PAIX

PAthogen-Informed sustainable resistance of cassava against Xanthomonas

ABSTRACT

Cassava bacterial blight (CBB) is a disease caused by the gram-negative bacteria Xanthomonas axonopodis pv. manihotis (Xam). Xam populations show a high diversity in Colombia. However, no systematic studies have been conducted in other parts of the world.

Keywords : Agroecology, Plant, Genomics, Plant disease, Operation/adaptation, Genetic diversity, Participatory, Resistance, Manioc, 1. Exclu de la photothèque

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Project type : AAP
Research units in the network : AGAP
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Flagship project : no

Project leader : Boris Szurek
Project leader's institution : IRD
Project leader's RU : IPME-PHIM

Budget allocated : 149000 €
Total budget allocated (including co-financing) : 149000 €
Funding : Labex

GOAL

The main goal of the project is to establish new locally-adapted CBB control strategies in three different areas of the world where severe epidemics occur or are emerging

ACTION

Survey in Latin America, West-Africa and South-East Asia.
Molecular characterization of Xam using VNTRs.
Characterization of TAL repertoires of most prevalent Xam strains.
Search for defective S susceptibility and resistance (executor) R genes in the cassava germplasm 5)
Participatory research with farmer organizations.
Pan-tropical CBB survey network.

RESULTS

Sampling and molecular characterization of Xam strains from Latin America, West-Africa and South-East Asia,
Xam core collection representative of the pathogen population diversity,
Functional diversity of the TALome of most prevalent Xam strains,
Identification of cassava susceptibility (S) genes and loss of function alleles,
Identification of executor resistance gene candidates,
Knowledge on the impact of agricultural practices on the incidence of CBB,

Training of next-generation scientists/technicians to CBB survey & diagnosis,
A unified pan-tropical network on cassava diseases