

Proficiency testing for detection of *Fusarium oxysporum* f.sp. *cubense* Tropical Race 4 using genomic DNA

23-INM-EA-01 - 23-PP-01 - 2023

INTRODUCTION

From the Decision No. 832 in 2018, the Secretaría General de la Comunidad Andina (CAN) approved the Project "Regional standardization of the diagnosis of *Fusarium oxysporum* f. sp. *cubense* Tropical Race 4 (FocR4T)", to develop similar skills in member countries (Bolivia, Ecuador, Perú and Colombia) for FocR4T identification. An interlaboratory comparison is one of the most important project components to verify the technical competence of laboratories for the pathogen detection.

Given the recent reports of FocR4T in America, particularly in Colombia (2019), Perú (2021) and Venezuela (2023), it is necessary to develop initiatives to guarantee reliable results and timely decision making for control and surveillance. Therefore, the Comunidad Andina, together with Instituto Colombiano Agropecuario (ICA), the Instituto Nacional de Metrología de Colombia (INM) and KeyGene corporation have organized a Proficiency Test (PT) to evaluate the capacities of participating laboratories in the pathogen detection processes by methods based on the Polymerase Chain Reaction (PCR) technique.

PURPOSE OF THE PROFICIENCY TEST

To evaluate the performance of participating laboratories to detect *Fusarium oxysporum* f. sp. *cubense* Tropical Race 4 by methods based on the Polymerase Chain Reaction (PCR) technique, to identify possible improvement opportunities in the laboratory measurement system.

SCHEDULE

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|----------------------------------|-------------------------|
| 1. Publication of protocol: | 2023-03-06 |
| 2. Closing of registrations | 2023-04-05 |
| 3. Publication of final protocol | 2023-04-25 |
| 4. Samples shipment | 2023-05-08 a 2023-05-19 |
| 5. Measurement execution period | 2023-05-23 a 2023-06-02 |
| 6. Preliminary report | 2023-07-05 |
| 7. Closure meeting | 2023-08-04 |
| 8. final report | 2023-08-11 |

* Dates specified in this document may be subject to modification by INM.

DESCRIPCIÓN DEL ENSAYO DE APTITUD

SCOPE

This Proficiency test was designed for phytosanitary diagnostic or plant health laboratories belonging to National Plant Protection Organizations, research institutes or laboratories that provide FocR4T detection services in Musaceae by real-time PCR and/or endpoint. Due to the quarantine nature of the fungus, this PT does not cover the nucleic acids extraction process.

PROFICIENCY TEST ITEM (PTI)

The PTI is composed of a panel with different solutions, including genomic DNA for the detection of FocR4T

EVALUATION OF RESULTS

For this PT, the performance of participating laboratories will be evaluated based on the guidelines specified in numeral 11 of the NTC-ISO 13528:2017 standard for the design and analysis of qualitative proficiency test programs.

SUBCONTRACTED ACTIVITIES

For this proficiency test, the transport of the test items was subcontracted

CONFIDENTIALITY AND SOCIALIZATION OF THE PT RESULTS

To comply with numeral 8.5 of the External Circular "Specific Criteria for Accreditation" CEA-3.0-04 "Policy for Proficiency Testing (PT) Participation in Laboratories", issued by the National Accreditation Agency of Colombia - ONAC in February of 2019, the INM will inform to ONAC the participation of the laboratories and the code assigned to this Proficiency Test (PT).

Considering that the organization and execution of this PT is one of the components of the regional project approved by the CAN through Decision 832, it is clarified that the ICA and the CAN as organizers will have access to the information of the results obtained in the proficiency test (PT), if required.

COST

This PT does not have any associated cost for laboratories that belong to member countries of the CAN, since this entity provides the resources for the organization, production and transport of the PTI. However, laboratories from countries other than CAN members must assume the costs of shipping and nationalization of samples, except for any additional provision informed in writing by the PT provider.

REGISTRATION AND CONFIRMATION

Interested laboratories should read this protocol carefully and if they decide to participate, they must complete the registration application process at the following link:

<http://servicios.inm.gov.co/portal/>

For more information on the registration process, it is recommended to consult the following instructions:

https://inm.gov.co/web/wp-content/uploads/2021/02/InstructivoEnsayosdeAptitud_V2_.pdf

PARTICIPATION REQUIREMENTS

Participating laboratories must have a measurement system for the analysis of the Proficiency Test Item (PTI) within the scope of this exercise and attach the following documents when registering on the portal :

<http://servicios.inm.gov.co/portal/>

- [Registration form for the PT \(link\)](#)
- [Acceptance letter of conditions signed by the legal representative \(link\)](#)
- **Define the analytical method to be used. Attach a brief description of the measurement procedure.**

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PROFICIENCY TEST ORGANIZATION

Instituto Colombiano Agropecuario -ICA.
INM - Subdirección de Servicios Metrológicos y Relación con el Ciudadano.
KeyGene Company
Comunidad Andina (CAN)

For any concern about the registration process, please contact:
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