

CABARÉ : CARIBBEAN NETWORK FOR THE PREVENTION AND SUSTAINABLE CONTROL OF EMERGING DISEASES OF BANANAS

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Introduction

Black Leaf Streak Disease (BLSD) is the main foliar disease of banana. It is caused by the fungus *Mycosphaerella fijiensis* and results in decreased yields and early maturation of fruits. The impact of the disease is particularly high on dessert banana grown for export, which relies on highly susceptible clones of Cavendish type. Control of *M. fijiensis* is currently performed by fungicide treatments, which are costly and have a negative impact on human health and the environment.

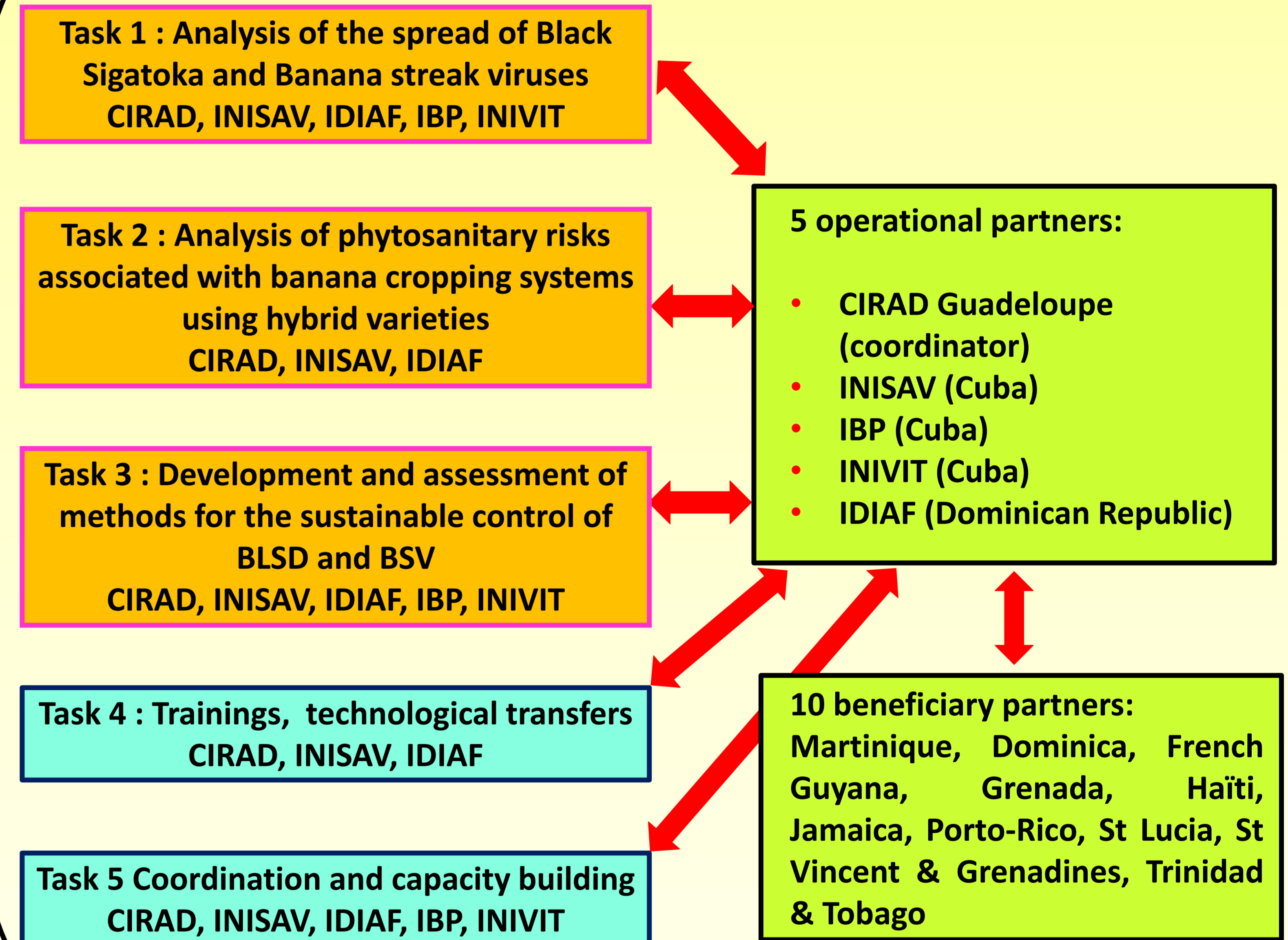
More sustainable control strategies rely on the breeding of disease resistant varieties. Several BLSD-resistant interspecific hybrids have been developed by breeding programs worldwide and distributed to various extents, especially in Cuba and the Dominican Republic. Such hybrids result from crosses between *Musa acuminata* (A) and *M. balbisiana* (B). However, *M. balbisiana* genomes host infectious endogenous Banana streak virus sequences (eBSVs) whose activation by abiotic stresses, such as temperature differences, or by tissue culture results in spontaneous infections in interspecific hybrids of AAB and AAAB genotypes. Moreover, a decrease in the levels of resistance to BLSD has been monitored over the years in interspecific hybrids FHIA18 and FHIA21 in Cuba and the Dominican Republic.

Objectives of the project

- Unravel the reasons why resistance to BSD has eroded over the years in hybrids FHIA18 and FHIA21 in Cuba and the Dominican Republic
- Assess the risk of spreading BSV through large scale distribution of interspecific hybrids harbouring infectious eBSVs
- Develop and implement technical guidelines for the sustainable use of BLSD resistance traits in hybrid banana varieties and for the safe distribution of interspecific banana hybrids without a risk of BSV outbreaks
- Provide trainings in diagnostic of BLSD and viral diseases of banana and promote capacity building among project partners



Project activities and partnership



Expected outcomes

- Implementation of crop management strategies for the sustainable control of Black Sigatoka, using resistant hybrids with no risk of spreading BSV and their transfer to growers
- Strengthening of phytosanitary diagnostic know how in the Caribbean region through the organisation of regional trainings focused on diseases of banana : ca 100 professionals trained during the project
- Strengthening of project partners in research domains related to the project topics
- Capacity building of project partners through PhD projects : 3 PhD projects are being carried out in the frame of the project
- Increased scientific exchanges in the Caribbean region