

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**



Dr. O.Taugourdeau

Guayule cultivation as a sustainable leverage to rehabilitate urban brownfields

Hassan Boukcim¹, Olivier Taugourdeau¹, Estelle Hedri¹, Jerome Nespoulous¹, Julie Berder¹, Serge Palu², Julie Leclerc².

1: Valorhiz, 1900, Boulevard de la Lironde, PSIII, Parc Scientifique Agropolis, F34980 Montferrier sur Lez

2: CIRAD

Brownfields are a common species of modern urban landscape. Urban brownfields can have various origin (industrial, residential or commercial ...) but they often present similar issues: degraded soils (compaction, lack of fertility, pollutants ...), limited biodiversity and associated ecosystem services furniture, unwanted species (including humans) and vague future. Producing high value biomasses on these brownfields is a promising leverage to “use” these areas. Cultivating biomasses on urban brownfield will improve soil quality, increase ecosystem services furniture and prevent unwanted species installation. For this purpose, Guayule is a promising crop as it can be economically profitable on small areas (>1ha, Sfeir et al. 2014) and is able to grow on low fertility soils.

AgroGuayule project (ADEME-GRAINE cofounding) aims at breaking numerous technical-economical barriers to allow Guayule cultivation on brownfields. Pilot plantations were made across various brownfields to access the feasibility of guayule growing in various conditions. Several scenarios of soil and plant fertilizers are currently tested to estimate their cost-benefice balance.

During the talk, we will present the AgroGuayule projects aims and the first results from the pilot plantations and how they can be scale up at a national scale with an ecological engineering and agroecological perspective.

Subject: oral

Topics: Agronomy

Keywords: guayule ; field experiment ; process ; rubber