Rodrigo Nascimento
Forestry, Soils and Plant Nutrition Manager

Alex Freitas
Nursery Researcher

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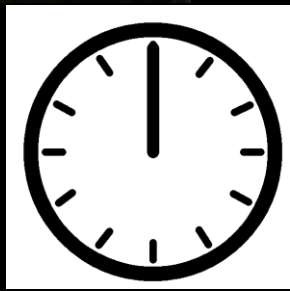
Click aqui

2030



PEOPLE
End poverty and hunger in all forms and ensure dignity and equality
PLANET
Protect our planet's natural resources and climate for future generations
Sustainable Development
PROSPERITY
Ensure prosperous and fulfilling lives in harmony with nature
PARTNERSHIP
Implement the agenda through a solid global partnership
PEACE
Foster peaceful, just and inclusive societies

SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

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Forestry scenario in Brazil

R$105
Billion
Investment in expansion projects

4,92
Billion
Tons of CO2 stockpiled

2,69
Millions
Direct and indirect jobs

87%
Renewable energy sources

6,91
Millions
Hectares of conserved areas

US$12,7
Billion
In exports

10,6
Millions
(hectares)
Certified area

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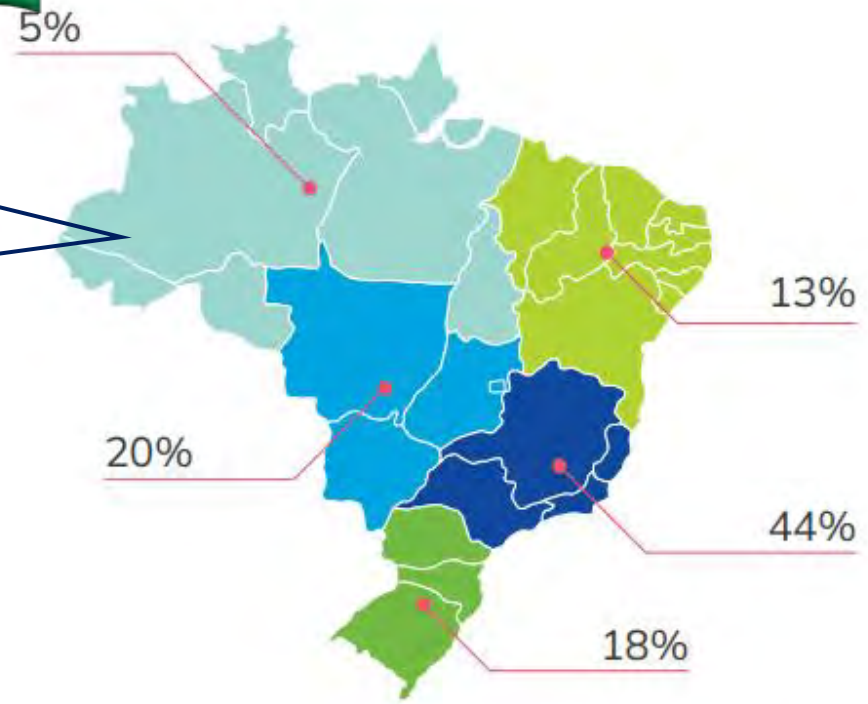
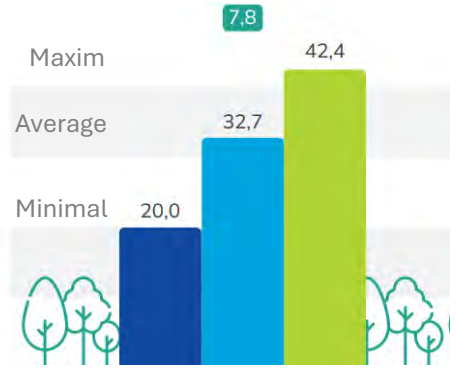
Forestry scenario in Brazil

History of the distribution of planted area in Brazil (2015 – 2023)
(Millions of hectares)
Source: Canopy (2023)

7,8

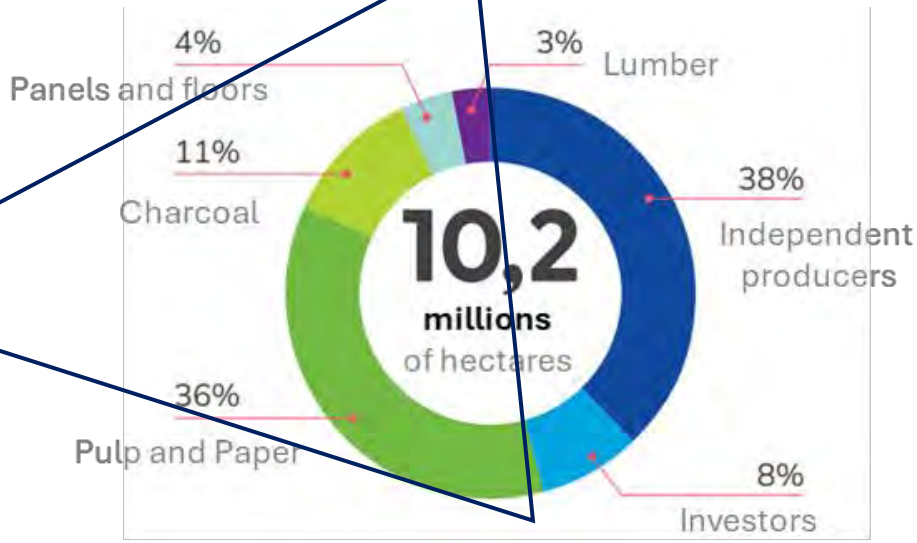


Productivity eucalyptus cultivation
Source: Ibá & ESG Tech (2023)

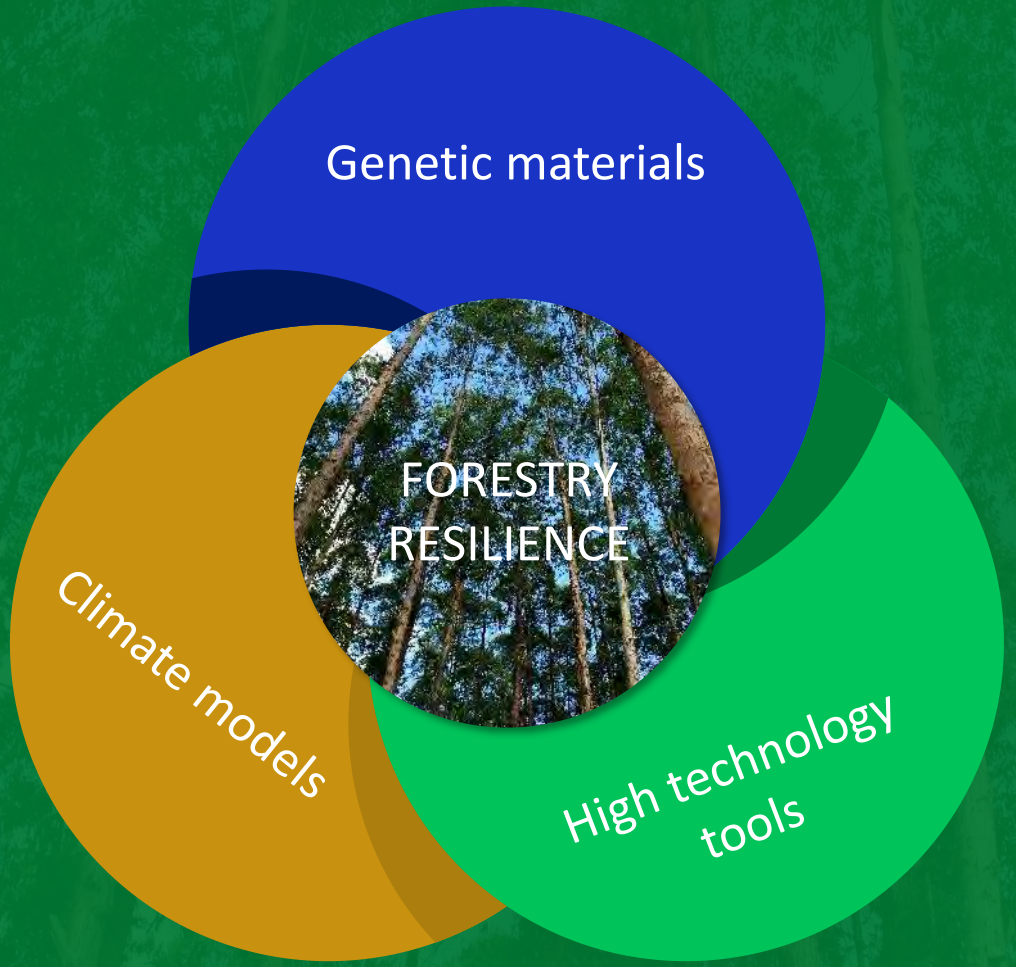


Distribution of planted areas
Source: Ibá (2023)

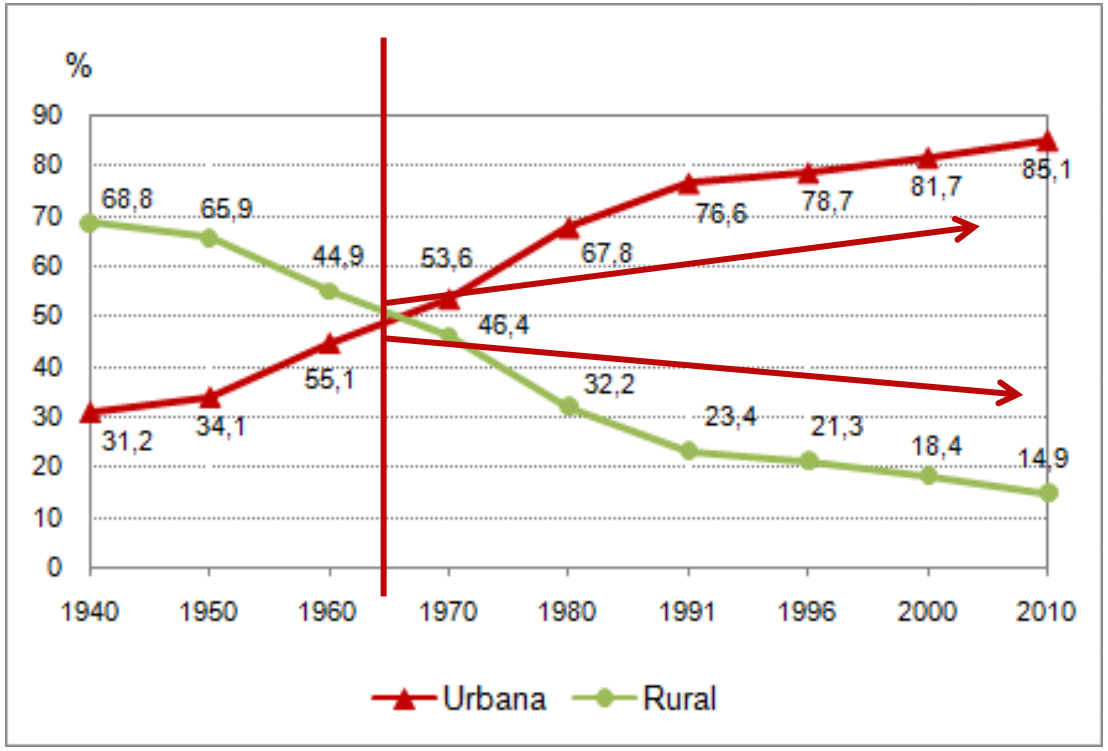
54%

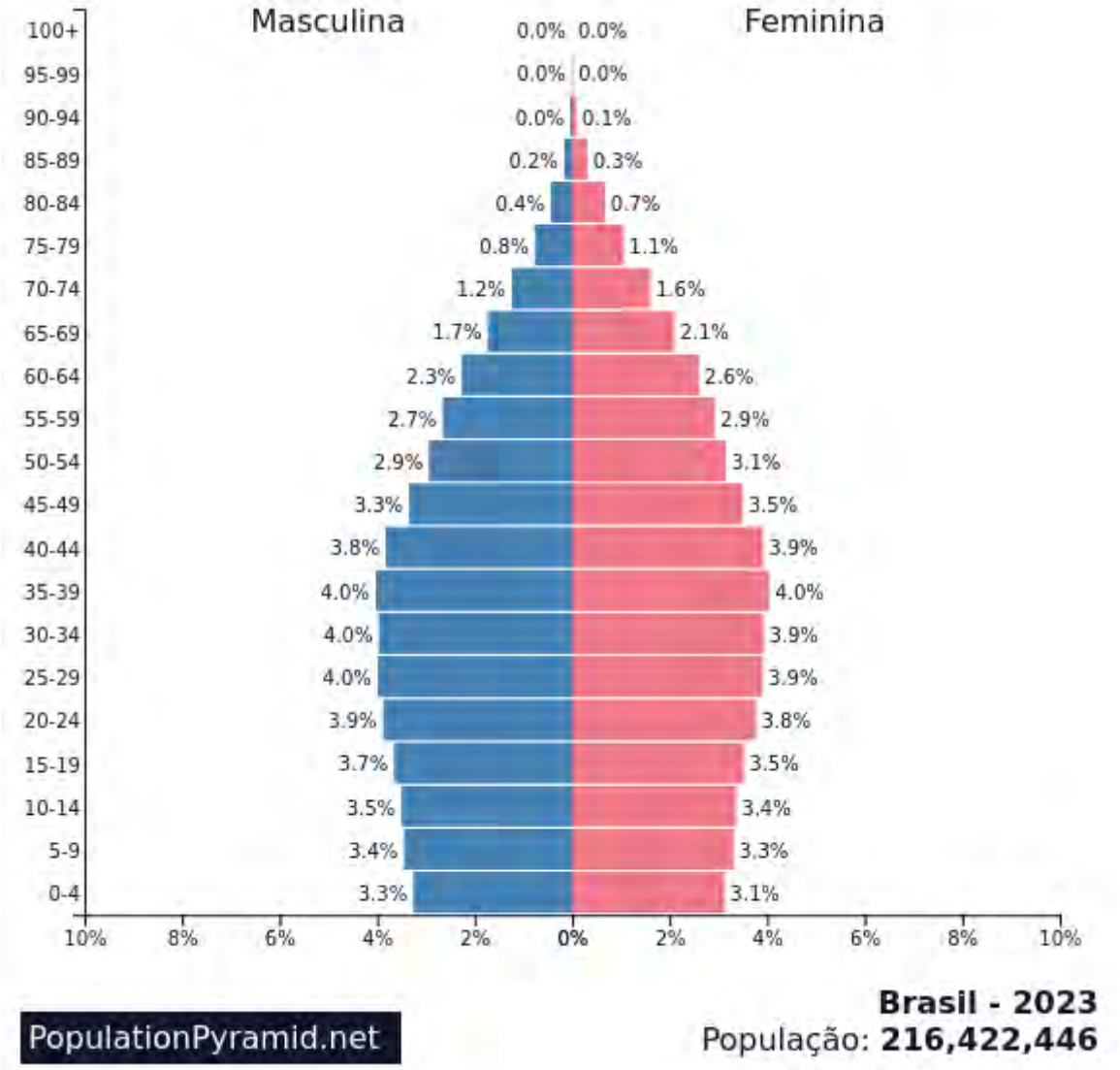


Readiness to face future challenges



Social Challenges of Silviculture in Brazil

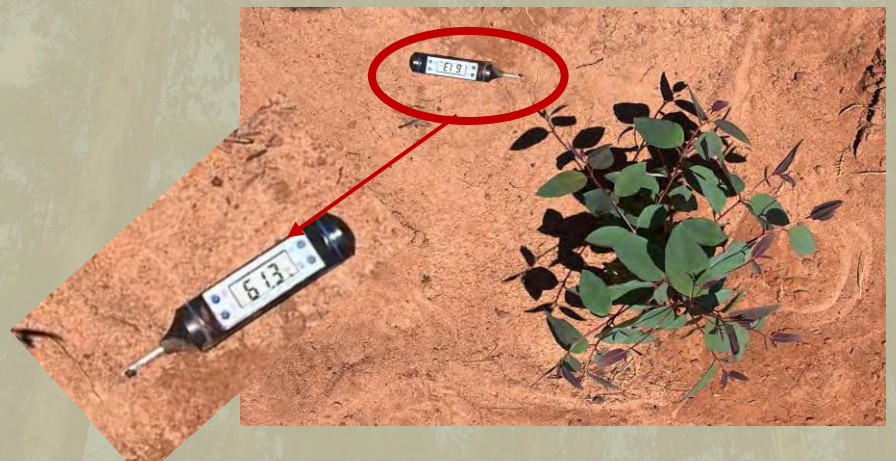




Climate Challenges of Silviculture in Brazil

Harsh Conditions

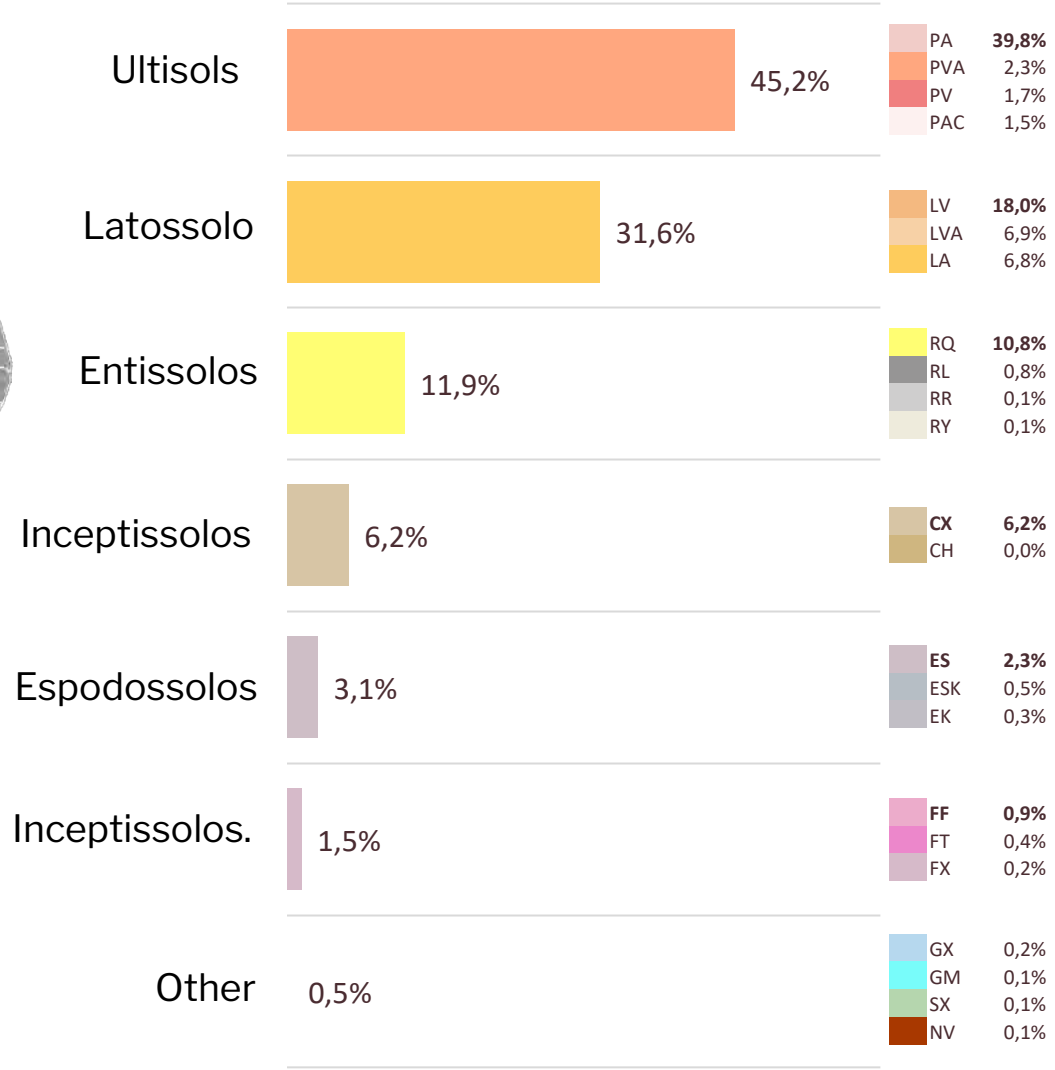
- Fragile and exposed soils;
- High temperatures that persist for long periods
- Periods of drought or poorly distributed rainfall
- Emergence of new pests



Challenges of soils we cultivate

Order and Suborder

Mapped area
1.443.612 ha



Industry + Forest + Nursery Connection

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Investment in RD&I Projects

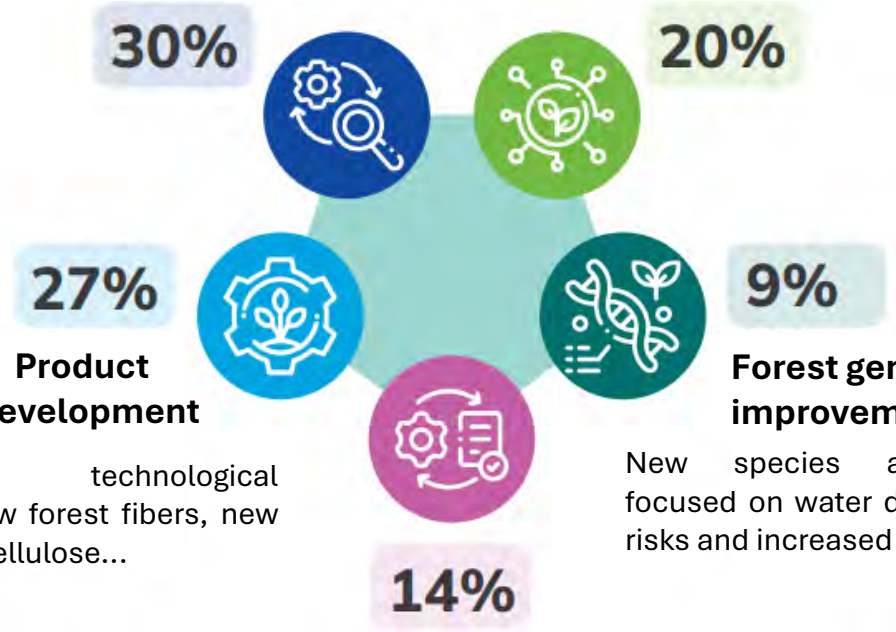
Source: Ibá & ESG Tech (2023)

Energy efficiency, New feedstocks, new soil management practices and forestry

Process optimization

Mechanization, automation, robotization of crop treatments and software development for climate prediction and management

Use of technologies



R$122 Millions In Brazil

Product Development

Bioproducts, technological fertilizers, new forest fibers, new markets for cellulose...

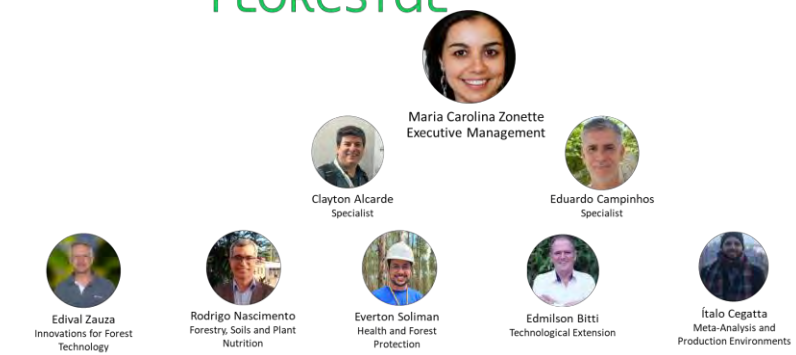
Forest genetic improvement

New species and hybrids focused on water defiance, frost risks and increased wood density

Outros projetos de Inovação e P&D

Circular economy, waste reduction, reduction and neutralization of carbon emissions

Manejo Florestal



FOREST MANAGEMENT

Area focuses on technological innovations to boost productivity and lower operating costs with sustainability to ensure forestry business perpetuity.

Lines of research

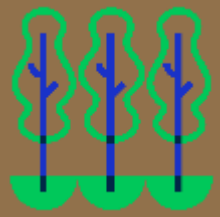
Technological Development and Extension	Forest Management and Nutrition	Forest Sanitarion and Protection	Forest Eco-efficiency
Continuing Forestry Education Technology transfer Operational (high TRL) Monitoring	Integrated fertilization system. Preparing, planting and spacing. Managing regrowth and new cultures	Disease control by inducing resistance. Weed competition and abiotic factors. Biologic pest control integrated Management	Database and Modeling Environmental monitoring. Climate change. Digital transformation

Genetics and Breeding

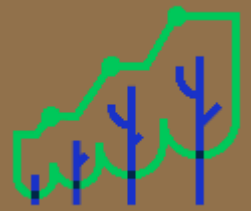
Focus on developing adapted and high-performance genetic materials for Suzano's varying edaphoclimatic conditions.

Lines of research

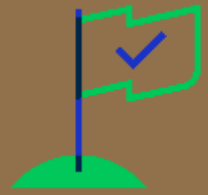
Recombination Center
Breeding Populations



Test of Cloned
Progenies



Extended Clonal Tests



Tetrys Recommendation
– Clonal Allocation

Dynamic Conservation of Germplasms

Genomics

Clonal Development

Max Hybrid

Poliploides

Corymbia

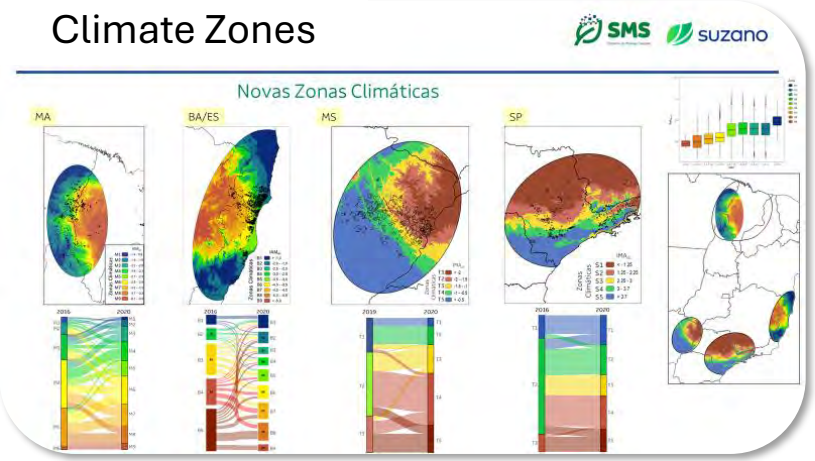
Suzano Genetic Selection (SGS)

Nursery

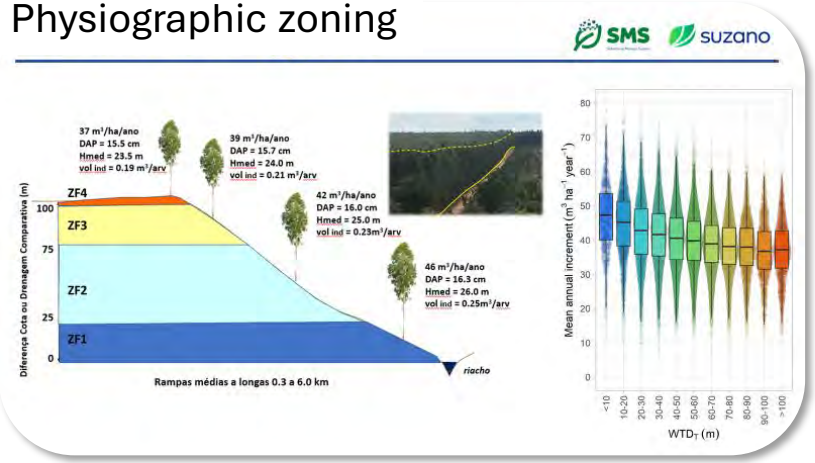
Data and systems management

Embedded technologies in silvicultural management

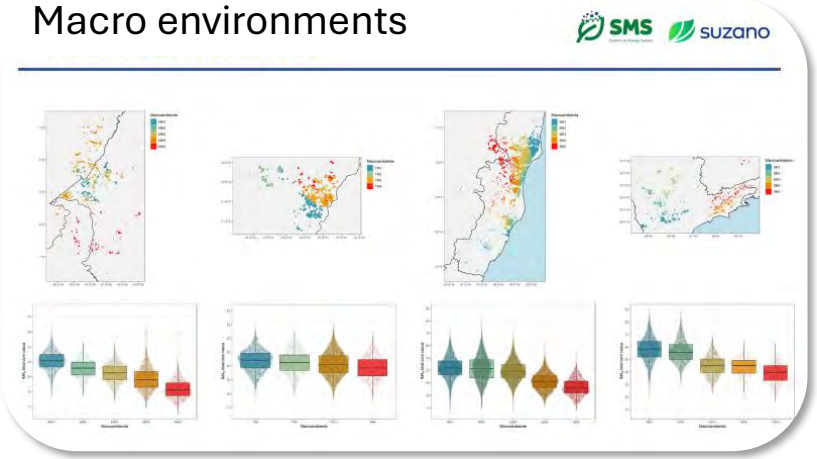
Climate Zones



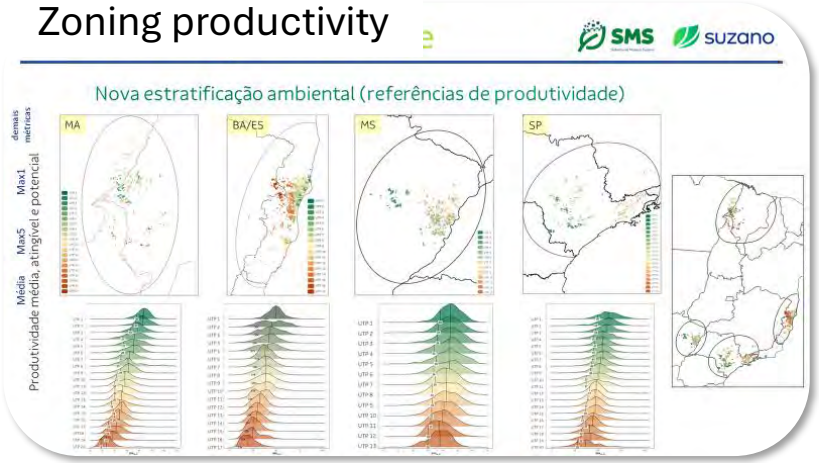
Physiographic zoning



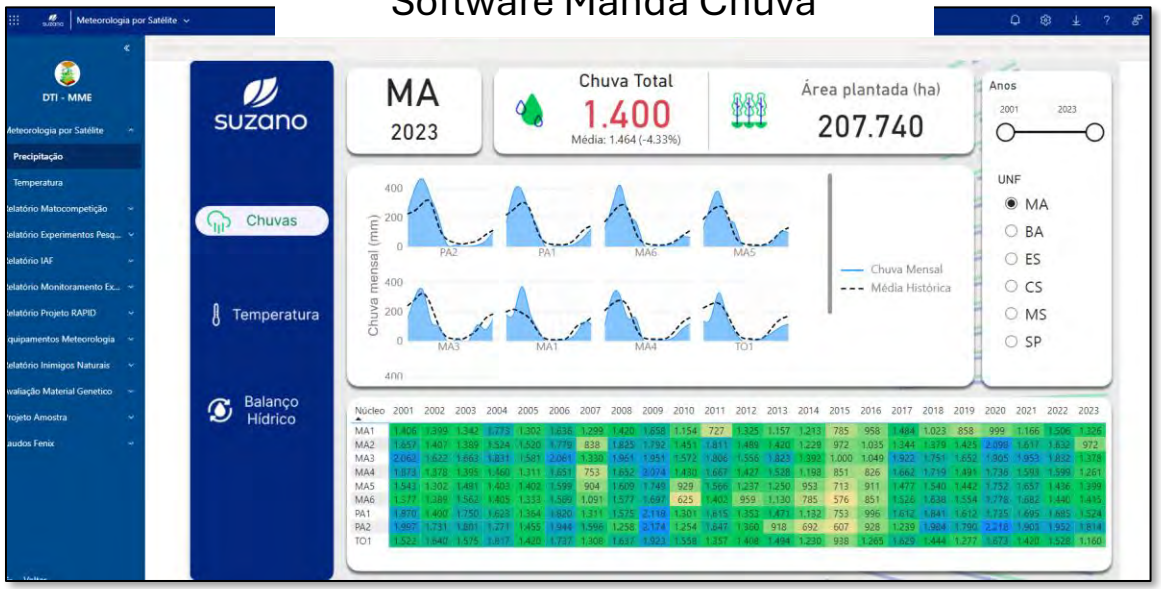
Macro environments



Zoning productivity



Software Manda Chuva



Embedded technologies in silvicultural management

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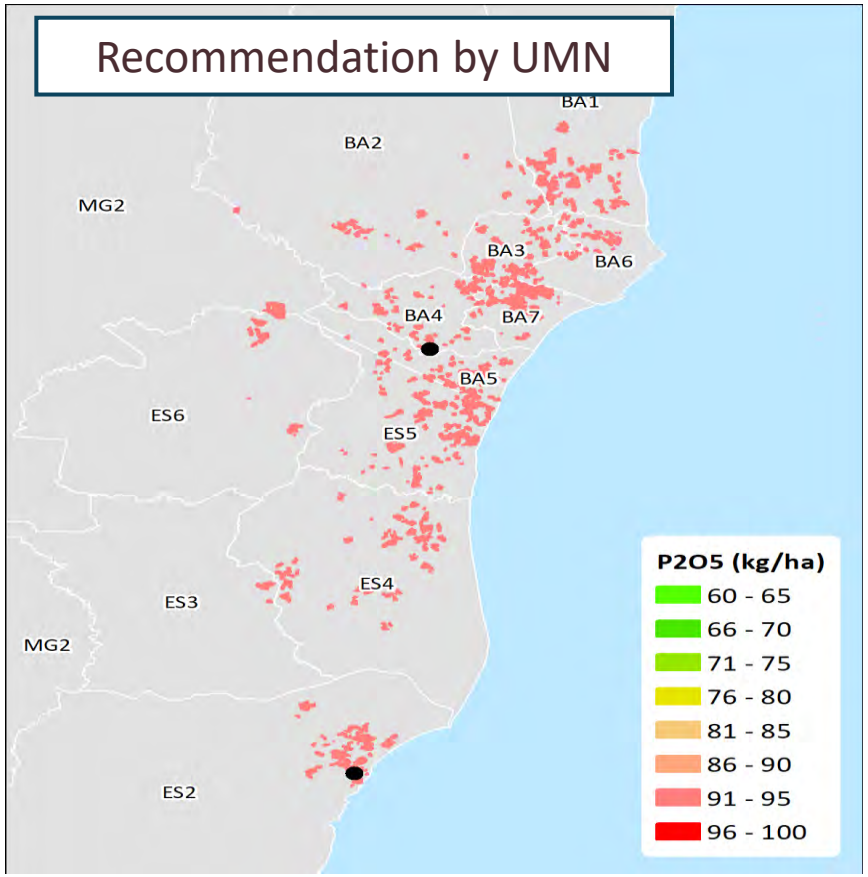
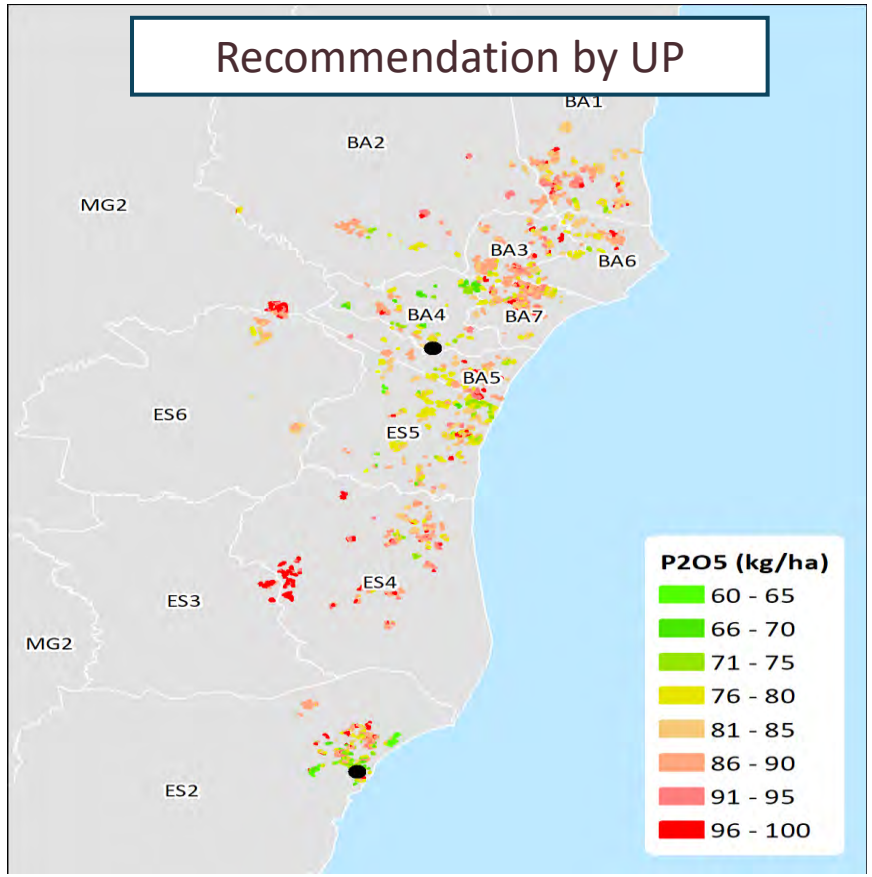
Evolution of the Fertilizer Recommendation Process at Suzano

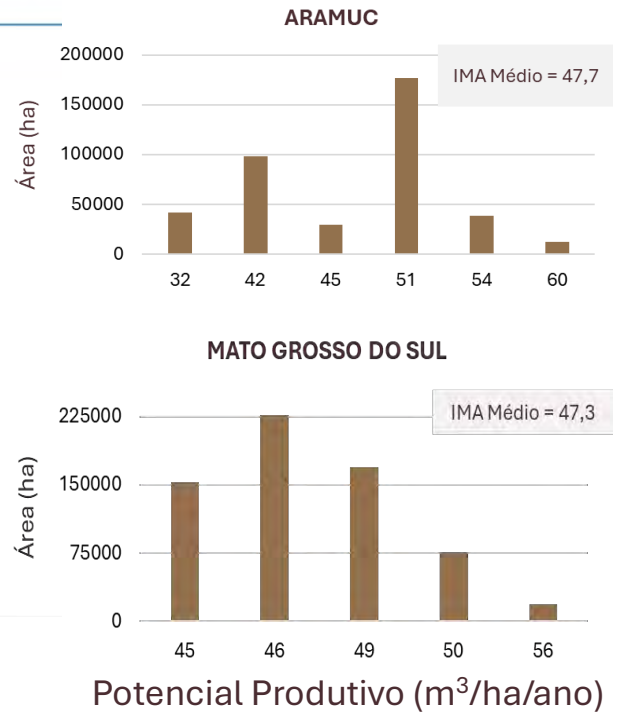


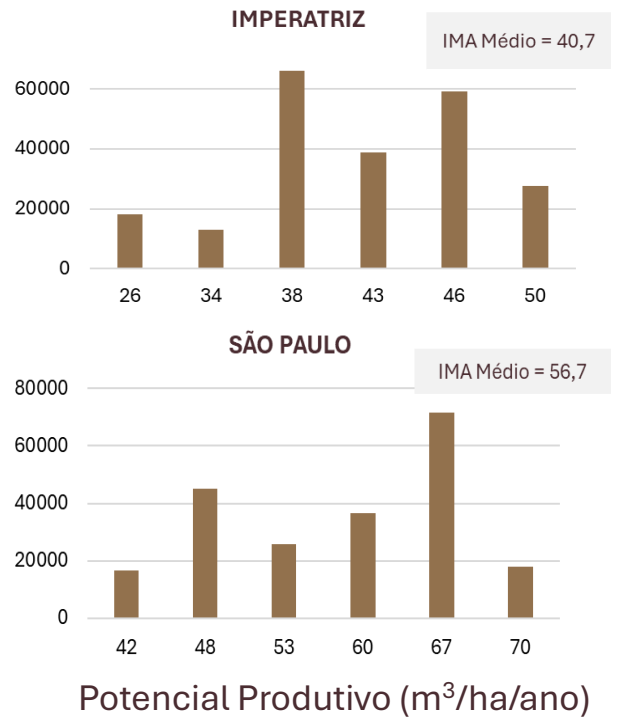


There is great variation in soil fertility and productivity between PUs of the same farm, region and units.

Embedded technologies in silvicultural management

Suzano's fertilizer recommendation system that integrates knowledge and manages the fertilizer recommendation process





Information accessed in SIRA's own database - Base Modeling

Proximal sensing
pXRF

Technique used by NASA to characterize the soils of Mars.

The analysis lasts only 60 seconds, generates no chemical residues and avoids a cost of about
R$1 million/year for the company.

It is expected to internalize 100% of the soil and plant analyses.

Forest Management: High-tech clonal forests

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Forest Management: High-tech clonal forests

Forest Management: High-tech clonal forests

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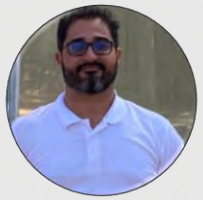
“It's only good for us if it's good for the world!”
suzano

Rodrigo Nascimento
Research Manager

Alex Freitas
Nursery researcher



Thanks

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SMS Sistema de Manejo Suzano

@suzanoempresa @suzano_oficial @suzano @suzano

Acesse nosso site :