

Policy on Fibria's genetically modified eucalyptus (GM Eucalyptus)

1. GOAL

To guide Fibria's actions in matters related to genetic engineering and its products, especially regarding the research on genetically modified eucalyptus (GM Eucalyptus) under development by the Company, including own work and/or work done in partnership.

To contribute to the adequate governance and communication on the matter, from the definition of guidelines for the relationship and communication with Fibria's stakeholders and the public in general (internal and external), in matters related to GM Eucalyptus.

2. DEFINITIONS

Biosafety: set of studies and procedures which aim at avoiding, mitigating or controlling the risks to the biodiversity, generated by the use of chemical, physical and/or biological agents.

Classic genetic improvement: science used in plants and animals, which aims at increasing the frequency of favorable alleles (or genes) within a vegetal or animal population. Its aim is to develop varieties that are more productive and adapted to places of cultivation. For an improvement program to be initiated, there must be genetic variability in the population, and the program development will be as big as this variability. The genetic improvement increases the productive efficiency of the living beings, making use of recurrent techniques of cross-pollinating, evaluation and selection.

CTNBio: National Technical Biosafety Committee. Multidisciplinary Agency created by the law N. 11.105, of March, 24th, 2005, that has the goal to aid the Brazilian Government with technical advisory support and assistance in the formulation, update and implementation of the National Policy of Biosafety, related to GMOs.

Genetic engineering: modification process of the genetic code of a certain organism, through different techniques of the natural breeding process.

Genetically Modified Organism (GMO): genetically modified organisms by means of genetic engineering, in order to generate changes in the genome parts (genetic code).

GM Eucalyptus: genetically modified eucalyptus.

3. GUIDELINES

The following are Fibria's positions regarding both the classic genetic improvement and biotechnology, including the use and development of the GM Eucalyptus:

- The classical methods of eucalyptus genetic improvement are the main focus of Fibria's research, aiming at improving productivity and quality of the forests planted by the Company. We believe that the genetic gains of these methods will continue to grow and are sustainable over time, mainly due to the natural genetic variability of the genus *Eucalyptus*, which is large and not yet fully explored.
- For some specific objectives, the natural genetic variability is insufficient or not yet identified in species with which the Company works. For these objectives, Fibria understands that the GM Eucalyptus may be an important factor in leveraging our competitiveness, expanding the limits and accelerating the gains expected by the classic methodology. Additionally, Fibria believes that the society as a whole, will benefit from the genetic engineering of forest species.

- Currently, Fibria does not plant GM Eucalyptus on a commercial scale, but in relation to the aforementioned, the Company has a dedicated line of research for the development of GM Eucalyptus. The research, carried out by the Company regarding this matter, occurs under contention (laboratory and greenhouse) and open (field trials) regimes. All the Company's decisions on GM Eucalyptus research comply with the current legislation and the scientific knowledge and take into consideration stakeholder demands and concerns.
- Fibria's approach in conducting research around GM Eucalyptus aims at the evaluation of gains and impacts resulting from the application of this technology, from economical, environmental and social points of view, in line with best practices and current legislation.
- All the research carried out by Fibria with GM Eucalyptus, in contention or field regimes, is licensed by CTNBio and follows a rigorous monitoring and inspection process, considering the current legislation.
- Fibria participates in cooperative research with scientifically renowned partners, aiming at increasing the scope of the research and the results obtained with GM Eucalyptus, including economical, environmental, social and biosafety aspects.
- As with any other technology developed by the Company, Fibria seeks to obtain its intellectual property rights, in line with the competitive innovation strategy adopted by the Company. Notwithstanding, Fibria guarantees the access and use of this technology by partners and rural producers, generating mutual benefits and following the current adopted model, successfully, in these partnerships.
- Fibria recognizes that genetic engineering and its products, including GM Eucalyptus, is still a controversial issue for some stakeholders, who question its economical, environmental and social impacts. Thus, the Company is committed not only to evaluating these impacts but also in engaging the stakeholders in these conversations.
- The evaluation of impacts is conducted during the research phase of an open regime which precedes a possible use, through studies that aim to clarify and/or search for the answers for the cases for which there are doubts.
- The engagement process with the stakeholders has at its centre the transparency of non-proprietary information, following the concept that the evaluation of impacts will be as complete as the engagement on them.
- This guideline, adopted by Fibria, is that the decision regarding the potential commercial use of this technology depends on the results of the impacts evaluation and the engagement processes.
- Fibria encourages the creation of a Scientific Working Group to identify specialists in biosafety and incorporate their recommendations in the field trials, sharing the results obtained transparently.

4. RESPONSIBILITIES

This policy was approved by the Board of Directors on December 11th, 2014.

5. ANNEX

Annex I. Strategic Positioning on Genetically Modified Eucalyptus (Eucalyptus GM) at Fibria Celulose S.A.

ANNEX I

Strategic Positioning on Genetically Modified Eucalyptus (GM Eucalyptus) at Fibria Celulose S.A.

Fibria has been carrying out research with Genetically Modified Eucalyptus (GM Eucalyptus) since the 1990s, within a controlled environment, including laboratories and greenhouses, and from 2011 began the field trials with the GM Eucalyptus.

The classical methods of genetic improvements in eucalyptus are the main focus of the research carried out by Fibria, and is aimed at the improvement in productivity and wood quality of forests planted by the Company. We believe that the genetic gains from these methods will continue to grow, mainly due to the natural genetic variability of the Eucalyptus genus, which is large but not yet fully explored. However, for some specific objectives, the natural genetic variability is insufficient or not yet identified in the species we work with. In these specific cases, we understand that the GM Eucalyptus may be an important factor to leverage our competitiveness, expanding the natural limits and accelerating the gains obtained through the classical methodology.

This combined strategy – classical improvement complemented by the transgenic biotechnology or other forms of biotechnology – may bring competitive benefits to Fibria and benefits for the society in general, enabling the reduction of resources used, such as soil, water and nutrients, for the pulp production and other products derived from biomass. Among Fibria's main objectives with this process, we highlight:

- ✓ *Increase of tolerance to stress by trees, particularly water and thermal stress (necessary to face the challenges of climate change);*
- ✓ *Increase of pulp productivity per area unit (i.e. tons of pulp/ha/year), through the development of more efficient trees in the use of natural resources, that are able to produce more with less (e.g. nutrients and water);*
- ✓ *Wood quality improvement (lignin content and/or quality, cellulose content, wood density, fiber length). This action strongly contributes to the development of differentiated products and have more added value to society;*
- ✓ *Herbicides tolerance aiming at reducing productivity losses and the impact of applying different types of herbicides.*

In order to make this strategy viable, Fibria respects all the aspects of the Brazilian legislation related to GM Eucalyptus. The company has worked on the elaboration, monitoring and supervision of all the processes and studies related to GM Eucalyptus, including follow-up on the works of the Internal Biosafety Commission. Additionally, several areas of the Company have worked on the tasks of engagement and conversations with society, in general, concerning GM Eucalyptus.

Fibria is in the research-only experimental evaluation phase of the GM Eucalyptus technology, with the intention to demonstrate in the field, the potential benefits, risks and impacts of this new technology, for the Company and society, in general. Aware of its responsibility, while these studies are not conclusive in what regards the aforementioned aspects, Fibria has no plans on using GM Eucalyptus in its forest plantations.

Fibria recognizes that apart from the appropriate legal authorizations, it is necessary to engage with different parts of society in order to incorporate societal concerns into the process.

Therefore, Fibria reinforces some important principles, such as transparency and respect to the current legislation, as well as guaranteeing the access and use of products arising from this technology by partners and rural producers with whom Fibria maintains a relationship, generating mutual benefits and following the current successful model adopted in these forest partnerships.

In addition to the work developed by Fibria, the company encourages and participates in cooperative research projects, with partners of recognized scientific legitimacy, aiming at raising data and

information on GM Eucalyptus biosafety. Fibria encourages the creation of a Scientific Working Group to identify specialists in biosafety and incorporate their recommendations into the field trials, sharing the obtained results in a transparent manner.

All the information regarding Fibria's research on GM Eucalyptus is public and is available with the National Technical Biosafety Committee (CTNBio).

Fibria is open to questions and suggestions by email: biotecnologia@fibria.com.br.