



Food and Agriculture  
Organization of the  
United Nations



**TR4  
GLOBAL  
NETWORK**

An initiative of the  
**World Banana Forum**



**Bananas are the world's most exported fresh fruit** and a main source of income for millions of rural households in developing economies. Yet the industry faces pressing social, economic and environmental issues.

Created in 2009, the **World Banana Forum (WBF)** brings together participants from across the global banana value-chain to translate dialogue into action and achieve best practices for sustainable production and trade.

Hosted in the headquarters of the **Food and Agriculture Organization of the United Nations (FAO)**, the World Banana Forum has grown exponentially since its inception, with members who are **retailers, importers, producers, scientists, consumer groups, governments, researchers, trade unions and civil society organizations**. Tapping into specialized FAO teams, three WBF working groups address the most urgent environmental, economic and social sustainability issues.

Collaboration is at the heart of the WBF and this has led to tackling the spread of ***Fusarium oxysporum f. sp cubense Tropical race 4 (Foc TR4)*** of critical concern. Building on the success of its internal TR4 Task Force - created in 2013 - the WBF is establishing the **TR4 Global Network (TR4GN)**, acknowledging the need to invite far-reaching support from all interested parties in the process of halting TR4.

## THE GLOBAL NETWORK ON TROPICAL RACE 4 (TR4GN)

**Produced in more than 135 countries, bananas and plantains are a staple crop for the food security of 400 million people**, as well as an essential source of income in many developing countries. Given this, countless efforts are being made to address the issue of TR4, by diverse stakeholders from all over the world.

In response, the World Banana Forum is establishing the **TR4GN** a leading platform for exchange and collaboration that aims to become a knowledge hub for awareness and prevention of the spread of the fungus. **TR4GN supports the collection, development and dissemination of tools, information, capacity development materials, and other material** that may contribute to generating awareness and knowledge to contain the fungus. This not only renews the involvement of current members of the TR4 Task Force, but advocates current and future action towards potential external partners.

## OBJECTIVES AND ACTIONS OF THE TR4GN

The TR4GN is a neutral convener. It:

- Creates the basis for inclusive and open collaboration among stakeholders, for the benefit of all.
- Fosters information sharing and understanding about TR4, with inputs from World Banana Forum members, governments, the academy and the banana industry.
- Acts as a catalyst for materials, findings, and events that are relevant for the common fight against TR4.
- Facilitates the creation of partnerships at the local and regional level by bringing visibility to industry stakeholders' work on TR4.
- Is the reference point for awareness raising and capacity development materials to promote prevention and control of TR4.





**The first objective must be to contain this fungus to its present location.**



-David Nowell, Plant Production and Protection Officer, FAO

## THE TR4GN IN PRACTICE

**FAO will be the facilitator of the TR4GN** through two of its divisions: Trade and Markets (EST), where the World Banana Forum Secretariat is hosted, and Plant Production and Protection (AGP). They will manage and share its content through two dedicated tools: a dynamic website and a newsletter.

**The TR4 Task Force of the World Banana Forum**, formed by a group of experts from different countries and sectors (governments, private sector, CSO, research institutions), will support the process by providing input and feedback for the production of materials, as well as by validating those provided by users.

**The user base will encompass anyone interested in banana and/or plantain production, and its sustainability around the world.** By accessing the content available on the website, users can also become part of the exchange, by sharing information, data and materials with the facilitators.



### **FUSARIUM OXYSPORUM F. SP CUBENSE TROPICAL RACE 4 (FOC TR4)**

Today's global banana production is seriously threatened by a strain of the soil-borne fungus *Fusarium oxysporum* f. sp. *cubense* (Foc). The cubense special form of *Fusarium oxysporum* comprises the pathogenic strains that cause Banana Fusarium Wilt (Banana FW) in cultivated bananas.

The strain of the Tropical race 1 wiped out the Gros Michel banana industry in Central America and the Caribbean in the mid-twentieth century. The Tropical race 4 (TR4) strain is now affecting Cavendish cultivars as well as many others.

First identified in soil samples in the early 1970s, this destructive TR4 strain was initially confined to Asia, until its presence was confirmed in both the Middle East and Africa in 2013. In 2019 it appeared in Latin America, the epicentre of the global banana export industry.

TR4 affects most banana varieties, particularly the Cavendish banana that provides around half of global banana supply.

As a fungus that lives in the soil and can survive undetected for decades, it is easily spread through infected banana plant material, and contaminated soil and water.



# KEY TAKEAWAYS

## CURRENT STRAIN OF FUNGUS

The current race of the fungus causing Banana Fusarium Wilt in Cavendish cultivars (and many others) is ***Fusarium oxysporum* f. sp. *cabense* tropical race 4 (Foc TR4)**, also known as **Tropical race 4 (TR4)**.

## DISEASE

Banana Fusarium Wilt (Banana FW).

## FUNGUS

The fungus that causes Banana FW is *Fusarium oxysporum* f. sp. *cabense* (Foc).

At the moment, **there is no cure** for TR4 – no fungicide or soil fumigant can effectively control or eradicate it.

TR4 can be **transmitted through shoes**, vehicles, farm tools and equipment, **but also through drainage water**, surface run-off water and floods.

The most effective approach to combat TR4 is **prevention** of its spread into clean areas and immediate containment once it is detected.

**Diversification** of banana and plantain crops and agroecological practices that support sustainability are another way to help prevent TR4.

**International collaboration** and local actions are essential to manage TR4 in affected countries.

## Become part of the TR4 Global Network!

To learn more or to access resources, subscribe to our **newsletter** or visit our **website**:

**TR4GN@fao.org** | **www.fao.org/TR4GN**

The **TR4GN** is jointly facilitated by the World Banana Forum Secretariat - hosted by FAO's Trade and Markets Division - and by FAO's Plant Production and Protection Division.

To discover the benefits of becoming a member of the World Banana Forum and to take an active role towards a sustainable banana sector, please visit:

**www.fao.org/world-banana-forum**

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*If you think you may have seen soil, water or plant material entering or exiting the farm, or if you have any questions, contact the phytosanitary authorities!*



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