

# Growth and sustainable management of *Cedrela fissilis* Vell. in the Atlantic Forest in southern Brazil

Rafael Schmitz<sup>1,2</sup>, Patricia Povia Mattos<sup>3</sup>, Evaldo Munoz Braz<sup>3</sup>, Luciano Farinha Watzlawick<sup>4</sup>

<sup>1</sup>Instituto Federal de Santa Catarina, Florianópolis, Brazil. <sup>2</sup>Universidade Federal do Paraná, Curitiba, Brazil. <sup>3</sup>Empresa Brasileira de Pesquisa Agropecuária, Colombo, Brazil. <sup>4</sup>Universidade Estadual do Centro-Oeste, Irati, Brazil.

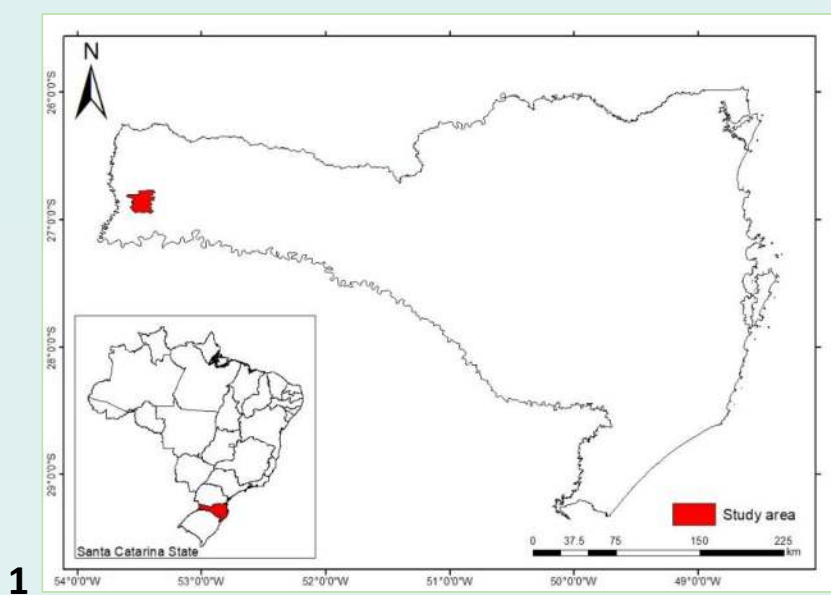
## Introduction

*Cedrela fissilis* Vell. occurs naturally in the Atlantic Forest. The good properties its wood and the colonization process in Southern Brazil contributed for predatory logging and decreasing of its presence in the forest fragments. This study aimed to determine:

- the annual diameter increment of *C. fissilis*;
- the time passage between diameter classes; And:
- to adjust diameter growth models according to age

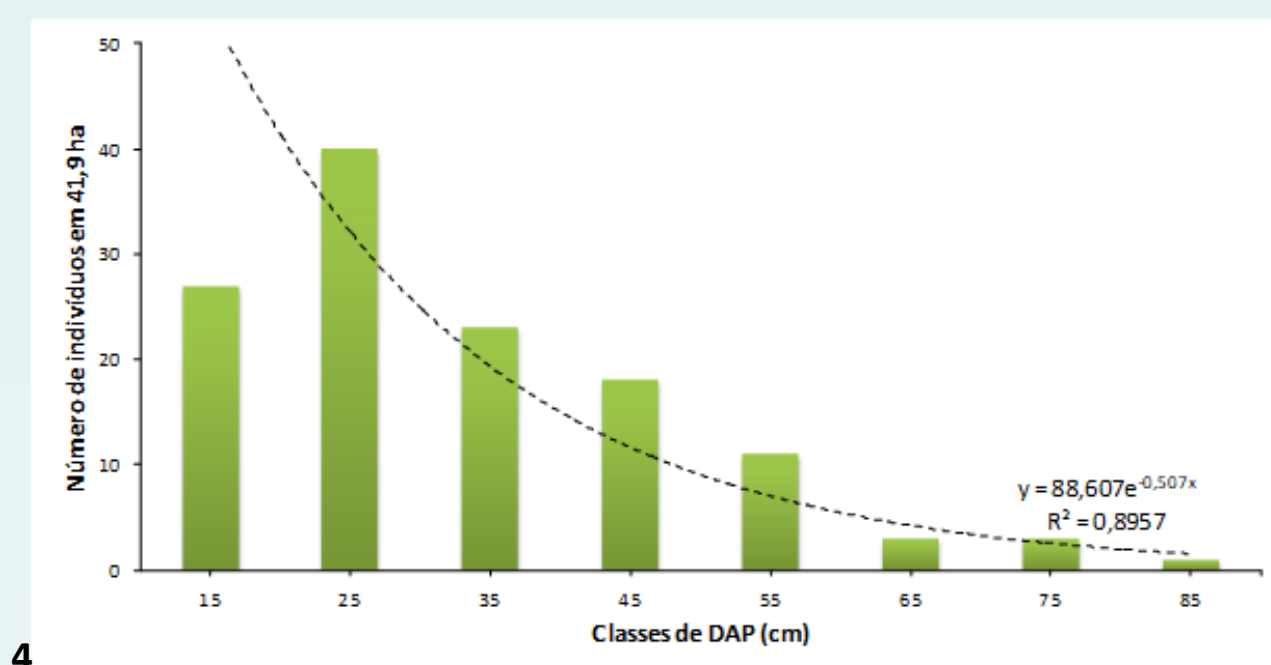
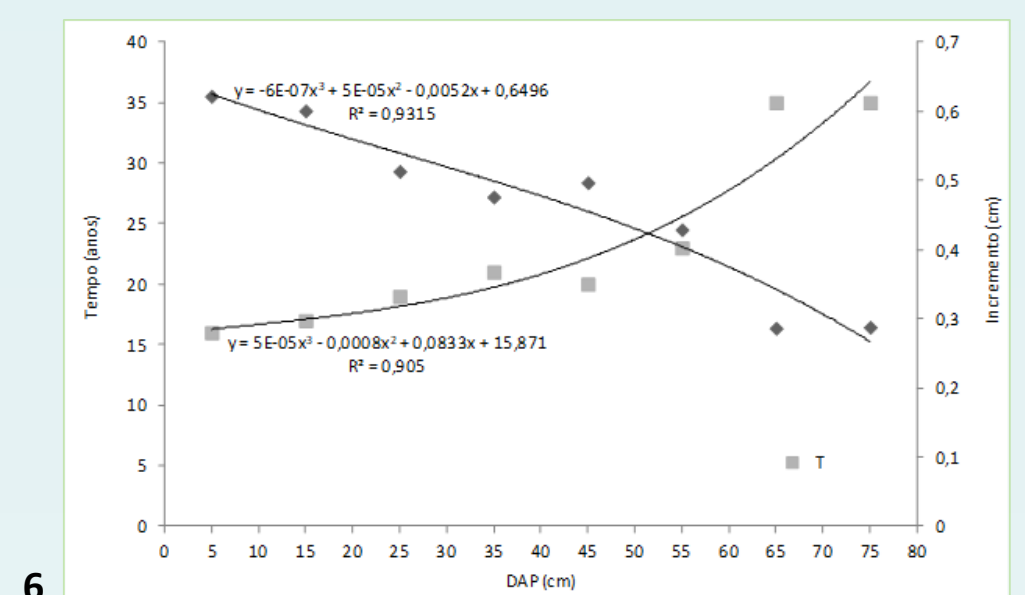
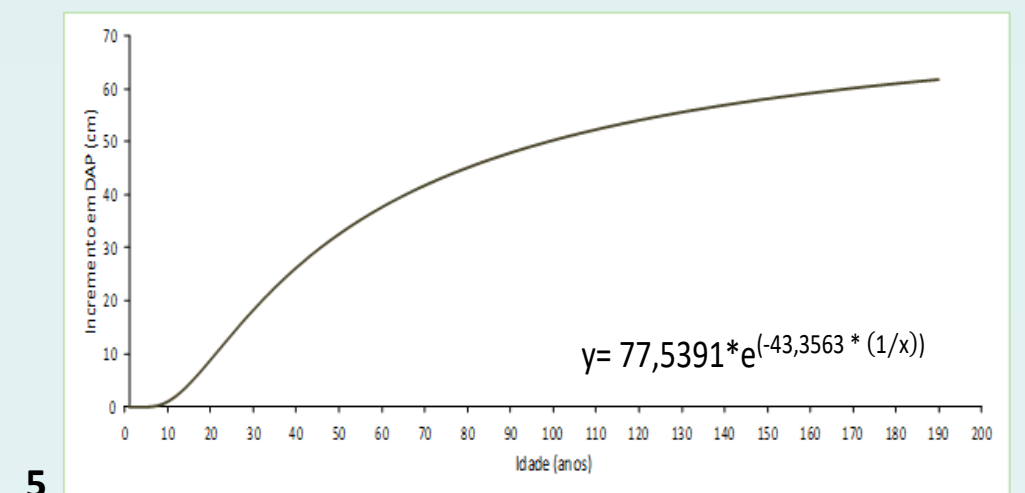
## Methods

- The study area was a remnant of the Deciduous forest in the Atlantic Forest biome, near the border Brazil and Argentina, 41.9 ha (Figure 1);
- The assessment was in traversal tracks in 41.9 ha (Figure 2).
- All *C. fissilis* with DBH (1.30 m)  $\geq$  10 cm were identified;
- 30 *C. fissilis* trees were sampled for dendrochronological analysis, using increment cores (Figure 3).



## Results

- We found 126 trees with diameter varying between 11 and 82 cm (Figure 4);
- The maximum mean increment was 0.62 cm yr<sup>-1</sup> (170 years old with DBH = 81.9 cm) and the minimum 0.29 cm yr<sup>-1</sup>;
- Schumacher growth model presented better adjustment to the species growth pattern (Figure 5). It was observed that the optimum moment for interventions, considering the increment in diameter, occur, in the class of 25 cm of DBH, in cutting cycle of 21 years (Figure 6) (Table 1).



Incremento Médio (cm ano <sup>-1</sup> )*	Classes inicial (cm)	Tempo de passagem (anos)	Classe final (cm)
0,62189	a	5	15
0,60078	ab	15	25
0,51317	abc	25	35
0,49684	abc	45	55
0,47614	bc	35	45
0,42893	cd	55	65
0,28789	d	75	85
0,28640	d	65	75

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