
Brazil and Chile: Concern over research on transgenic trees

In Latin America biotechnology applied to research on varieties of transgenic trees to give them certain characteristics facilitating their large-scale monoculture plantation is being led by two countries: Brazil and Chile.

In Brazil, the National Biosecurity Technical Commission (CTNBio), the body responsible for monitoring recombinant DNA technology – implying gene manipulation – approved standards for planned liberation into the environment of experiments with transgenic eucalyptus trees in the country in June 2007.

Presently CTNBio has 24 requests for approval of transgenic eucalyptus trees. Some of the genetic modifications refer to a volumetric increase in the plants, others to reduction and modification of lignin (a request submitted by International Paper do Brasil Ltda.), the alteration of the cellulose content (request by Suzano Bahia Sul Papel e Celulose), improvement of the quality of the timber (request by Alellyx Applied Genomics) and glyphosate tolerance (request by the Federal University of Viçosa).

ArborGen Tecnologia Florestal Ltda. also appears as one of the companies requesting liberation of transgenic eucalyptus using a technology that makes it possible to produce trees with less lignin – the substance making the wood strong – thus reducing the costs of pulp extraction.

This would lower the costs of the pulp industry for two reasons: because more pulp would be obtained per ton of timber and because it would increase output efficiency when obtaining pulp as there would be less lignin to separate from the pulp.

More recently agrofuel fever – of which ethanol is one – has given rise to this increase in research on transgenic eucalyptus trees. Lignin and cellulose are the main components of wood and a transgenic tree with less lignin content favours the production of cellulose, the raw material for the production of ethanol. According to a report by Rel-UITA (International Union of Food Workers – Latin America), companies in this sector are eager to plant transgenic trees in the Latin American market.

Maria Rita Reis, a lawyer with the NGO Tierra de Derechos, believes that (see <http://www.rel-uita.org/agricultura/transgenicos/brasil-eucaliptus-transg.htm>) CTNBio is being influenced by market pressure and “has not been capable of having a serious discussion on Biosecurity issues that come within the Commission’s scope, for example, of discussing the possibility of coexistence between transgenic and non-transgenic plantations. So far, very little has been said about the rights of farmers and consumers who do not want to plant or consume transgenic crops.”

Genetic manipulation leading to transgenic varieties involves various risks, among which the possibility of other crops becoming contaminated – which would be lethal for those plantations aimed at the furniture industry, or for fruit trees. There are also risks for beekeeping.

In Chile, already in 2004, the GenFor Company promised to develop pines resistant to the pine shoot moth (*Ryacionia buoliana*), which is seriously affecting pine plantations.

In August 2007 a mega Forestry Consortium was set up -- Consorcio Genómico Forestal S.A.— which operates in the University of Concepción's Biotechnology Centre in the Bio Bio Region.

This type of consortium, which mostly operate as research companies, reflect the close relationship presently existing between universities and companies, facilitated by the State, which transfers funds to the universities to enable them to design the business together with the companies belonging to the consortium and which in turn, are essential to obtain State funding.

In the case of the Genómico Forestal S.A. Consortium, the research workers from the forestry companies involved - Forestal Arauco and Forestal Mininco— represent approximately 60 per cent of the country's plantation assets and over 75 per cent of the exports.

Current research aims at obtaining more pulp from *Eucalyptus globulus* (that is to say, more pulp from less area), and at obtaining trees of this species that are more resistant to cold (presently at an altitude of 400 or 500 metres they die because of frost). According to the Consortium's webpage, they are interested in finding trees that are resistant to the pitcher canker fungus that arrived in Chile from abroad some five years ago affecting Monterrey pine. It has devastated plantations in the US and other countries, but in Chile it has not developed outside nurseries. However it is feared that if it is not stopped it will become adapted within five to seven years.

The training of forestry genomic experts at university level, another of the Consortium's objectives, seeks to place the region as leader in forestry genetics in Chile.

Faced by this situation, numerous organizations gathered in the Latin American Network against Monoculture Tree Plantations (RECOMA), delivered an open letter to the Governments of Chile and Brazil expressing their concern, which "in the first place originates from the fact that the genetic manipulation taking place aims at consolidating and expanding a monoculture tree plantation model that has already shown itself to result in serious social and environmental impacts."

"Moreover, the use of transgenic trees would further increase the impacts on water, already verified, given that one of the characteristics sought to be introduced is faster growth, which would imply greater use of water by the plantations."

RECOMA requests the Governments to adopt "precautionary approaches on addressing the issue of genetically modified trees" and to order "the suspension of on-going research until doubts on possible impacts set out in the arguments for the adoption of COP8's Decision VIII/19 are clarified." (See complete text of the letters in <http://www.wrm.org.uy/plantations/RECOMA.html#Letters>).