Polymers for a Green and sustainable chemistry" (PlantLipPol-Green)

Plateforme scientifique structurante sur la caractérisation des lipides d'origine végétale et des polymères hydrophobes non traités et biotransformés pour une chimie verte et durable (PlantLipPol-Green)

ABSTRACT

The importance of soil ecological processes and functions for plant growth and other ecosystem services makes soil an essential component of sustainable agroecological systems. Soil (ecological) Function Restoration, i.e. the intensification of these ecological processes, during agroecological transition, is the core of our project. The overall objective of the SECuRE project is to provide Soil Function Restoration (SFR) practices based on local and scientific knowledges, in order to increase both agronomic, socio-economic and ecological performances of agroecological agrosystems in a tropical context. We hypothesize that innovative cropping practices improving SFR will promote major ecosystem functions, i.e. nutrient cycling, carbon storage, control of pathogens and resistance to climatic stresses, performed by soil biotic diversity and assemblages. SFR aims to optimize current farmer’s practices and propose innovative practices that will promote soil habitat in order to increase soil functional diversity and intensify associated soil and plant functions It is part of agroecological restoration. For this purpose, optimized and innovative SFR practices could be:
1. The use of original organic inputs with high agroecological performances such as vermicomposts
2. An efficient combination of existing organic and mineral inputs promoting plant functions
3. An increase in soil heterogeneity by providing various coupled organo-mineral substrates in a stratified way
4. Biofertilization, i.e., inoculation of SPM to restore some soil functions
5. The use of crop varieties that best respond to innovative SFR practices
Two sites in Madagascar will be considered, both in the Highlands and differing in climate, soil and farming practices; both are studied in on-going projects by our consortium.
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