

CIRAD

**French Agricultural Research Centre for
International Development**

BIOWOOEB

Biomass, Wood, Energy, Bioproducts research unit

**DEVELOPMENT OF INNOVATIVE
ALTERNATIVE CROPS
FOR THE PRODUCTION OF NATURAL
RUBBER**



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Implementation of guayule experimental plots in Languedoc-Roussillon/Occitanie Region (Southern France) as an alternative crop for agricultural diversification for local farmers

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With the support of the European Agricultural Fund for Rural Development (FEADER) and the Occitanie-Region, a research program (2017-2020) has been implemented by Cirad (Biowoob Research Unit) with several farmers partners (SCEA Mas St Jean, BIO-ORB-PPAM, Clairac city Town Hall, and GAEC Hautes-Coumes) and Chamber of Agriculture-66, to develop guayule cultivation in the area. The objectives of the project are: i) to transfer the results of five years of research on guayule by Cirad; ii) to set several experimental plots on abandoned former vineyards; iii) to select the pedo-climatic conditions under which guayule can be grown in the Mediterranean climate (Departments 34-Herault and 66-Oriental Pyrenees), especially with limited water resources; iv) to advertise and attract other farmers for initiating the development of this new alternative crop for the production of natural rubber and co-products in Europe; v) to produce and supply guayule biomass for natural rubber latex production under the frame of other research projects.

A description is given on the implementation of five experimental sites of 0.25 ha each, showing a range of soil types, climatic conditions and cropping techniques, from nursery production, field planting, survival vs planting season, down to the yield per hectare of biomass, rubber and resin. Five guayule lines selected during the former European project EU-PEARLS were investigated. Plant growth, and evolution of the rubber and resin content, were monitored during the 3 years of the project; suitable planting and harvest seasons were also investigated.

The obtained encouraging results will be used to assess the economic viability of guayule as an innovative biorefinery alternative for local farmers, keeping in view climate change and limited access to water for agriculture.

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