



AGRISUB: Organic farming substrates for the sustainable use of natural resources, carbon sequestration and the control of invasive species

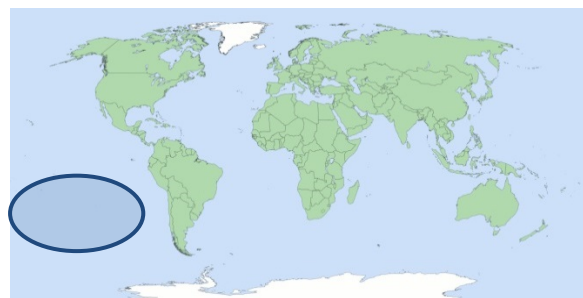
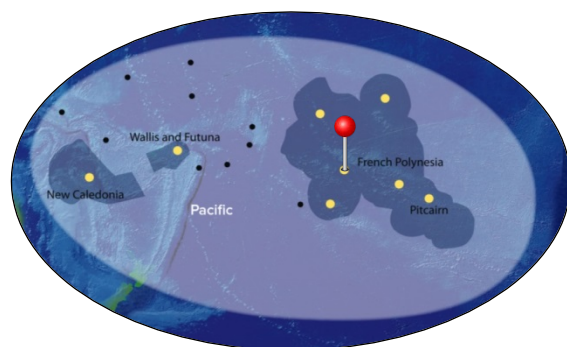
Targeted territory: French Polynesia

Total project budget: 50,000 Euros

BEST 2.0 grant awarded: 50,000 Euros

Duration: January 2018 – December 2018 (12 months)

Lead organisation: Vaihuti Fresh



Background:

Conventional agriculture is one of the human activities that has the greatest impact on our planet's ecosystems. This is especially true in the tropics, where the cycles of matter and the loss of soil and its elements are accelerated. In the context of integrated management of ecosystems, and in particular coastal zones, the adoption of different agricultural practices, based on soil management and preservation, is essential. In French Polynesia, and particularly on the high islands, the degradation of coral reefs is directly related to the terrigenous sedimentation, a significant part of which comes from the loss of agricultural soils.

Among the favoured practices in organic farming, the addition of organic matter to soils is central. It improves soil structure and fertility, growth and production, decreases phytopathology, and allows carbon sequestration. Agro-ecological practices therefore provide quick and lasting answers to these

problems. However, despite some studies suggesting it, the economic profitability of agricultural enterprises in agro-ecology remains to be demonstrated, in particular in tropical environments.

Description of the Project:

AGRISUB proposes the setting up of an experimental study of the yields of target crops (tomato, cucumber and melon) commonly produced on the high islands and the coral islands of Polynesia, by using growing substrates produced within the framework of the project, and which include compost and biochar. The scientific literature on these innovative subjects will allow precise formulation of these growing substrates, especially since the project leader has already worked on these topics for the formulation of seedbed substrates. Experimental cultures will be conducted in a greenhouse controlled environment, and the growth and yields of each species will be measured as part of an experimental design commonly used in agronomy.

This project will be carried out with the technical support of the French Polynesia Department of Agriculture (DAG), which will help develop a training component. The initial goal will be to transmit the technical and economic results of the project to the technicians of the DAG. This training will continue to professionals in the agricultural sector, including farmers who want to convert to organic farming. Ultimately, this project to develop culture substrates will represent the first step towards the creation of a network. It will enable networking and transversality between the actors to generate a sustainable sector with local private actors. The results of the project will thus create an economic income for the recycling of local waste and organic matter.

Intended results:

The project aims to improve agricultural yields by sustainably increasing sequestered carbon levels in soils, and by regulating invasive plant species on agricultural plots in the Leeward Islands of French Polynesia.

The expected results at the end of the project are:

- Increased pressure on targeted invasive species.
- Improved carbon sequestration and increased agricultural yields in cultivated soils.
- The economic viability of the proposed practices is demonstrated.
- Agents of the Directorate of Agriculture are trained in the techniques developed during the project.



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