

# Updates on the activities performed on Foc TR4

## The case of Lebanon

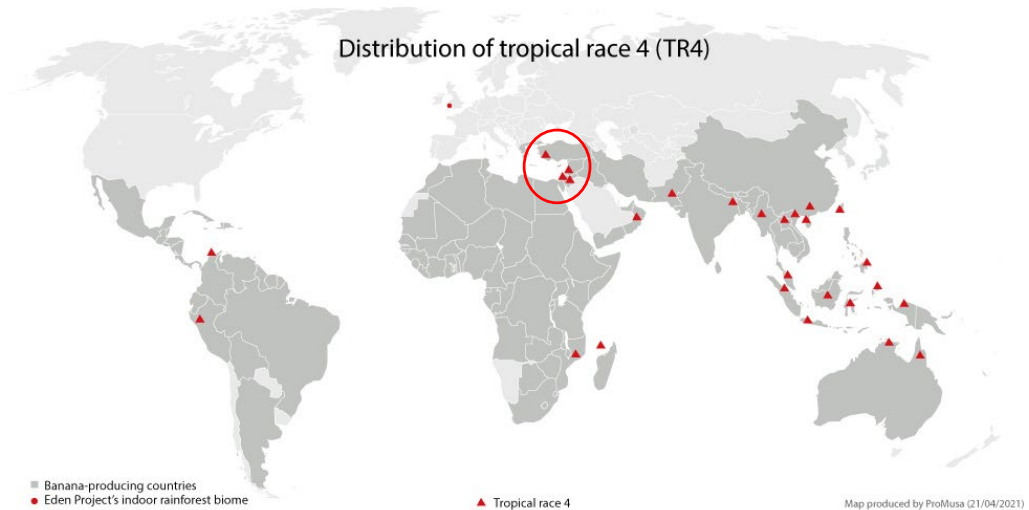
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1st meeting IC team on Foc TR4  
September 30, 2021



# Importance of banana and historical review on Foc TR4 in Lebanon

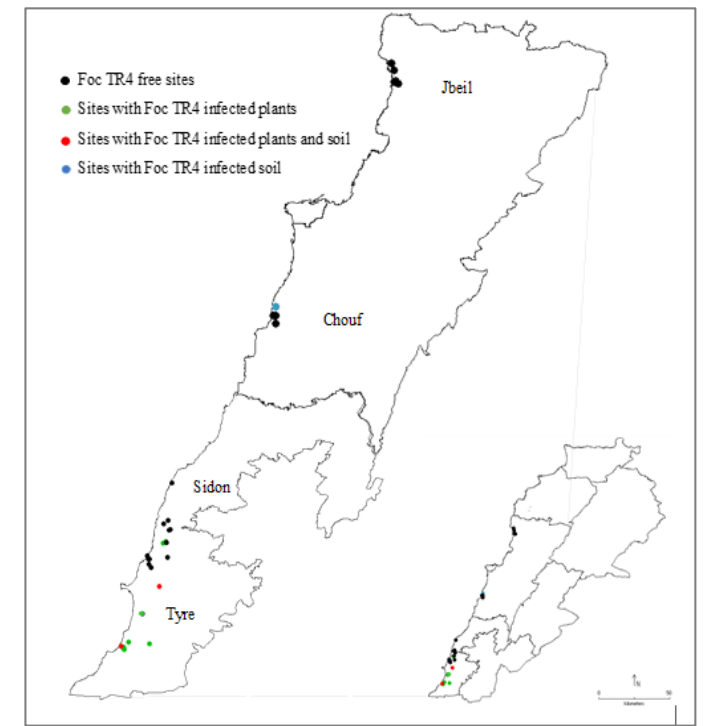
- Banana is one of the main strategic crops in Lebanon, covering about 2,321 ha and producing around 71,625 tonnes per year, mainly from South Lebanon
- Main varieties: Dwarf Cavendish, Semi-Dwarf Cavendish and Giant Cavendish, mainly Grande Naine.
- Lebanon exports 25 to 45 thousand tonnes of bananas per year and imports 61 to 135 thousand tissue culture banana seedlings mainly from Spain and South Africa.
- In 2013, Foc TR4 was detected in two locations in South Lebanon, in an area of 1 ha (Ordoñez N., et al. 2016).
- No legal or technical measures have been taken to eradicate or contain the disease



Abandoned Foc TR4 -  
infested farm

# Spread of TR4 in South Lebanon

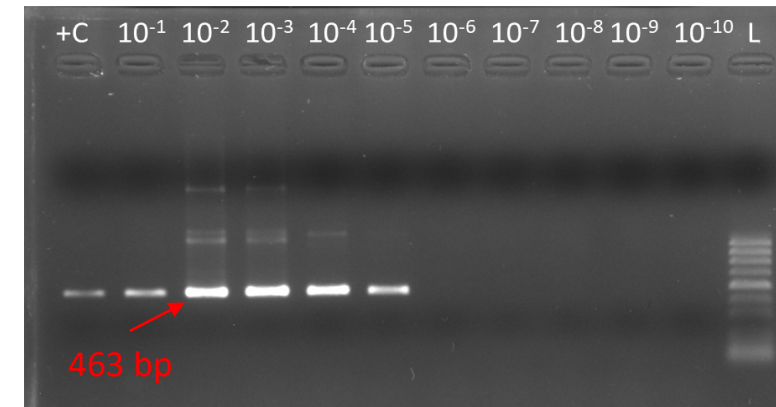
- Set up and validate molecular tools for the detection of Foc TR4 in plant and soil
- Design preliminary survey in collaboration with MoA
- Update the distribution of TR4 in banana growing areas
- Request from MoA for emergency assistance of FAO through a TCP project (Feb 2020)
- Evaluate the capacities of MoA and laboratories to perform FocTR4 surveillance and management
- Technical meetings with the concerned stakeholders (MoA, banana producers' association/cooperative and the private sector) to set the workplan and strategy
- Draft of project document for the management of FocTR4 in Lebanon (logical framework, SMART indicators, budget..)



## Nested-PCR

First amplification: LR12R (For) / InV SR1R(Rev)

Second amplification: FocTR4 F / FocTR4 R



**Sensitivity level :  $6 \times 10^{-4}$  ng/ $\mu$ l**



# GAPs in the banana production sector

- Lack of awareness among banana producers, workers, and technicians about Foc TR4 and its impact on banana sector.
- Lack of appropriate domestic phytosanitary measures to contain the disease and limit its spread to new areas.
- Absence of periodic surveys, crucial for the early detection of the pathogen.
- Predominance of bad agricultural practices:
  - Use of banana suckers as planting material, which are collected from sites that could be infested with Foc TR4.
  - Sharing agriculture machinery and tools among different farms,
  - Absence of borders between adjacent farms
  - Inefficient management strategies to control plant parasitic nematodes



FAO project (TCP/LEB/3803)

[2021-2023]

‘Strengthening capacities to contain and manage *Fusarium oxysporum* f.sp. *cubense* Tropical race 4 on bananas in Lebanon’

Objectives:

1. Development and implementation of a strategy and action plan for containment and management of Foc TR4
2. Strengthening national capacities for surveillance, containment and management of Foc TR4
3. Conduction of Foc TR4 surveillance in banana production areas.
4. Development of a follow-up action plan for project sustainability