



Food and Agriculture
Organization of the
United Nations



International
Plant Protection
Convention



Department
for Environment
Food & Rural Affairs

Global and regional models on early warning for emerging pests: Fall army worm, Fusarium TR4, Red Palm Weevil and Opuntia scale

Mekki Chouibani

NEPPO

London, 21 – 23 September 2022

International Plant Health Conference



Surveillance

- An **official** process which collects and records data on **pest** presence or absence by **survey, monitoring**, or other procedures [ISPM 5, CEPF, 1996; revised CPM, 2015]
- An **obligation** of the NPPOs (IPPC, Art. IV.2b)
- A Key component in the national phytosanitary system



Aiding early detection of pests new to an area



□ Phytosanitary import requirement (pest risk analyses)



□ Determining pest status in an area and developing a pest list

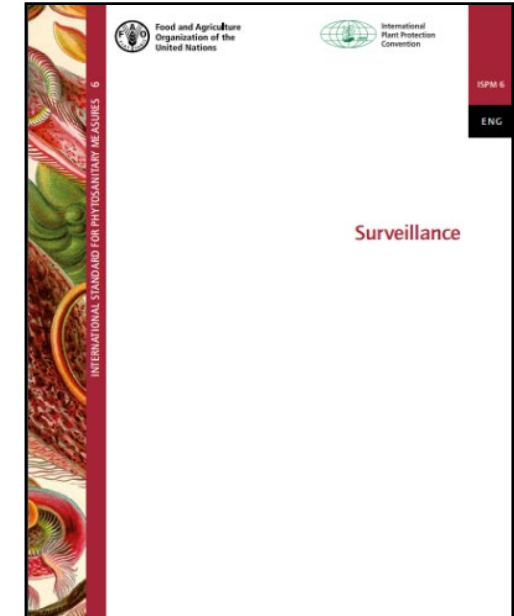


□ Establishing and maintaining Pest Free Areas



• Pest reporting and eradication (ISPM 17 pest reporting)

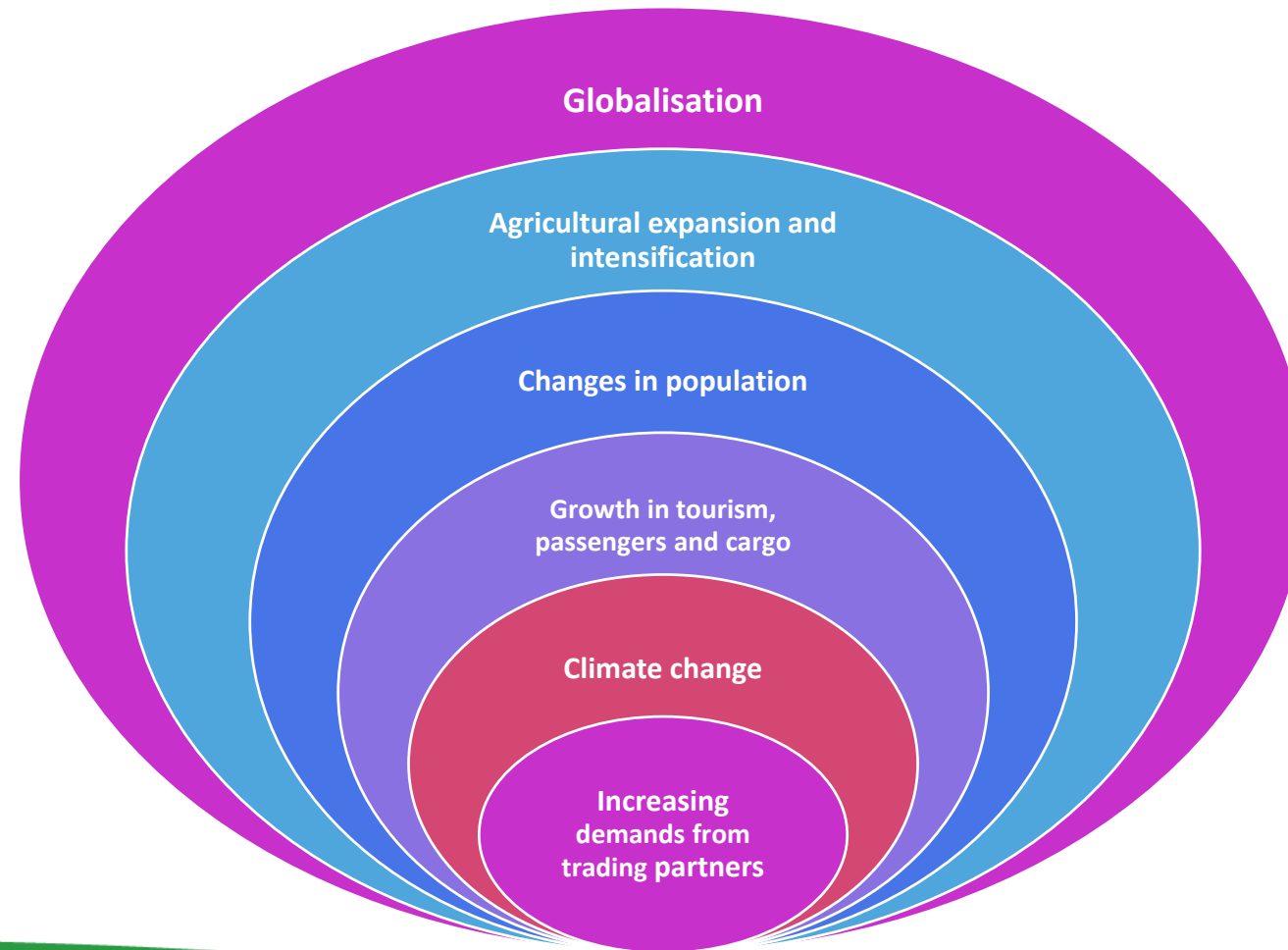
▪ It provides NPPOs with a technical basis for many phytosanitary measures;



https://www.ippc.int/static/media/files/publication/en/2016/01/ISPM_06_1997_En_2015-12-22_PostCPM10_InkAmReformatted.pdf

Why Surveillance is so Important for Plant Health?

Growing Phytosanitary Threats and Challenges Domestically, Regionally and Globally



Global level:

At CPM 14 (2019), the issues related to "emerging pests" were merged with the activities to address the IPPC Strategic Framework (2020-2030) development agenda item on "Strengthening Pest Outbreak Alert and Response Systems."

Two pests of primary concern for the IPPC Community have been the subject of global efforts and activities to help address these pests have been incorporated into the IPPC Secretariat's work plan:

- 1 FAO/IPPC Technical Working Group on Quarantine and Phytosanitary Measures for Global action on *Spodoptera frugiperda* control
- 2 Implementation and Capacity Development Committee (IC) Team on *Fusarium oxysporum* f. sp. *cubense* Tropical Race 4 (TR4)

At global level

The FAW Global action plan

- More than **80 hosts species**,
- **Two strains: maize, rice**
- **Reduce Crop yield loss of 5-10%** by applying area-specific IPM strategies in target countries
- **Prevent further spread to new areas** by applying phytosanitary measures
- **Conduct a global coordination**



<http://www.fao.org/fall-armyworm/global-action/>

The FAO/IPPC Technical Working Group on Quarantine And Phytosanitary Measures For Global Action on FAW Control



Photo: first virtual meeting 03 Aug 2020

Prevention

Implementing and promoting globally **harmonized quarantine and phytosanitary measures**.

Preparedness

Implementing and promoting globally **harmonized FAW surveillance, management, and engagement resources**.

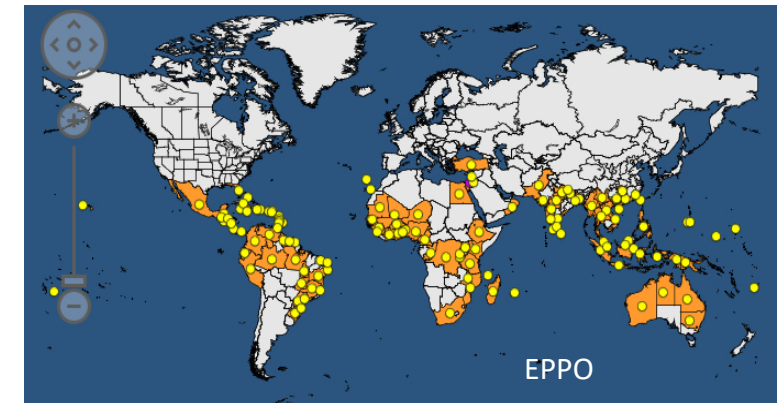
Response

Promoting globally **harmonized contingency and response resources** and training materials.

<https://www.ippc.int/en/the-global-action-for-fall-armyworm-control/faoippc-faw-technical-working-group/>

Fusarium oxysporum f.sp. cubense tropical race 4 (Foc TR4)

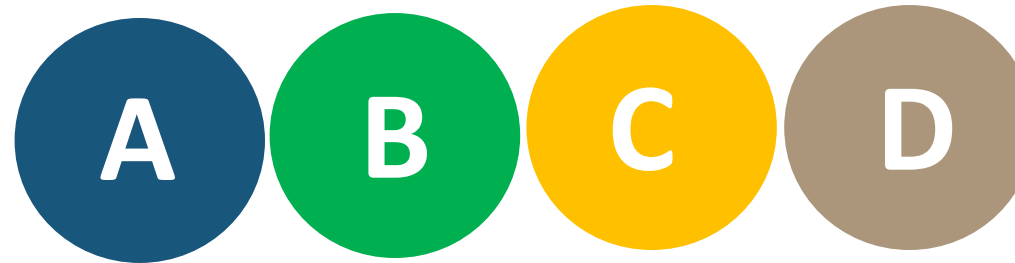
- TR4 was first reported in Taiwan in 1989.
- For more than 20 years, TR4 was restricted to Southeast Asia (Malaysia, Indonesia, Philippines, China) and the Northern Territory. In 2013, it was reported in the Middle East.
- TR4 continues to spread in the Indian subcontinent, Africa, and even Europe. In 2019, TR4 was reported for the first time in Latin America in Colombia. TR4 has recently been reported in new locations such as Turkey, Mayotte, and Peru.



IC Team on Fusarium TR4 activities

Support the revision of the contributed resources on Fusarium TR4

Questionnaire to assess countries' capacities on Fusarium TR4 response



Drafting prevention, preparedness and response guidelines for Fusarium TR4

Support virtual training workshops on surveillance, diagnostic, inspection, and simulation exercises on TR4

Draft Prevention, preparedness and response guidelines for *Fusarium* TR4

Peer review process

49 reviewers
worldwide + IC

Distribution and
biological information

- Distribution of Fusarium TR4
- Biological information
- The pathogen Fusarium TR4: taxonomy, nomenclature, biological and morphological considerations
- The musaceous host: key elements to recognize Epidemiology of Fusarium Wilt of Banana

Prevention and
preparedness plan:
when the pest is absent

- Pest Risk Analysis
- Phytosanitary regulations
- Measures for large scale commercial plantations (mainly export)
- Measures for subsistence and smallholder banana cultivation
- Diagnostic of Fusarium TR4
- Surveillance: surveys to determine Fusarium TR4 condition
- Communication and information sharing with stakeholders
- Insights to perform simulation exercises

Response plan:
**when the pest is
officially detected and
confirmed**

- Delimiting surveys
- Phytosanitary measures: control and containment
- Communication and sharing information with stakeholders

Regional level

1

FAO regional programme on Red Palm Weevil Eradication

2

NEPPO Technical Working Group on Quarantine and Phytosanitary Measures for Regional action on *Dactylopius opuntiae* control

Regional programme on Red Palm Weevil Eradication

- One of the most destructive pests of palms species,
- Significant socio-economic impact,
- Mainly visual detection. Early detection difficulties. Develop a new detection method (remote sensing & monitoring)
- prevent further spread to new areas by developing phytosanitary protocols, establishing Free Pest Area, and Developing a palm propagative materials certification scheme
- Conduct a regional coordination



At regional level: *Dactylopius opuntiae* Cockerell

Detected in Morocco in 2014, and spread to Algeria, Tunisia, Lebanon, Palestine, Jordan, and Yemen

Organization of **webinar** for North Africa and Near East countries for awareness and phytosanitary measures to support infested countries to control it and to prevent its spread to a new area

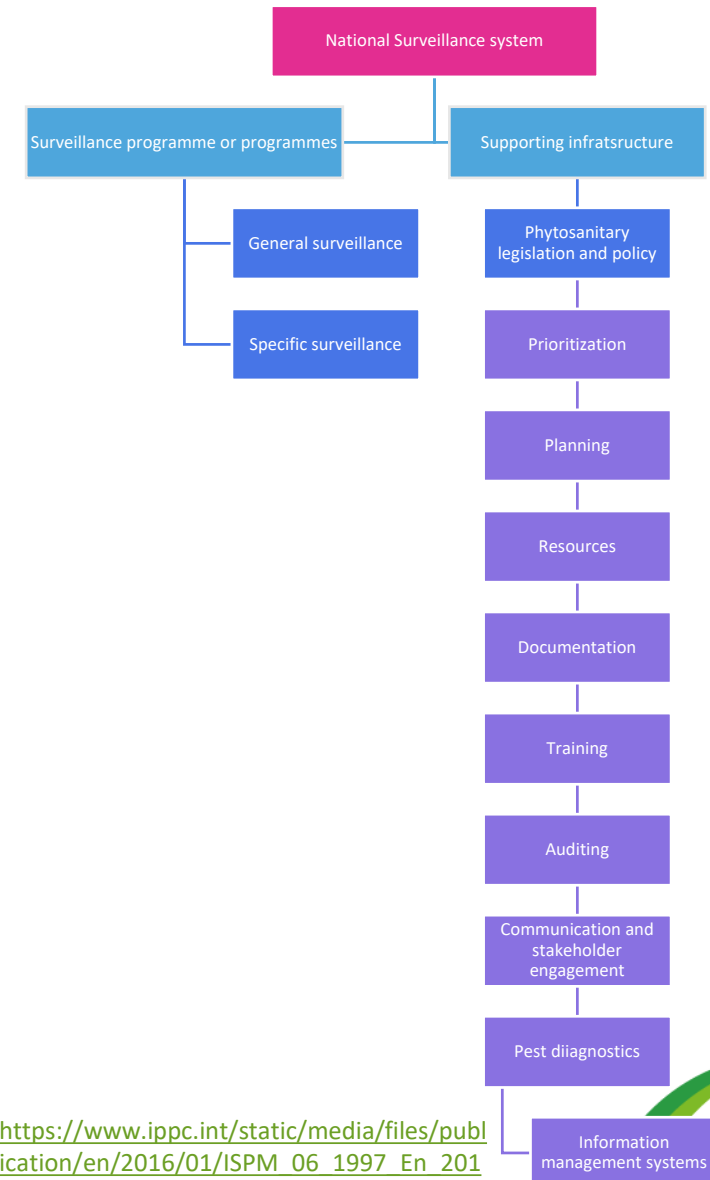
Development of a guide on **Prevention, preparedness** for non-infested countries, and **response** for an infested country.

The plan is based on an **awareness and an efficient surveillance program** to ensure **early detection** and quick response to eradicate or contain the pest.



To conclude...

- Surveillance is a **core** activity of NPPOs,
- A **national surveillance program** on prioritized pests is important. Early detection, in detecting new pest incursions, is crucial to eradicating its first foci
- **Involvement** of relevant **stakeholders** will contribute to a surveillance program's success
- Needs a **well-trained staff**
- Needs also a **qualified diagnostic** laboratory
- **Transparency** is **pivotal** in supporting countries in preparedness, early detection, and management (**IPPC. Art. VIII.1.a**)



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