

ABTCP 2015

48º CONGRESSO E EXPOSIÇÃO
INTERNACIONAL DE CELULOSE E PAPEL

48º CONGRESSO INTERNACIONAL DE CELULOSE E PAPEL
1ª CONFERÊNCIA IBEROAMERICANA SOBRE BIOECONOMIA



ENGAGEMENT IN GENETICALLY MODIFIED EUCALYPT: *Pursuit of Constructive Dialogue!*



REALIZAÇÃO



CORREALIZAÇÃO



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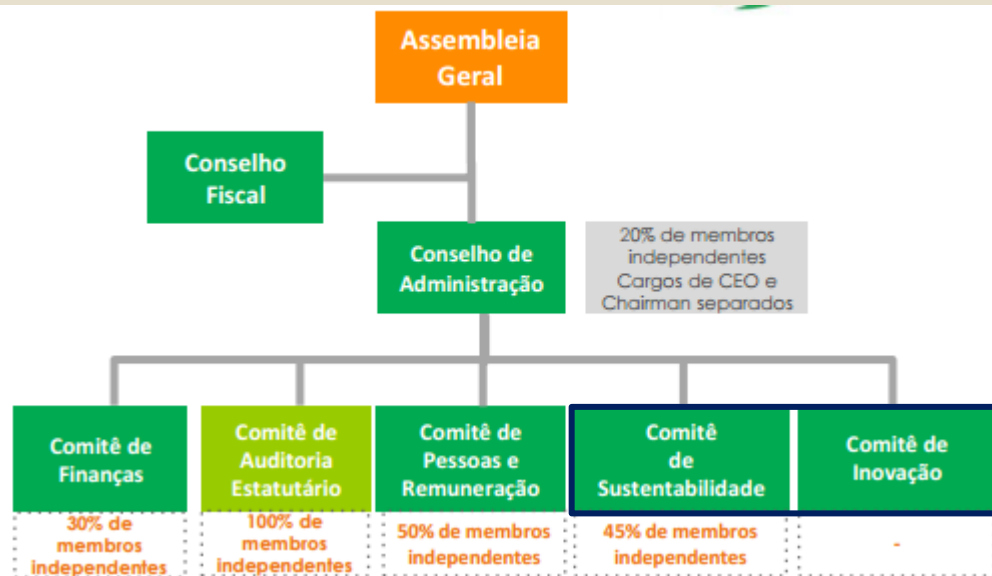
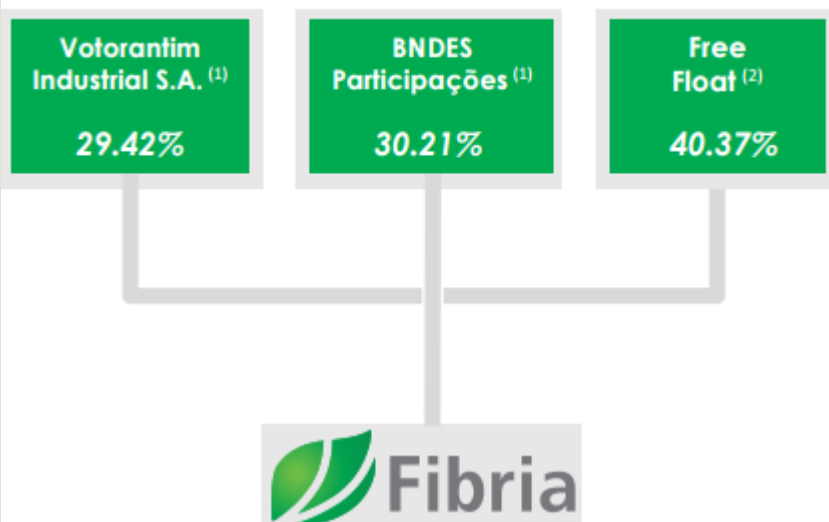
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About Fibria...



Shareholder Structure



DESTAQUES

Listada no Novo Mercado, nível mais elevado de Governança da BM&FBovespa:

- 1 classe de ação → 100% direito a voto
- Direito de tag along para 100% das ações (LSA exige 80%)
- 20% de membros independentes no Conselho de Administração
- Demonstrações Financeiras em padrão internacional – IFRS
- Avaliação independente dos conselheiros e comitês

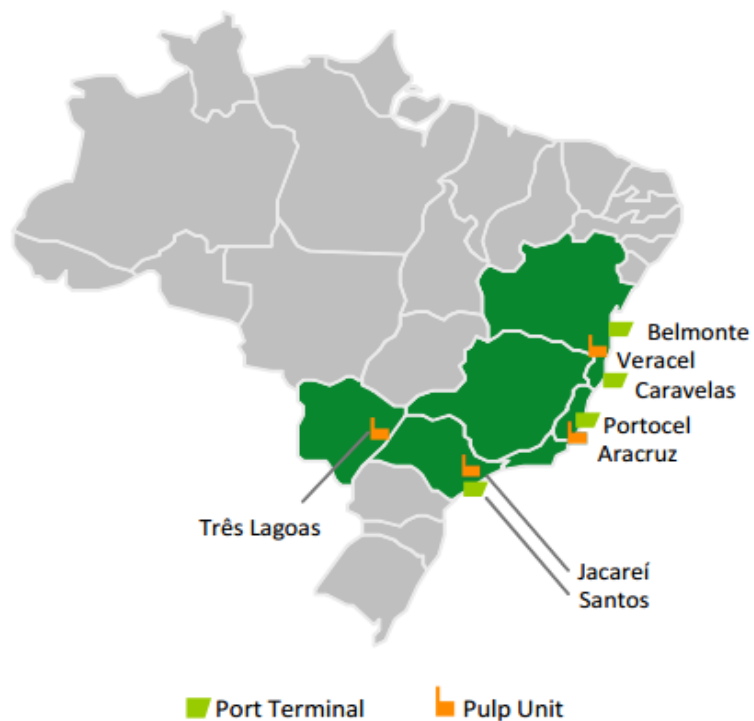
Políticas aprovadas pelo Conselho de Administração

- Gestão de endividamento e liquidez
- Gestão de Riscos de mercado
- Gestão de Riscos
- Governança corporativa
- Transação com Partes Relacionadas
- Anticorrupção
- Divulgação de informações
- Negociação de ações
- Antitrusting
- Eucalipto modificado geneticamente



A Winning Player

Superior Asset Combination



Main Figures – 2Q15 LTM

Pulp capacity	million tons	5,300
Net revenues	R\$ billion	8.0
Total Forest Base ⁽¹⁾	thousand hectares	967
Planted area ⁽¹⁾	thousand hectares	563
Net Debt	R\$ billion	8.2
Net Debt/EBITDA (in Dollars) ⁽²⁾	X	1.95

Source: Fibria

(1) Including 50% of Veracel, excluding forest partnership areas and excluding the forest base linked to the sale of forest assets in Southern Bahia State and Losango.

(2) For covenants purposes, the Net Debt/EBITDA ratio is calculated in Dollars.



Fibria's Unit Industrial Capacity

Três Lagoas – Mato Grosso do Sul – 1,300 thousand t/year



Jacareí – São Paulo – 1,100 thousand t/year



Aracruz – Espírito Santo – 2,340 thousand t/year



Veracel – Bahia – 560 thousand t/year *



* Veracel is a joint venture between Fibria (50%) and Stora Enso (50%) and the total capacity is 1,120 thousand ton/year

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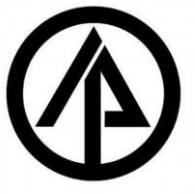
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Huge Genetic Material!!!



PAPEL SIMÃO S. A.



Fibria



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Engagement...

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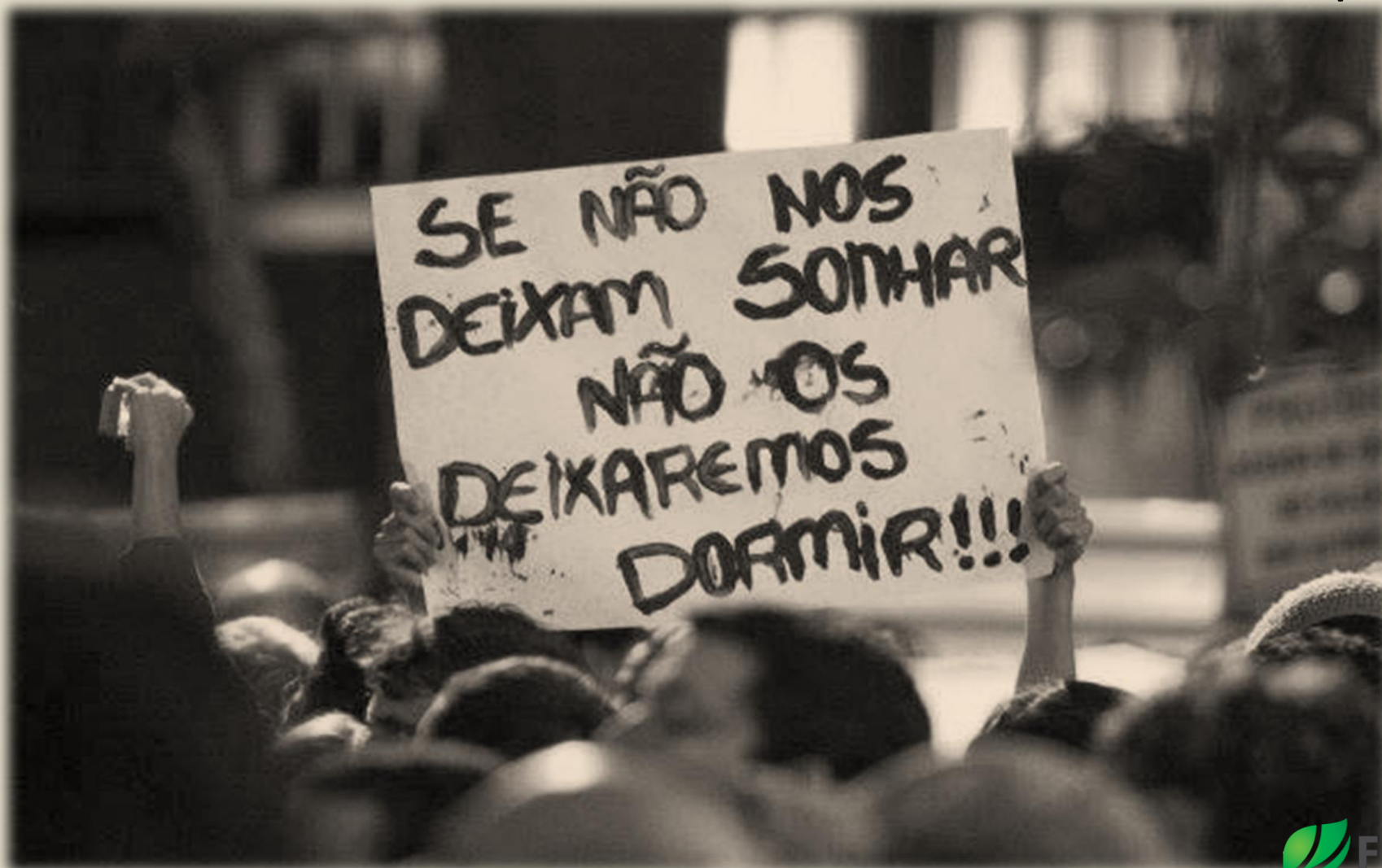
Engagement in practice...

Jun/13





Jul/14





Apesar de protestos, europeus se organizam para acolher refugiados

Set/15





... many similarities with GMOs

But we have to supply (food, fiber, fuel and forest) a world with 11.2 billion people by 2100 (or 8 billion in 2025 !!!)



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Be careful with these guys!

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Trends...



The question is not IF, but WHEN and WHAT FOR!



Cancer Treatments Have Very Few Toxic Side Effects



Dementia Declines



Teleportation is Tested



Food Shortages and Food Price Fluctuations Are Things of the Past



Digital Everything...Everywhere



Type 1 Diabetes is Preventable



DNA Mapping At Birth is the Norm to Avoid Disease Risk



Electric Air Transportation Takes Off



Petroleum-Based Packaging Is History; Cellulose-Derived Packaging Rules



Solar is the Largest Source of Energy on the Planet

IN 2025
Advancements in lighting technologies and imaging techniques, coupled with genetic crop modification, provide an environment ripe for successful indoor crop growth and detecting diseased foods.

Thomson Reuters, Ago/14

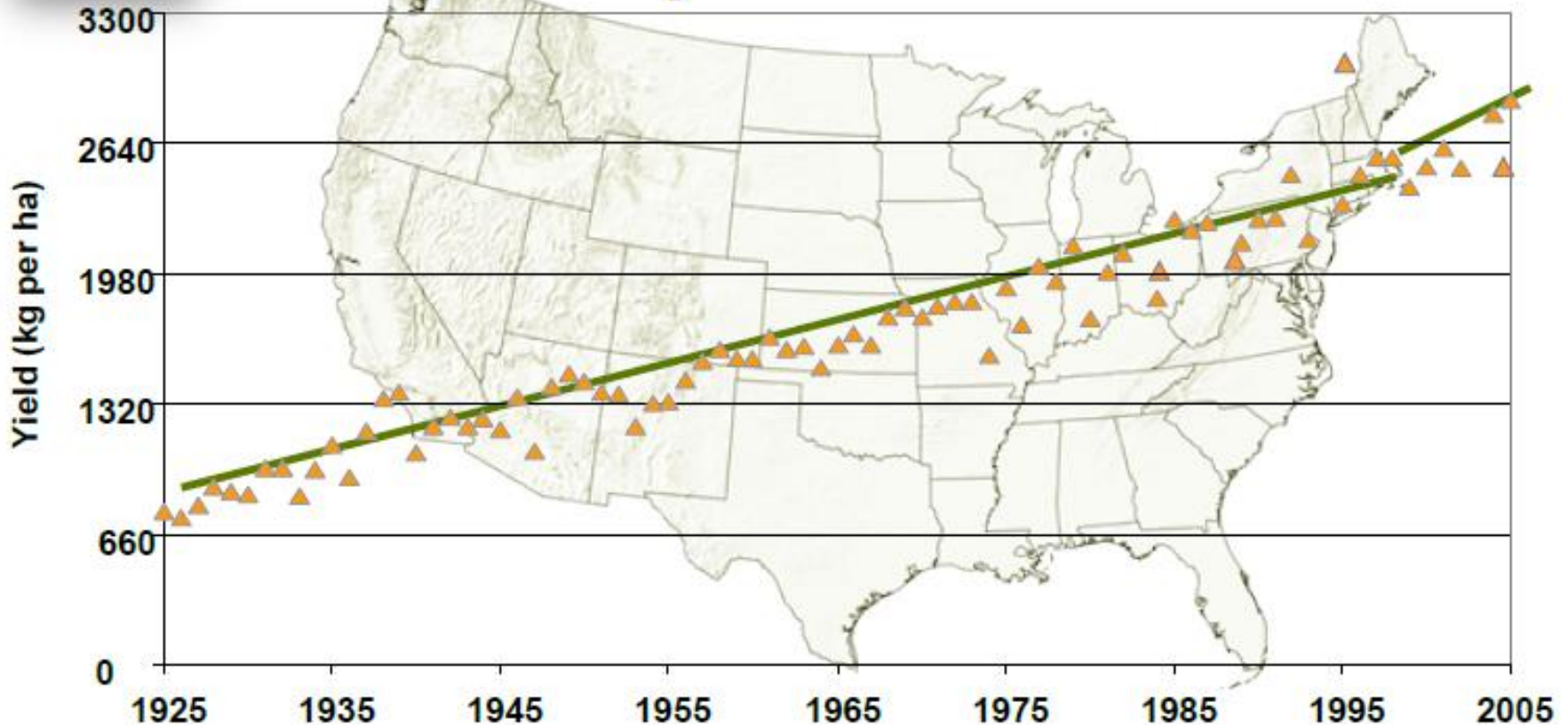
THE WORLD IN 2025

10 PREDICTIONS OF INNOVATION



US soybean yields

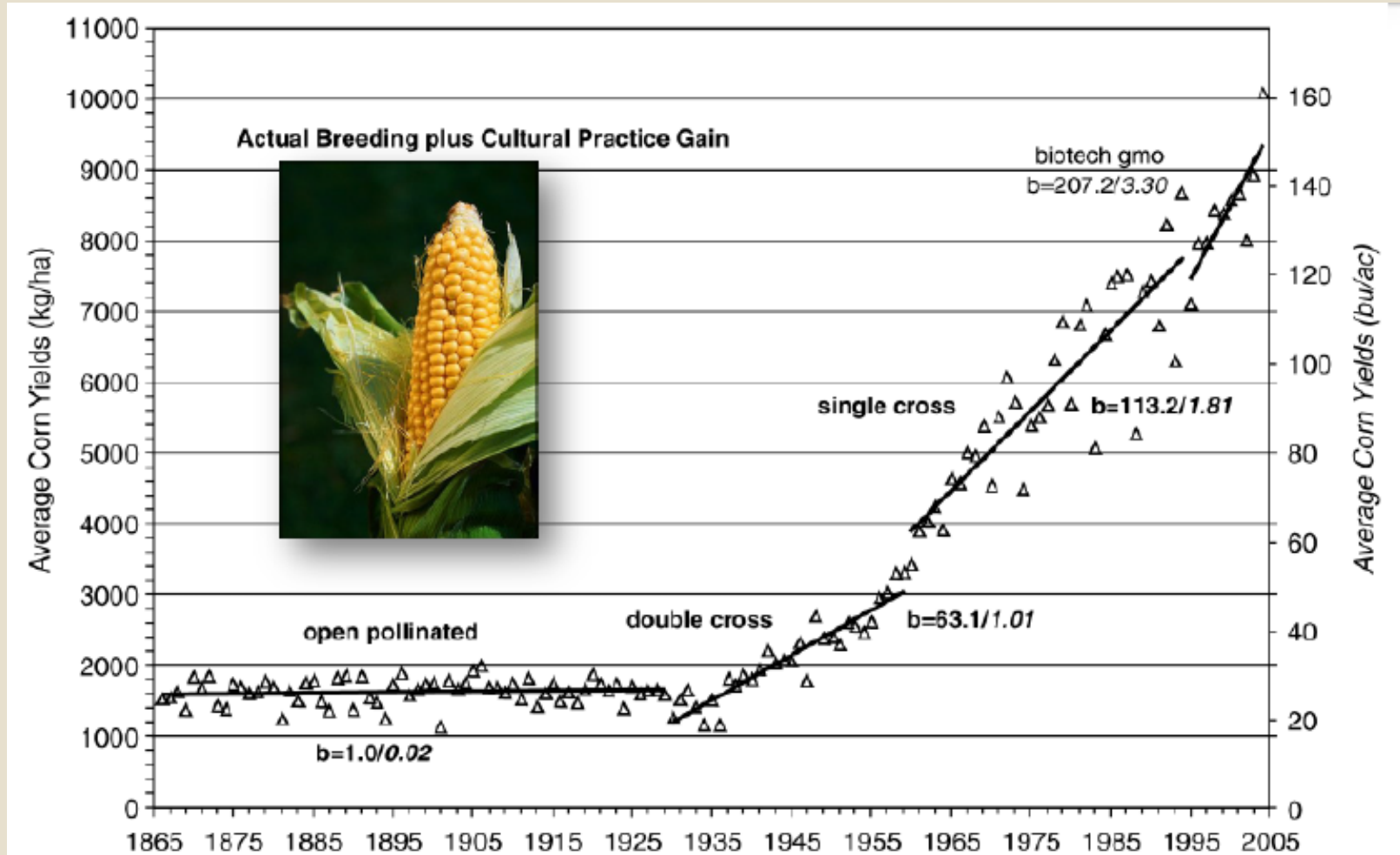
Improvement Yield: traditional breeding + agronomic practices + genetic modification (recently)



Source: June 2006. USDA NASS



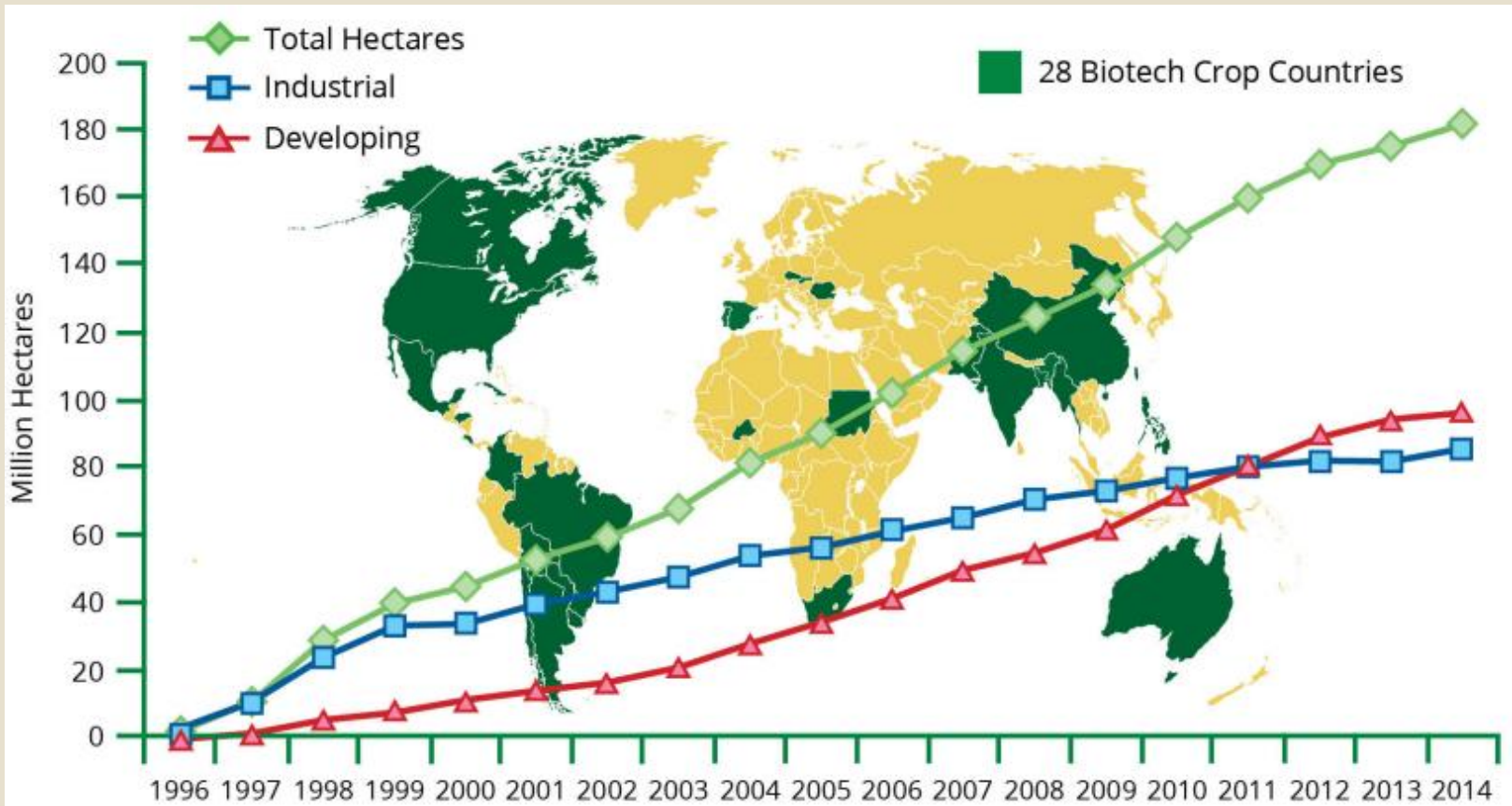
Agronomy + Genetics = Yield



Source: June 2006. USDA NASS



Global Area of Biotech Crops - Million Hectares (1996 – 2014)



A record 18 million farmers, in 28 countries, planted 181.5 million hectares (448 million acres) in 2014, a sustained increase of 3 to 4% or 6.3 million hectares (~16 million acres) over 2013.

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Biotech “in” Breeding

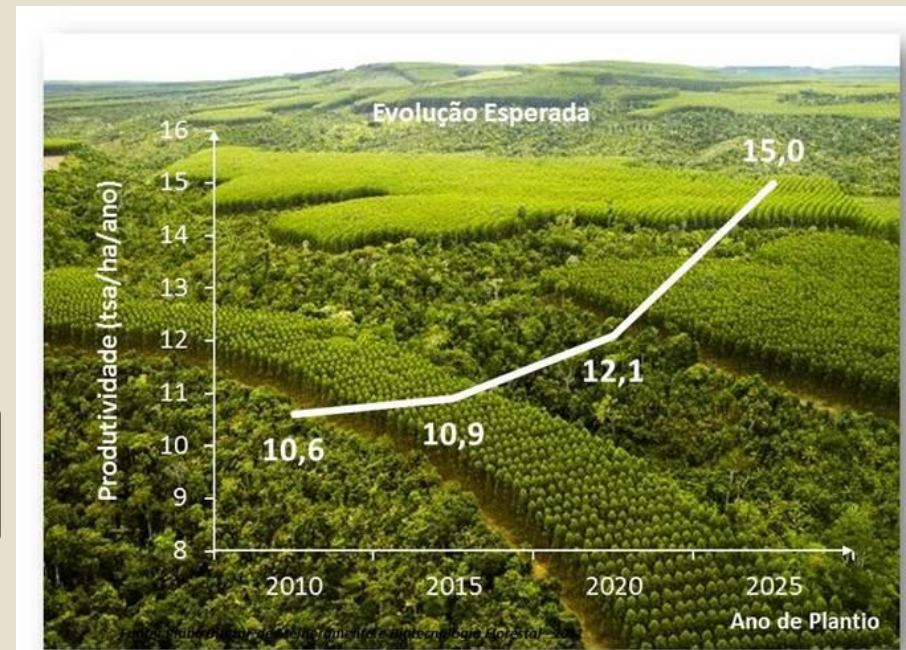


Proven Technical Advantage - Breeding Objectives

- MAICel (adt/ha/year):
 - Increased volume ($\text{m}^3/\text{ha}\cdot\text{year}$): growth ability, including tolerance to biotic and abiotic stresses, rooting and sprouting ability.
 - Reduced specific consumption (m^3/adt): depends on wood density (Kg/m^3) and pulp yield (%).

Long term goals for own areas effectively established with new clones provided by classical breeding

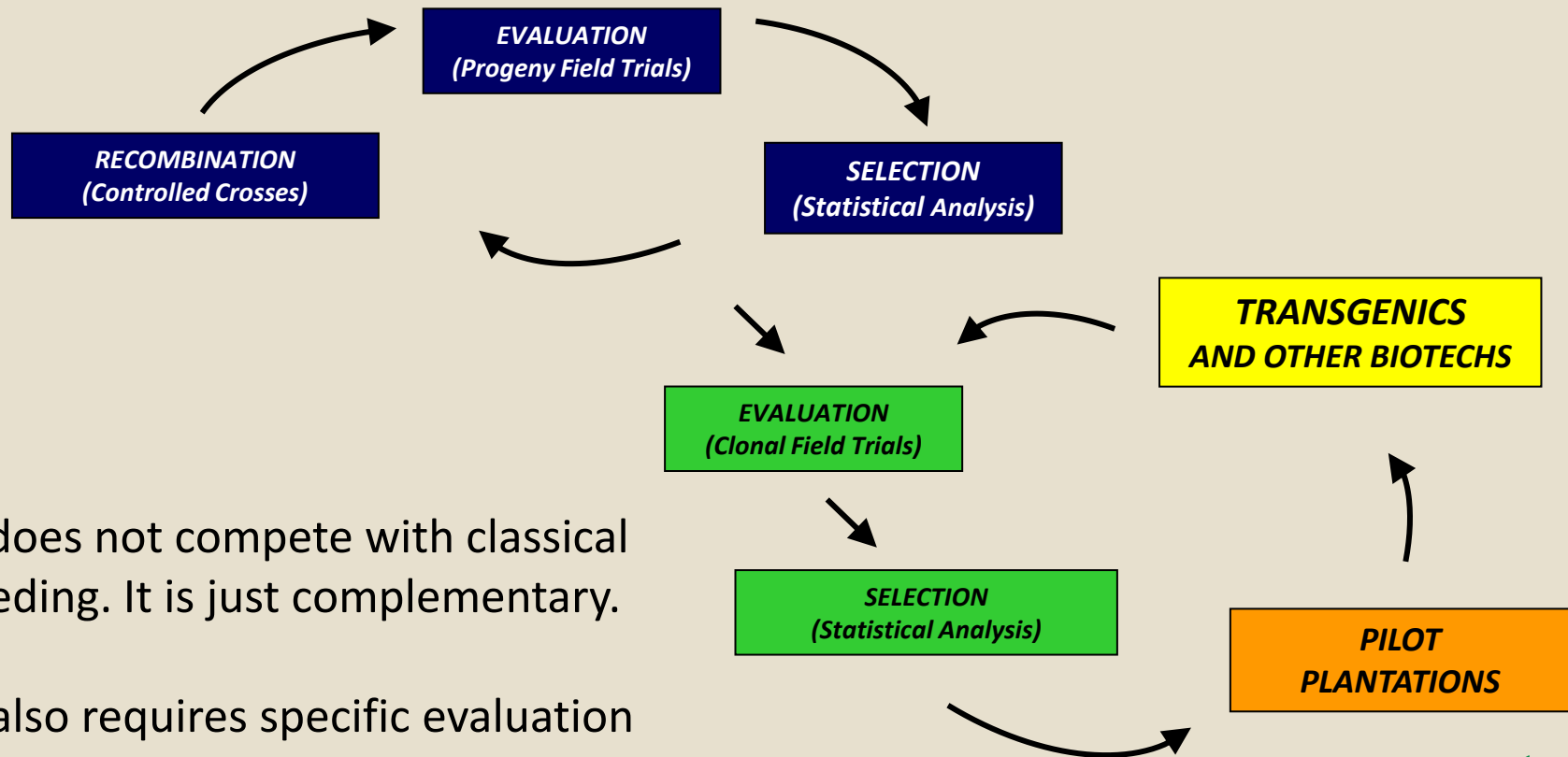
- Product Quality:
 - Fiber morphology (fibers /gram, fiber length).
 - Pentosans content.





Biotechnology “in” Breeding

- Generation of “New” genetic variability by modifying the genome of elite clones.



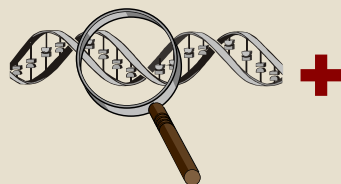
- It does not compete with classical breeding. It is just complementary.
- It also requires specific evaluation and selection steps.



Proven Technical Advantage - GM Trees



+



+



+



=



Elite Clone

Genes (own + partnership)

Genetic Transformation

Field trials

Commercial Plantations

- Research work only, 100% under CTNBio approval and control.
- Transformation efficiency is very low.
- Genes are randomly inserted and number of copies is variable.
- More than 100 ha of euca GM field trials, 3 years old maximum, involving genes related to lignin content, cellulose content and growth.
- Many other genes in the transformation pipeline.



Proven Technical Advantage - GM Trees



Field Trial:

- Três Lagoas Unit, 2 years old.
- Good and bad events (side effects).



Proven Technical Advantage - GM Trees

Our current strategy:

- ✓ Closely monitoring existing trials (advantage not proven yet).
- ✓ Improving process efficiency.
- ✓ Focus on “all road” clones.
- ✓ Traits:
 - Tolerance to stress, particularly to water scarcity (climate change).
 - Wood quality (lignin content and quality, cellulose content, wood density, fiber length, etc).
 - Herbicide tolerance.
 - Pulp productivity (i.e. ton of pulp/ha.year).



Engagement → Concerns...



Numerous Stakeholder Concerns

Preliminary desk research shows a wide range of concerns and ideas about GM crops and their social and environmental impacts.

At first glance these issues can seem jumbled and chaotic



(SustainAbility, 2015)



Public Acceptance - Stakeholders perception

- ✓ Consumers, especially in Europe, do not accept GM products.
- ✓ As far as consumers are against GMOs, clients will not accept them either. Nevertheless, they are not against research on the matter (potential competitive advantage). Some customers are committed to CSOs in preventing the use of GMOs.
- ✓ Investors / analysts: see research as important to enable the company to capture value creation opportunities while value a broad risk management approach.
- ✓ FSC (or PEFC):

[PRINCIPLES AND CRITERIA FOR FOREST STEWARSHIP – FSC-STD-01-001 V5-0 \(2012\)](#)

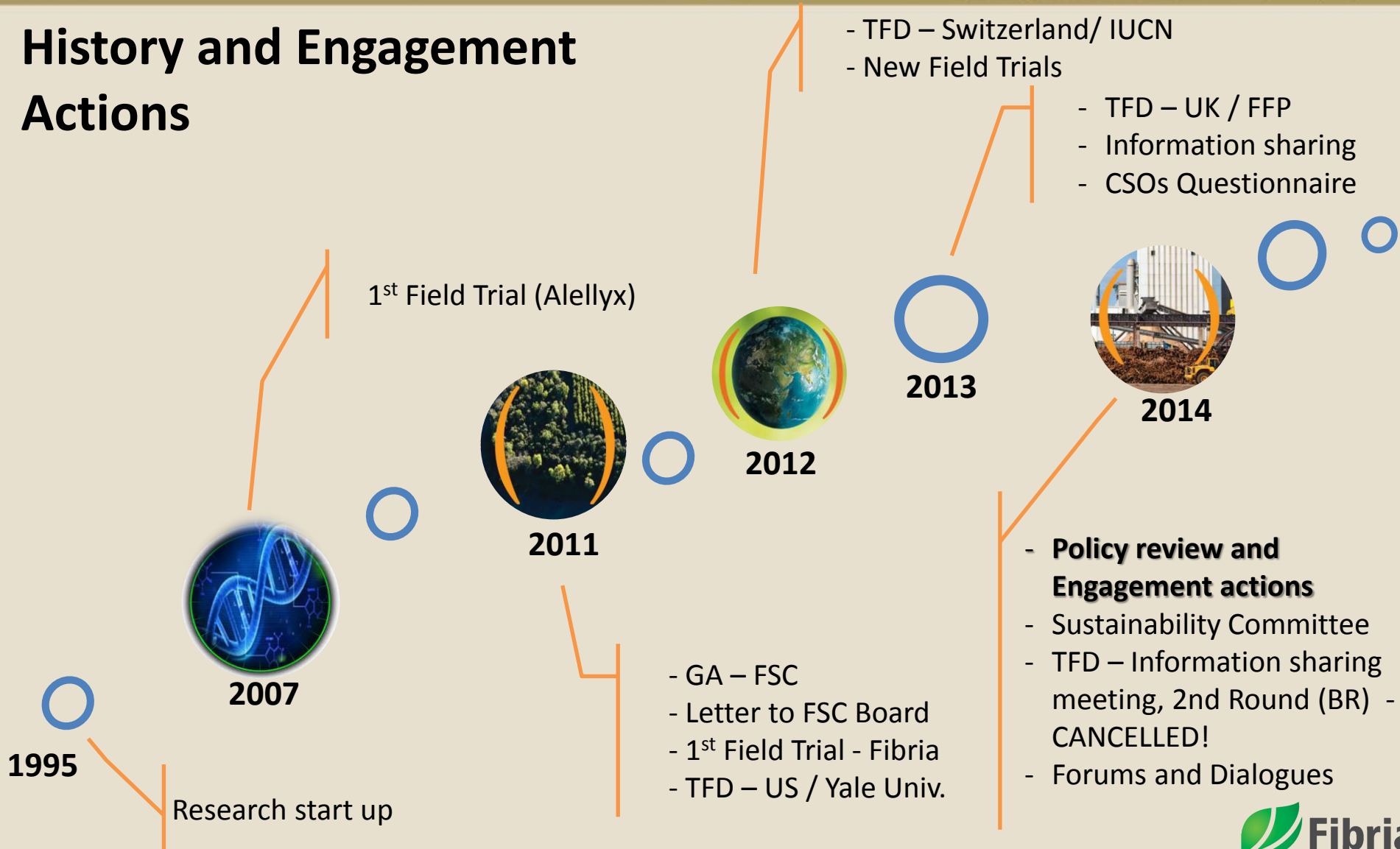
[POLICY FOR THE ASSOCIATION WITH FSC – FSC-POL-01-004 V2 \(2011\)](#)

[FSC INTERPRETATION ON GMOS – FSC-POL-30-602 \(2000\)](#)





History and Engagement Actions





Public Acceptance - The Forest Dialogue (key facts)

✓ 2011 (US):

- Scoping meeting, not classed as 'dialogue'

✓ 2012 (Switzerland):

- Scoping meeting, not classed as 'dialogue'

✓ 2013 (UK):

- First "information-sharing meeting".
- CSOs decided to elaborate a questionnaire, to which the companies usefully replied.
- In our view, this was an appropriate way to open the discussions between CSOs and companies.
- Next "information-sharing meeting" should occur in Brazil, 2014, but was canceled by the CSOs. NGOs were supposed to explore and clarify the information provided by the companies in the answers to the initial questionnaire, prior to any company action.

✓ Fibria will continue to support new rounds of discussions.




Clear Publicly Available POLICY - GUIDELINES



- The classical methods of eucalyptus genetic improvement are the main focus of Fibria's research. Biotech tools are complementary.
- Fibria understands that the GM Eucalyptus may be an important factor in leveraging competitiveness, by expanding the limits and accelerating the gains expected by the classical methodology.
- Currently, Fibria does not plant GM Eucalyptus on a commercial scale. The Company has only a dedicated line of research for the development of GM Eucalyptus.
- Fibria's approach in conducting research around GM Eucalyptus aims at the evaluation of gains and impacts, from economical, environmental and social points of view.
- All the research carried out by Fibria with GM Eucalyptus, in contention labs or field trials, is licensed by CTNBio and follows a rigorous monitoring and inspection process, as established in the current legislation.
- Fibria recognizes that genetic engineering and its products, including GM Eucalyptus, is still a controversial issue for some stakeholders. The Company is committed in engaging the stakeholders in its development process by using transparency.
- The decision regarding the potential commercial use of this technology will depend on the results of the gains and impacts evaluation, as well as on the results of the engagement process.



Our Board of Directors Position

-  To maintain the current strategy of having the classical breeding as the main pathway to promote genetic gains. Research with GMOs should (and need to) be complementary.
-  To keep transparent individual (Fibria) dialogue with different stakeholders.
-  To create an internal WG in order to follow up and guide the dialogue with stakeholders and research actions (transparency).

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The long short way chosen by Fibria!



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REALIZAÇÃO



CORREALIZAÇÃO

