

Current and Emerging Threats to Crops: A Practical Course Day I Q&A

November 1-4, 2022

November 2, 2022: Day 2: Surveillance and Diagnostics/Assessment of Threats to Crops

1. (Reagan Mulungi Mwenyi, reaganrozalex@gmail.com) How do you measure the effectiveness of early warning systems?
 - a. Hi Reagan, this is a great question and not something that is easy to do. In Ethiopia we have undertaken impact studies using farmer surveys to assess the value of the early warning and also determine farmer behavior change. From these surveys we are getting very positive data that the early warning systems for wheat rusts are being effective. WE are also getting similar positive feedback from colleagues in the government.
2. (Reagan Mulungi Mwenyi, reaganrozalex@gmail.com) What satellite does Google Earth use? It seems to have a clearer resolution. Can't the same be adopted for Early Warning Systems in crop labs?
 - a. Google uses a variety of satellites as well as airplanes to collect data. But some of Google's images are fairly old — if we are using remote sensing data to assess farm health, then we can't rely on Google's images. If we wanted to track damage to a field, for example, we need data either daily or every few days.
3. (Reagan Mulungi Mwenyi, reaganrozalex@gmail.com) Are early warning systems able to map migratory tendencies of crop pests and diseases? Can they help governments and farmers establish a Pest Free Area (PFA) for both quarantine and non-quarantine pests?
 - a. Yes they can; the problem is that in most low- and middle-income countries they don't have the resources to act on these and are focused on reactive management of already existing problems, which is somehow understandable: when you have limited resources you focus on the thing that is causing problems right now, rather than what might cause problems in the future. Putting out the fire in your house rather than preparing for the flood that might come next year.
4. (Wakjira Woga, wakjirateppi@gmail.com) Can you provide us the power point of the presentations?
 - a. All the presentations are in the Google Drive.
5. (Reagan Mulungi Mwenyi, reaganrozalex@gmail.com) Could the employment of hermetic storage kill seedborne wheat blast spores?
 - a. Of course, wheat stored in hermetic storage has less insect damage and it is one way

6. (Mariam Were, claris.nyongesa@yahoo.com) George Mahuku please share your contacts
 - a. g.mahuku@cgiar.org, +255789964640, +256753251845

7. (Naaman Arodi, ondegonaaman@yahoo.com) Are there resistant varieties to bbtv?
 - a. To date, there are no banana (*Musa acuminata*) varieties that are resistant to BBTv. Some plantain (*Musa balbisiana*) varieties have tolerance to BBTv. Screening of more banana and plantain varieties is going on.

8. (Mansam ug , mansuranguyo10@gmail.com) How do you get rid of BBTv in Uganda since the country has got porous borders?
 - a. BBTv is still very limited in distribution, thus the best strategy is to contain the disease where it is and prevent spread to areas where the disease is not present. In areas where the disease is present, eradication (destruction of infected mats using herbicides and control of aphids) followed by a three-month banana-free period can eliminate the disease. These farms should be re-established using disease-free (virus indexed) planting material. Access to clean planting material is key. Raising farmer awareness about the disease and the actions they need to take to manage and prevent the disease from spreading is very important.

9. (Anonymous Attendee) Is quarantine measure effective to control this disease? because those vectors can transmit the disease to neighbor countries!
 - a. Quarantine can be effective if properly implemented. Aphids are responsible for short distance spread of the disease while long distance is through exchange / movement of infected planting material. Raising awareness is important, so that farmers understand the impact of the disease and actions that contribute to disease spread, and the behavioral changes they need to make to help stop disease spread.

10. (Anonymous Attendee) Is the nature of BBTv vectors is already known! BBTv DISEASE
 - a. BBTv is only vectored by the aphid *Pentalonia nigronervosa*. This is the only known vector.

From George Mahuku: Here is a link to a BBTv bulletin recently published.

<https://www.iita.org/news-item/iita-trains-ministry-officials-on-eradicating-banana-bunchy-top-virus-in-tanzania/>

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