All you want to know about rubber

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Bioplastic's Industry Outlook: Challenge & Opportunity for Thailand

Manufacturing Technology of Rubberized Conveyor Belts

By: Dr. Samir Majumdar, India

Comparison of Different Grades of Polybutadiene (BR) and Its Blends with Natural and SBR Rubbers

By: Mr. Moiz Sarwar, Pakistan

Unlocking the Full Potential of Rubber Tree Clones

By: Aurélien MASSON & Philippe DE GROOTE, SOCFIN, Côte d'Ivoire

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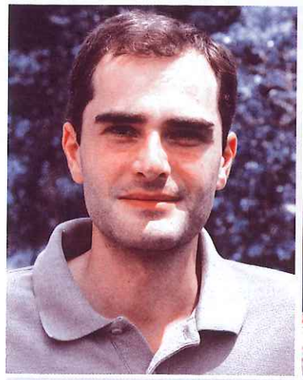
Unlocking The Full Potential of Rubber Tree Clones



Auréen MASSON

Philippe DE GROOTE

Socfin Rejuvenated 10 Industrial Clones and Has Recently Started Their Establishment in Its Plantations

Several research projects conducted in Asia and in Africa proved that rejuvenated clones grow faster (up to 35%) and produce more latex (up to 46%) than the same mature clones.

The SOCFIN group of plantations (54 000 ha of rubber) started in 2006 an ambitious program to rejuvenate the major rubber tree clones. With the help of the University of Ghent in Belgium, it was possible to reset the age of several mature clones using somatic embryogenesis.

The plantlets produced *in vitro* in Belgium were acclimatized since 2010 at SoGB, a rubber plantation located in Ivory Coast, West Africa. 20 000 juvenile plants of 2 clones have already been planted.

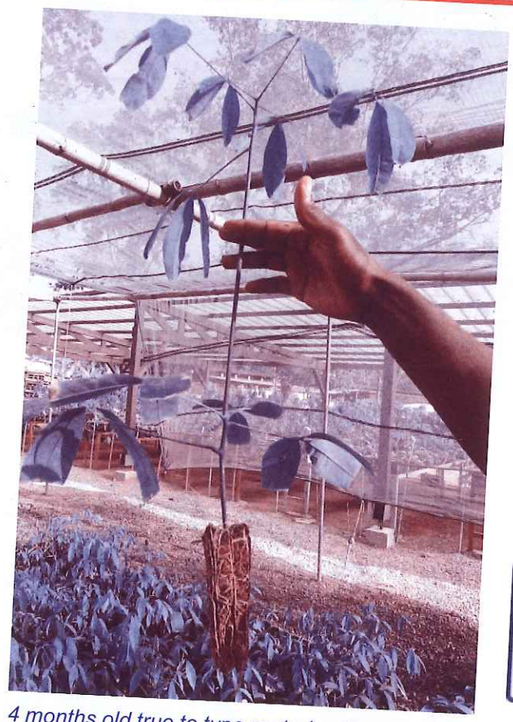
In addition to the field establishment of this superior planting material, some plantlets were kept at the nursery to develop the in vivo cutting technique with an unexpected success. The results have been published in a scientific paper (Masson *et al.*, 2013[1]), enabling SOCFIN to be the leader of mass propagation of *Hevea brasiliensis* clones by cuttings.

[1] Masson A., Julien J.M. and Boedt L., 2013. Industrial propagation by rooted cuttings of mature selected clones of Hevea brasiliensis. Bois et Forêts des Tropiques n°317 (3).

Container grown juvenile rooted cuttings nursery at SoGB estate

This innovation is a real breakthrough for the rubber plantations, and makes it possible to overcome constraints of in vitro tissue culture for a large scale propagation of rejuvenated rubber tree clones (i.e. low multiplication rate, proximity of the lab to the plantation and cost). After the slowing down of the creation of new performant varieties during the last few years, planting of rejuvenated existing clones provides a real opportunity to increase the rubber yields in the short term.

Among the exciting perspectives, the ability to mass propagate clonal rootstocks opens a new field of research on selection of Fomes tolerant rubber trees.



4 months old true to type rooted cutting ready for field planting

SOCFIN recently transferred juvenile planting material to its green fields in Sierra Leone and Cambodia, and will make it available for the small holders in Ivory Coast. By the end of 2014, a certified germplasm of 10 rejuvenated clones of interest will be set up in Africa. The tissue culture activities will also be incorporated in a SOCFIN subsidiary by the creation of a laboratory at SOCFINDO (Indonesia).

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