

Advancing Sustainable Forestry: The Role of Research Sites in Native Species Silviculture

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Native Species Silviculture R&D Program

Objective of the Initiative

- Strengthen sustainable silviculture using native tree species
- Establish NEW long-term research sites for experimentation

SELD Network

- Support innovation, economic viability, and conservation goals
- Bridge science and practical implementation in forest management
- Training and Educating Professionals

Long-Term Study Research Sites (SELD Network)

- 20 NEW research sites (Amazon and Atlantic)
- +30 native species
- 8 species / site (mix planting - two species)
- Intercropped with exotic species? (is possible)
- 5 ha forest management experiment
- 8 ha genetic improvement experiment
- Principal research focus:
 - Fertilization, growth, wood quality
 - Soil & nutrient cycling
 - Competition & eco-physiology
 - Genetic improvement



Priority species



Amazon Biome

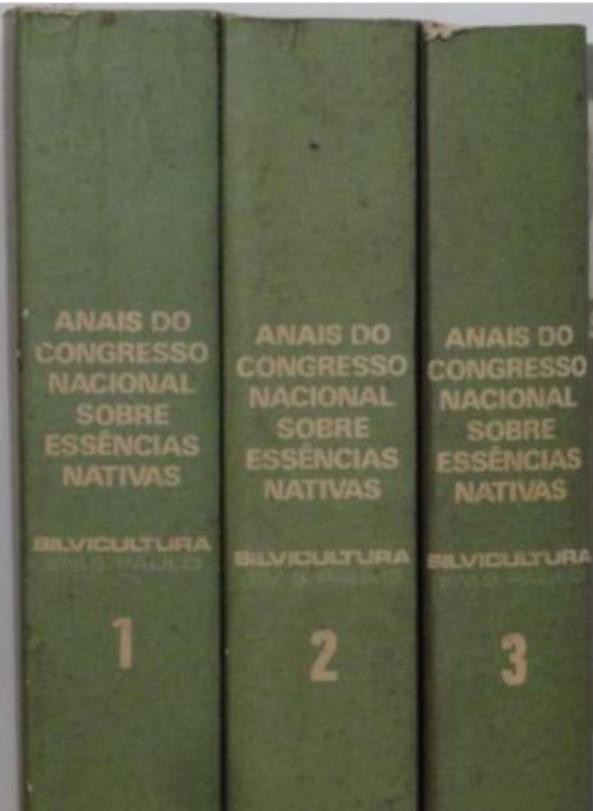
- *Bertholletia excelsa* | castanha-da-amazônia
- *Schizolobium parahyba* var. *amazonicum* | paricá
- *Cordia goeldiana* | freijó-cinza
- *Carapa guianensis* | andiroba
- *Bagassa guianensis* | tatajuba
- *Virola surinamensis* | ucuúba
- *Swietenia macrophylla* | mogno
- *Copaifera multijuga* | copaíba
- *Handroanthus serratifolius* | ipê-amarelo
- *Dinizia excelsa* | angelim-vermelho
- *Schefflera morototoni* | morototó
- *Jacaranda copaia* | parapará
- *Vochysia maxima* | quaruba-verdadeira
- *Simarouba amara* | marupá
- *Dipteryx odorata* | cumaru



Atlantic Forest Biome

- *Araucaria angustifolia* | araucária
- *Balfourodendron riedelianum* | pau-marfim
- *Peltophorum dubium* | canafistula
- *Cariniana legalis* | jequitibá-rosa
- *Dalbergia nigra* | jacarandá-da-bahia
- *Cordia trichotoma* | louro-pardo
- *Plathymenia reticulata* | vinhático
- *Astronium urundeuva* | aroeira-do-sertão
- *Hymenaea courbaril* | jatobá
- *Genipa americana* | jenipapo
- *Paubrasilia echinata* | pau-brasil
- *Calophyllum brasiliense* | guanandi
- *Astronium graveolens* | guaritá
- *Zeyheria tuberculosa* | ipê-felpudo
- *Handroanthus impetiginosus* | ipê-roxo

- But, is there an “Ancient” Native Species Silviculture in Brazil ?



In 70s and 80s: hundreds of researchers:

Leda Gurgel Garrido
Jorge A. G. Yared
Paulo Ernani R. Carvalho
Otávio A. Gurgel Filho

PP&D-SEN structure:

Reference hubs and new sites



**Long-Term Study
20 new Research
Sites (SELD Network)**



Reference Hub

PP&D-SEN ... For Who?

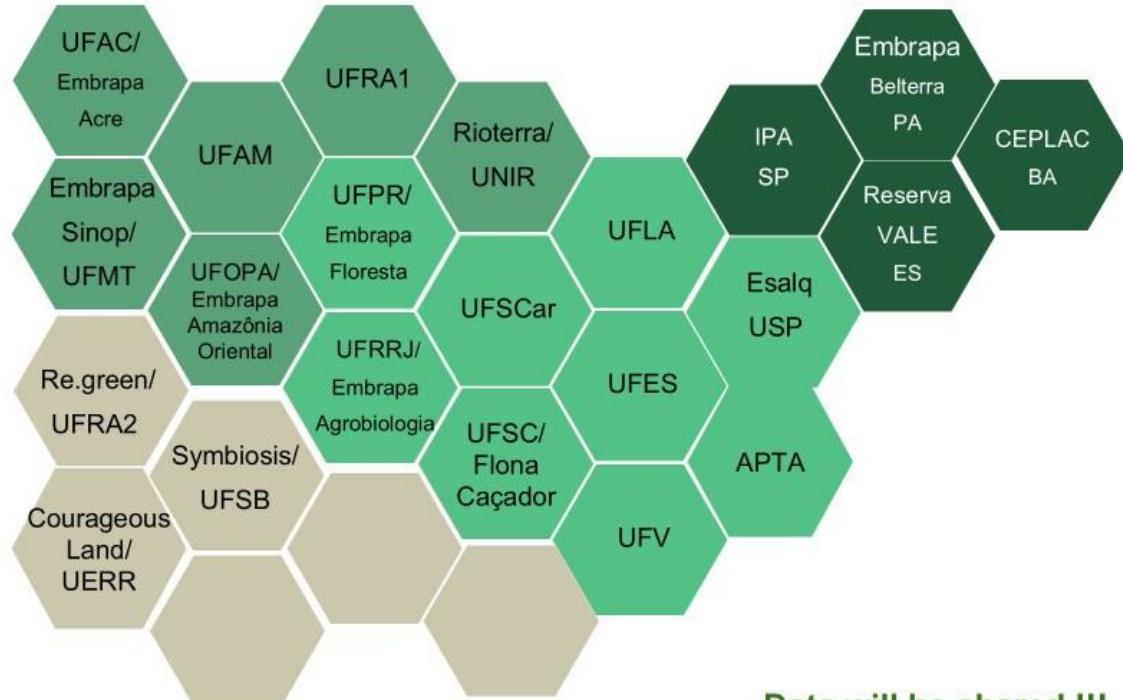
Universities,
research centers and
private companies

SELD AM

SELD MA

SELD - Empresas Privadas

Pólos de Referência

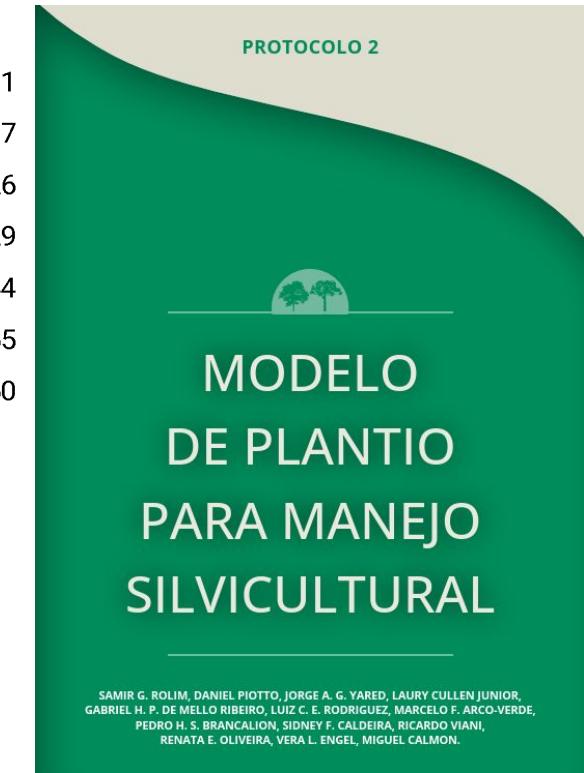


Data will be shared !!!

Status of the R&D Program

- R&D research protocols

Sumário	
1	PROTOCOLO 1 –OPERAÇÕES SILVICULTURAIS DE PLANTIO
2	PROTOCOLO 2 –MÓDELO DE PLANTIO PARA MANEJO SILVICULTURAL
3	PROTOCOLO 3 –MÓDELO DE PLANTIO DO MELHORAMENTO GENÉTICO
4	PROTOCOLO 4 –COLHEITA, MANEJO E ANÁLISE DE SEMENTES FLORESTAIS
5	PROTOCOLO 5 –PRODUÇÃO DE MUDAS FLORESTAIS
6	PROTOCOLO 6 –COLETA DE DADOS E ANÁLISES EM TECNOLOGIA DA MADEIRA
7	PROTOCOLO 7 –TÉCNICAS DE PROPAGAÇÃO VEGETATIVA



Status of the R&D Program

First Site in Amazon Forest Biome UNIR/The Rioterra Studies Center

- Rondônia state
- Established in Dec 2023



Status of the R&D Program

First Site in Atlantic Forest Biome UFSBA / Symbiosis

- Bahia state
- Established in Dec 2024



Upscaling Native Species

Diálogos da Conservação

Um Pontal Bom para Todos

Modelos para Uso Econômico de Reservas Legais e Áreas de Preservação Permanente no Pontal do Paranapanema - SP

Laury Cullen Jr.

REFORESTAMENTO
COM ESPÉCIES NATIVAS:
ESTUDO DE CASOS,
VIABILIDADE ECONÔMICA
E BENEFÍCIOS AMBIENTAIS



RL: High diversity Silvicultural Systems (+30 sp): Linhares ES



Upscaling Native Species Silviculture...

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<https://doi.org/10.1007/s00704-025-05478-z>

RESEARCH



sustainability



forests



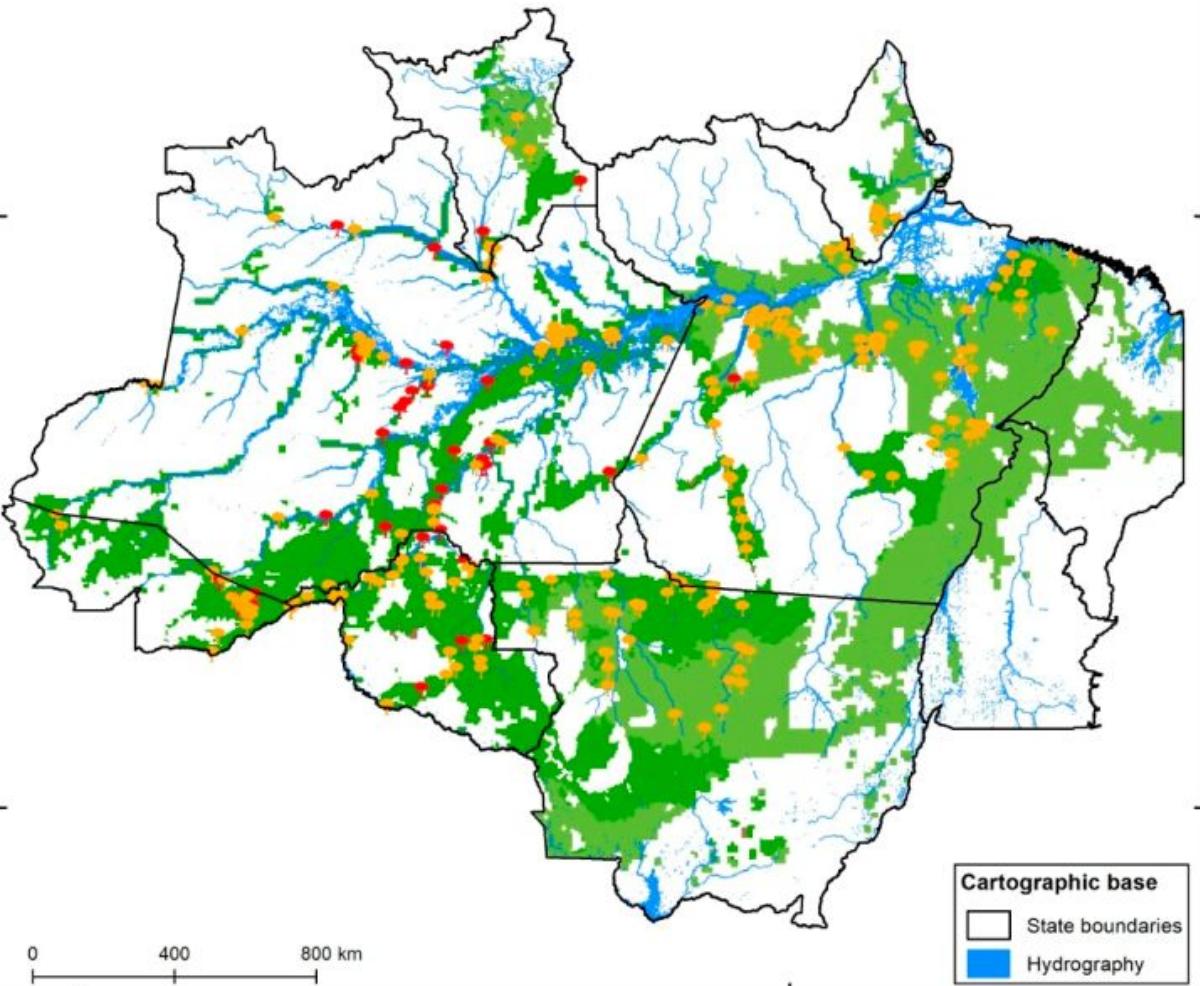
Article

Topoclimatic Zoning in the Brazilian Amazon: Enhancing Sustainability and Resilience of Native Forests in the Face of Climate Change

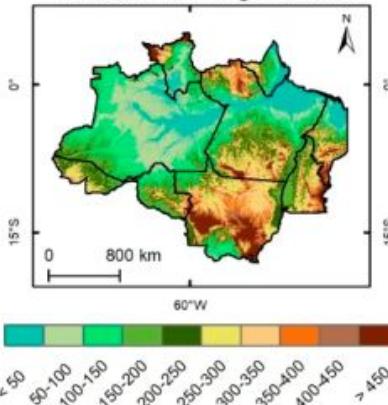
Lucietta Guerreiro Martorano ^{1,*}, Silvio Brienza Junior ², Jose Reinaldo da Silva Cabral de Moraes ³, Werleson Nascimento ⁴, Leila Sheila Silva Lisboa ⁵, Denison Lima Correa ⁶, Thiago Martins Santos ⁷, Rafael Fausto de Lima ⁸, Kaio Ramon de Sousa Magalhães ⁹ and Carlos Tadeu dos Santos Dias ^{4,10}

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TOPOCLIMATIC ZONING OF *Bertholletia excelsa* IN THE UZEE-AL



Altitude in the Legal Amazon



Bertholletia excelsa

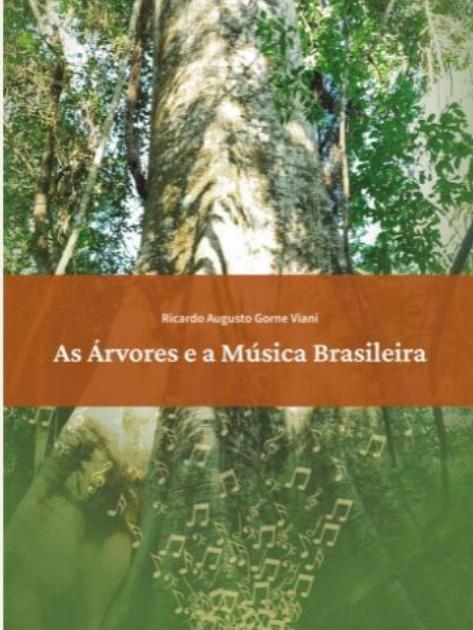
- Herbarium points, GBIF and literature
- RADAM points

Topoclimatic potential - UZEE

- | |
|--------------------------|
| High potential - 48.2% |
| Medium potential - 51.6% |
| Low potential - 0.2% |

Broader Impact and Future Outlook

- Helps shift wood production from natural forests to managed plantations
- Aligns biodiversity conservation with market needs
- Encourages public-private-academic collaboration
- Supports Brazil's role in climate and forest Sustainability



Livro **As Árvores e a Música Brasileira** em versão impressa

interessados contatar
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SILVICULTURE OF NATIVE SPECIES

PP&D-SEN

Thank you!

Get in touch to learn more and discuss partnership opportunities.

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<https://coalizaobr.com.br/en/nativespecies/>

