



Food and Agriculture
Organization of the
United Nations



International
Plant Protection
Convention

IPPC Virtual Workshop Series on Fusarium TR4 Diagnostic, Surveillance, Inspection and Simulation Exercises

**The second session on surveillance and early warning - Content of the
workshop series and introduction of the COMESA project (Session 2)**

Presented by Camilo Beltrán Montoya





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publications	Reports & Strategies	Meeting Reports	Brochures	Factsheets
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	Surveillance guide English		Pest Status Guide English
	Prevention, preparedness and response guidelines for <i>Spodoptera frugiperda</i> English Français العربية		Market Access English Español Français Русский العربية



Phytosanitary activities of the COMESA (Common Market for Eastern and Southern Africa) Project



The project “*FAO support to COMESA trade facilitation programme¹*” – GCP/INT-387-COM (2018-2022) - aims to strengthen the National Plant Protection Organizations (NPPOs) phytosanitary capacities.

The IPPC Secretariat oversees two sets of activities in the framework of this project:

- Creation of a regional networking platform for sharing information on risks to plant health arising from pests and diseases, and
- Establishment of an early warning and emergency response system to facilitate collective actions in mitigating priority risks



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POARS activities of the COMESA Project

E-learning courses on Pest
Risk Analysis, Export
Certification, and
Surveillance

Guide on contingency
planning

Assess countries' capacities
to undertake preparedness,
early detection, and rapid
response

Response and surveillance
simulation exercises to be
organized for TR4 in two
COMESA countries.

Strengthen the diagnosis
and inspection capacities
for a prioritized pest in
COMESA countries.

Virtual training workshops



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Session One - Diagnostic of Fusarium TR4 in bananas

(Completed) **(24 March 2022)**

Communicate and disseminate information on the critical aspects to consider when conducting a lab diagnosis, recognition of suspect plants in the field

- Recording
 - Presentations
- Available on the
webinar page!

NEW

Session Two - Surveillance and early warning of Fusarium TR4 in bananas (19th April 2022)

Explanation of the overview surveillance process, information to consider to perform detection and delimitation surveys, remote sensing applied for plant health.

Session Three - Session 3: Inspection and simulation exercises (10th May 2022)

Pathways and commodities of significant concern, simulation exercises as an approach to be prepared for Fusarium TR4 outbreaks

<https://www.ippc.int/es/news/workshops-events/webinars/workshop-series-fusarium-tr4-diagnostic-surveillance-inspection-and-simulation-exercise/>



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3. Relevant notes from the first session on Fusarium TR4 diagnostics

The main symptoms expressed in Cavendish by a TR4 infection are the same symptoms caused by races one and two of *Foc* in other banana germplasms that are likewise susceptible to TR4. That means characterization of symptoms doesn't serve to identify *Foc* races in banana plants expressing the typical symptomatology.



Despite the fact that Cavendish is very susceptible, there are other banana germplasms that are equally susceptible to TR4, that's why diagnostic is crucial to timely identify and accurately diagnose Fusarium TR4 from a plant with the disease symptoms," Gert Kema.



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3. Relevant notes from the first session on Fusarium TR4 diagnostics

Sample processing, fungus DNA extraction, and DNA quantification may be executed using different techniques and equipment that can be chosen according to the capacity and condition of the laboratory. Locally prepared reagents or commercial kits may be utilized for these purposes.

There are molecular markers, also called primers, that allow the identification of Fusarium TR4 through the execution of conventional Polymerase Reaction Chain (PCR), Real-Time PCR, and a Loop-Mediated Isothermal Amplification (LAMP) test, and this requires specific equipment and lab materials.



A first report must follow a complete route that considers the use of PCR, qPCR or LAMP, genome sequencing, and pathogenicity tests"

Fernando Garcia-Bastidas



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Objectives of the workshop series

After having followed this workshop, the attendees should be able to:

Understand the importance of the appropriate TR4 diagnostic for early warning, including field recognition, sample and sampling management, and know the available tools and protocols (classical and molecular) needed for TR4 diagnosis.

Be aware of the significance of carrying out specific surveillance for the Fusarium TR4 detection and delimitation (in case of entry) and know the International Standards for Phytosanitary Measures (ISPMs) that should be implemented for surveillance purposes.

Be mindful of the international trade pathways of significant concern for the Fusarium TR4 spread, and the commodities that should be subject to inspection.

Be better informed on the concept of simulation exercises and understand their usefulness to improve the quarantine pest outbreak response and how to prevent the introduction and spread of quarantine pests such as Fusarium TR4.



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*The IPPC virtual workshop series on Fusarium TR4 **disseminate and communicate** essential information that the involved staff in diagnostics, surveillance, and response for TR4 should know. The second session on surveillance **shares technical and conceptual information to promote a similar knowledge and understanding, considering the gaps among countries worldwide.***

*Attendees will receive knowledge on the **detection and delimitation surveys** and information on the experience of the NPPO of Mozambique in dealing with the official surveillance. Likewise, they will receive information on the usefulness of remote sensing for plant health purposes.*

Virtual sessions are the more straightforward and efficient way to disseminate this kind of knowledge as broadly as possible.



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First session content

1. Surveillance: Overview, ISPM 6, and IPPC Surveillance guide *by Chris Dale, International Biosecurity Specialist, Australian Department of Agriculture, Water, and the Environment (DAWE)*
2. What to consider when performing detection and delimitation surveys for Fusarium TR4: case study of the Mozambique NPPO *by Antónia Augusto S. Vaz, Head of Plant Health Department, Ministry of Agriculture and Rural Development*
3. Overview of the remote sensing tools to identify changes in plants and their uses for plant health *by Lizbeth Parra Garzón, Researcher at Geomatic Green*
4. Q&A



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Thank you

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