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NIRS MEASUREMENT AT FIELD LEVEL TO MEASURE RUBBER AND RESIN CONTENT OF GUAYULE PLANTS

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Natural rubber increasing worldwide demand and the effects of climatic changes emphasize the interest in developing guayule rubber as a commodity such as *Hevea* rubber from Asian plantations. Guayule (*Parthenium argentatum* Gray) will contribute to sustainable development in Mediterranean and southern countries where CIRAD operates its research activities. During the European EU-PEARLS project CIRAD has already worked on NIRS (Near infrared spectroscopy) laboratory measurement of guayule powder from dried branches, to measure water, rubber and resin content). The method is working well, but still time consuming. A new research development on NIRS aims at developing an even simpler and quicker method of resins and rubber contents by NIRS measurement on living guayule plants in the field, during their growth. The purpose is enabling (i) to monitor the evolution of biomass chemical composition over the whole cropping period, and (ii) to estimate harvest date. Indeed guayule type of reproduction leads to differing plants. Encouraging preliminary results about this new method developed in the experimental fields in Montpellier (France) are reported. This direct and simple method which is being experimented will provide a tool for a more efficient genetic selection, as a large number of analyses are needed in order to determine best lines.

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