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Tangential cut of white poplar

Chemistry, energy, materials

Sustainable development was defined by the World Commission on Environment and Development as development that satisfies our current needs without affecting those of future generations.

Scientific progress in the area of plants and transformation technologies makes it possible to imagine that in the long run, products from green chemistry using carbon, substitutable and competitive, will replace those made from fossil fuels in the fields of energy, materials and fine chemistry.

Last year, the American Academy of Sciences declared that the biological sciences will most likely have the same impact on the formation of new industries as the physical and chemical sciences of the 20th century.

In this area, the issues facing researchers require a clear identification of application possibilities. The potential users must be informed of the benefits and the opportunities for non-food uses.

Much of the research that has been carried out opens the way for new possibilities for the utilisation of plants in their entirety and renewed uses for plants in general.

The ideal solution would be to propose integrated technologies ranging from the commercial product all the way to agricultural materials to be implemented. This is the challenge facing research dealing with transformation processes and a better understanding of the potential of plant organs to be included in these processes. The department's activities take place at this intermediary level between the agronomy of non-food crops and the integrated technology sectors.

Determining the importance of scientific issues to allow for the introduction of new processes, facilitating the choice of materials or biotechnologies to be implemented and then developing solutions – these are the challenges facing the research laboratories within the CEPIA Department today.

Paul Colonna, INRA Nantes

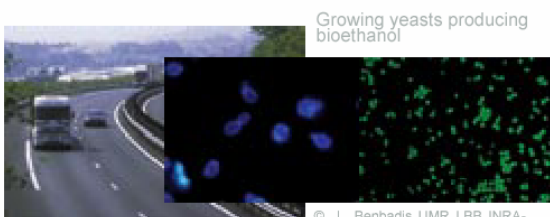


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«Bioenergy» Excellence Network

The Bioenergy Excellence Network, created in 2004, covers the entire bioenergy sector, including all of its scientific, technical and economic aspects, in view of the application of the Kyoto Protocol. It includes eight research centres and is dedicated to structuring and integrating the efforts of European research in this area in order to take all of the stages into consideration, from the availability of raw materials all the way to user expectations.

The Fractionation of Agro-resources and Packaging Unit (UMR Fractionnement des Agroressources et Emballages), INRA-Université de Reims, Champagne-Ardenne, participates in this network thanks to its expertise in the area of lignocellulosic substrates and their enzymatic fractionation.



Growing yeasts producing bioethanol

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Transverse cut of a stem flax colored with «astral blue» reactant

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