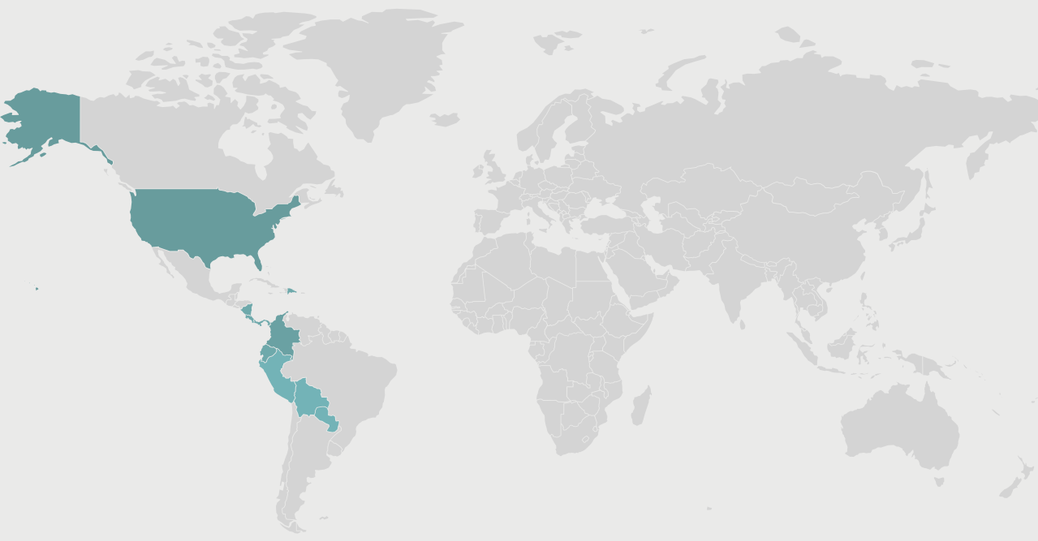
AGROSAVIA, CORPORACIÓN COLOMBIANA DE INVESTIGACIÓN AGROPECUARIA, COLOMBIA

# Strengthening capacities for the prevention and management of Fusarium wilt in Latin America and the Caribbean

This project promotes scenarios for exchange, training and strengthening between different actors of the Musaceae production systems in the region.



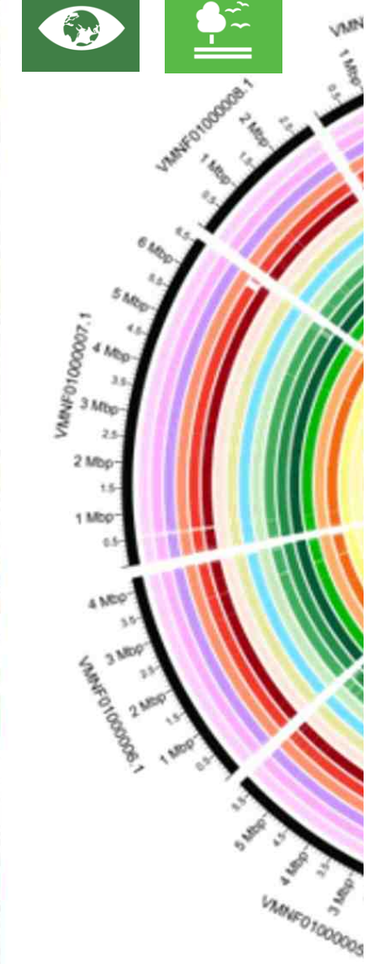
United States / Colombia / Costa Rica / Dominican Republic / Ecuador / Nicaragua / Panama / Bolivia / Paraguay / Peru

**+4872**
Number of people trained

**+48**
Training workshop

**+2**
Published articles

**+6**
Videos

Regional dialogue, the main tool to face the threat of Foc TR4 in LAC

## The implemented initiative

The presence of Foc TR4 in LAC generates immediate risks for the banana industry in all musaceae-producing countries in the region. Given the complexity of the problem, the project addresses it through four components:
- Component 1: Standardize and validate diagnostic methodology for Foc TR4 identification
- Component 2: Evaluate biosafety practices and soil management with emphasis on biological control for Fusarium supression.
- Component 3: Evaluate promising materials for their resistance to Foc TR4.
- Component 4: Manage and transfer knowledge and technologies for the prevention, containment and management of Fusarium, especially Foc TR4.

Regional Cooperation

## The technological solution

Work is being done on the standardization of Foc TR4 diagnostic protocols for INIAs and project partners, based on new methodologies that allow detection in complex samples: water and soil. Progress is being made in the validation of technologies for disease prevention and management through the evaluation of disinfectants, development of unified and validated biosafety protocols for small banana and plantain producers, and the evaluation of biological products (Thichoderma spp. and Bacillus subtillis). In addition, as a medium-term strategy, progress has been made in the successful development of protocols for the safe introduction of Musa spp germplasm to Colombia that will serve as a model for other countries. Through this protocol, banana materials from CIRAD (France) and Embrapa (Brazil) have been introduced due to their resistance to Foc TR4. The set of technological solutions will make it possible to manage the disease in LAC in a more sustainable, resilient and intelligent way.

MÁS INFO

## Results

Protocols for the detection of Foc TR4 were standardized in the INIAs attached to the project, controls were delivered for the validation of their internal protocols and personnel were trained in the methodologies. The biosafety baseline was determined in the 6 countries and progress is being made in the construction of a biosafety model for small producers. In Colombia, promising results were found in biological products for pathogen control based on Trichoderma spp. and B. subtilis. Four genotypes with promising characteristics due to their resistance to Foc TR4 from the CIRAD breeding program were introduced to Colombia: Ruby, CIRAD 924, 931, 938 and 52 Embrapa banana genotypes, among improved diploids and tetraploids for their integration into the Musaceae genetic improvement breeding program. Susceptibility of Colombian Creole plantains was found under greenhouse conditions and with high concentration of inoculum.

Main donors

FONTAGRO

Participating Organizations

AGROSAVIA · INIAP · idiap · fittacori · infa · INTA Instituto Nicaragüense de Tecnología Agropecuaria · AGROCALIDAD · FONTAGRO