

Eucalyptus 2018: Plantation managers and researchers are working to deal with climate change

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Eucalyptus plantation in Madagascar. Credit: Pierre Montagne, CIRAD

Did you know that in addition to producing paper pulp and firewood, eucalyptus is used by scientists to study how trees function in tropical climates, just as poplar is used for temperate climates? Eucalyptus originated in Australia (it is the sole food source for koalas), and is also a prime source of low-cost woody biomass. This explains its popularity for both industrial firms and smallholders (for instance in Madagascar, where it is widely used as firewood). However, like many plants, it is suffering the effects of climate change. Scientists and plantation managers will be discussing possible ways of adapting plantations this week in Montpellier, during the international conference of the "Improvement and Culture of Eucalyptus" group, organized this year by CIRAD, under the aegis of the International Union of Forest Research Organizations (IUFRO).

Major progress has already been made on water management.

Jean-Paul Laclau, a biogeochemistry researcher with CIRAD who is chairing the Organizing Committee, explains: "Climate change means more severe droughts and new pests and diseases in production zones, for instance bronze bugs, sap-sucking insects introduced into Brazil in 2008, as a result of which [eucalyptus plantation](#) management methods must be adapted". Researchers are therefore working on both cropping practices—to ensure more efficient water use, cut input consumption and develop biological pest control methods—and on identifying eucalyptus varieties that are more resistant to certain diseases or to water stress. "Major progress has already been made in terms of water management, to steer practices towards more appropriate management of catchment areas. This has allowed numerous commercial plantations to be FSC-certified, particularly in Brazil", Jean-Paul Laclau adds.

The original results to be presented at the conference include some from CIRAD and its partners, showing the major role played by the very deep root system of [eucalyptus trees](#) in tropical soils in the event of drought.

In addition to strategies in response to global change, the conference will also provide an opportunity to discuss the ecosystem services rendered by eucalyptus plantations, which have a high potential to capture carbon in their wood (due to their high biomass production capacity) and in the soil.

It will also enable participants to predict the future for the supply chains concerned: "[climate change](#) could enable the development of plantations in Europe. Spain and Portugal are currently the leading eucalyptus producers, with around a million hectares planted". There are still very few eucalyptus plantations in France (primarily in the Southwest and towards the Mediterranean), since the most productive species are frost-sensitive. However, "it is not beyond the realms of possibility that an increase in temperatures might enable the extension of eucalyptus plantations in the South of France, to produce fuelwood and paper pulp". At the end of the conference, participants will be able to tour the first experimental plantations managed by the FCBA, a technical institute working on wood, near Narbonne and Carcassonne.

Provided by CIRAD

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