ESPOL, ESCUELA POLITÉCNICA DEL LITORAL, ECUADOR

Integrative alternatives for reducing cadmium (Cd) concentration in cacao beans in Latin America and the Caribbean (LAC)

Implementing multidisciplinary approaches to allow/maintain access to regulated markets (Cd) of cacao from LAC region therefore contributin Este aspecto preocupa a los productores de cacao en ALC debido a g to the sustainability of the cacao sector.



Participants in training activities.

Annual workshops developed.

Experimental farms established by the platform.

1313

328

6

Trained women.



A need for the cacao sector

Ecuador / Colombia / Costa Rica / Belgium / Dominican Republic / Germany / Italy / Panama / Peru / United States

## The implemented initiative

The platform promotes the strengthening of local capacities to position LAC as a quality cacao producer with low Cd levels. Three countries are participating with the sponsorship of FONTAGRO, coordinated by ESPOL-TECH (Ecuador). The objectives are: a) to

generate knowledge and alternatives for the management of Cd in cacao, b) to establish a standardized methodology for determination and reduction of Cd, c) to generate strategies for the cacao value chain and d) to facilitate the knowledge exchange.

Complement basic-applied with social science for the sosteinability of the cacao supply chain

## The technological solution

Elevated cadmium levels in cacao beans and closely linked to edaphic factors such as plant-available Cd, soil pH and organic matter, and microorganisms. Moreover, several limitations have been identified in cacaoproducing countries, e.g. geospacial analysis of Cd occurrence, analytical procedures, lack of socialeconomic analysis, and deficient communication strategy. The platform Cacao 2030 – 2050 allows the interaction of four of the most respected institutions in cacao and their experience and scientific group will contribute to overcome these limitations. Through the activities, the platform will streighten the analytical capabilities with "ring test" and standardized procedures, Assess the genetic and nutritional factors governing Cd uptake, and long-term field research with applicaton of soil amendments. There will be a thorough social-economic assessment with focus on the cacao chain. We will also work in a systematic and holistic training program for technicians and farmers. The platform will work very closely with public and private sector.

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## Results

Even though the project has been recently launched and current restrictions due to the COVID-19 pandemia has limited the implementation of field work. 42 samples (soils, leaves and beans) have been collected in Ecuador to be sent to the laboratories. On these samples, the labs will determine the concentration of Cd and the data will be use to establish the base line towards the standardization of analytical procedures. Certified, international reference materials were selected among the participants, these materials will be purchase and include as part of the QA/QC. In Ecuador, one farm was implemented in collaboration with MOCCA project. Two webinars were recently organized with more than 1000 participants, furthermore, the annual meeting for the project took place at CIAT.

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Main donors

Participating Organizations





