

**Ministry of Foreign Affairs of Brazil  
Environment Department  
Biodiversity Division**

***Part I. Endorsement of submission***

Name of Country/Organization: Brazil / Ministry of Agriculture and Livestock

Name of Cartagena Protocol Focal point/Head of Organization endorsing: - Luiz Eduardo Andrade de Souza (Ministry of Foreign Affairs of Brazil, Biodiversity Division)

Signature of the Cartagena Protocol Focal Point/ Head of Organization: - 

Date: 24/11/2023

***Part II. Submission of information***

In decision CP-10/11, the Conference of Parties serving as a meeting of the Parties to the Cartagena Protocol on Biosafety (COP-MOP) invited Parties and relevant organizations to submit information on their experience with new detection techniques, detecting newly developed and unauthorized living modified organisms and developing reference materials, as well as ongoing collaborations involving national and regional laboratories. At its twenty-sixth meeting, the Subsidiary Body on Scientific, Technical and Technological Advice to consider the information submitted and prepare a recommendation on the need to update Biosafety Technical Series 05: *Training Manual on the Detection and Identification of Living Modified Organisms in the Context of the Cartagena Protocol on Biosafety*.

Based on this, please submit information on the following areas:

1. New techniques or tools for the detection and identification of living modified organisms.

The Federal Laboratory of Animal and Plant Health Inspection is a unit of the Ministry of Agriculture and Livestock of Brazil and comprises a network of 6 laboratory facilities, with fifteen years of experience in Living Modified Organisms analysis. We work mainly with Real Time PCR methods published by the International Organization for Standardization (ISO) or by the European Union Reference Laboratory for Genetically Modified Food and Feed (EURL GMFF). We also have expertise and facilities for analysis based on Digital PCR and Next Generation Sequencing technologies. These technologies have been used for pest identification and food fraud detection. Currently, we do not have any implemented method for analysis of products obtained by New Genomic Techniques (NGT).

2. Experience with:
  - a. New detection techniques

Our laboratory has almost ten years of experience with Sanger Sequencing for detection and identification of LMOs. Recently, we have implemented Next Generation Sequencing and Digital PCR technologies, but we still have not applied those technologies to LMO analysis.

- b. Detecting newly developed and/or unauthorized living modified organisms

In our laboratory, we perform screening methods based on seven different genetically-modified organisms (GMO) sequences in order to identify possible events in a sample; in case of positive results, we confirm the LMO by event specific methods analysis. Considering unauthorized LMOs, the strategy of analysis is established in a case-by-case scenario, depending on the biological species and the origin of the material. Newly developed living modified organisms (LMO) are authorized according to the evaluation by the National Technical Commission for Biosecurity (CTNBio) and the applicants should provide

methodology and reference materials to the Official Laboratory aiming at method validation and market control.

c. Developing reference materials

We do not have experience in developing reference materials for LMO analysis. We work mostly with purchased certified reference material and reference materials provided by the developers (breeding companies) of a new authorized LMO in our country.

3. Collaborations or agreements between national and/or regional laboratories

GMO control analyses in Brazil are made by a network of laboratories accredited to the National Institute of Metrology, Standardization and Industrial Quality based on the ISO 17.025: 2017 - General requirements for the competence of testing and calibration laboratories. Brazil is also an active member of the Network of official laboratories for detection of GMOs in Latin America and the Caribbean region (RLAC OGM).

***Submission of supporting documentation:***

For any publication that you may want to share as part of your submission, kindly include:

1. Name of publication(s), author, date and DOI or URL link.
2. Attach in pdf format any publication you have listed above.