't do that. I particularly was only gathering information for the two francophone countries, and I believe that differed from the information that was being collected by my colleagues in the Ghana and Nigeria.

I'm afraid that's a bit of a no, we don't have any information really at the moment.

Sophie Walker:

I think it's an interesting question. I think if you look at the trade of livestock of going out of northern eastern Africa, so your Somali, Sudan and Ethiopia, that livestock is being shipped out live into the Gulf States; I think it's very relevant. You need to meet their standards since it's their big market. I think there's potential then for Kenya, as it grows its meat industry, to also target that market and being able to have an external market that you can supply initially allows us to then have the volume of meat in country as the urban population's economic growth grows as well. And then their standards come into line. Maybe the standards are then going to be higher for the East African trade, so that keeps the commodity in East Africa rather than going to the gulf.

It's something that needs to evolve. I think standards should not necessarily go to the very tightest standards straight off. It's very hard to take somewhere like Kenya where we're looking at maize somewhere between zero and ten, ten and twenty, twenty and fifty, and I've got maize at 500 and 1,000. Now that definitely needs to be removed from the market.

But as Daniel was saying earlier on, the flexibility in the standard that would allow different areas for it to go into. So at 300 parts it can go into beef fattening. We need those standards to be a little bit more flexible than they are at the moment. Thank you.

Julie MacCartee:

Very interesting. Thank you, Sophie. And we have reached our official end time. I'd like to extend a sincere thank you to our three presenters for being so on the ball with the questions as we're sending them around. So thank you very much, Sophie, Andy and Daniel, for your excellent contributions and presentations.

An even bigger thank you to our attendees. You are the reason that we hold these webinars. We appreciate your contributions in the chat box, your questions. We hope we got to the bulk of those that were in the chat box today.

I'd like to remind everyone by virtue of registering for and attending the webinar today, you will get an email in the near future.

With that, we really appreciate your attendance. We always appreciate your comments. You're welcome to email me or Agrilinks with further comments. We hope to see you at future Agrilinks seminars. Thank you very much.

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