

Diameter growth of *Croton sonderianus* in natural vegetation areas of the Caatinga Biome, Brazil

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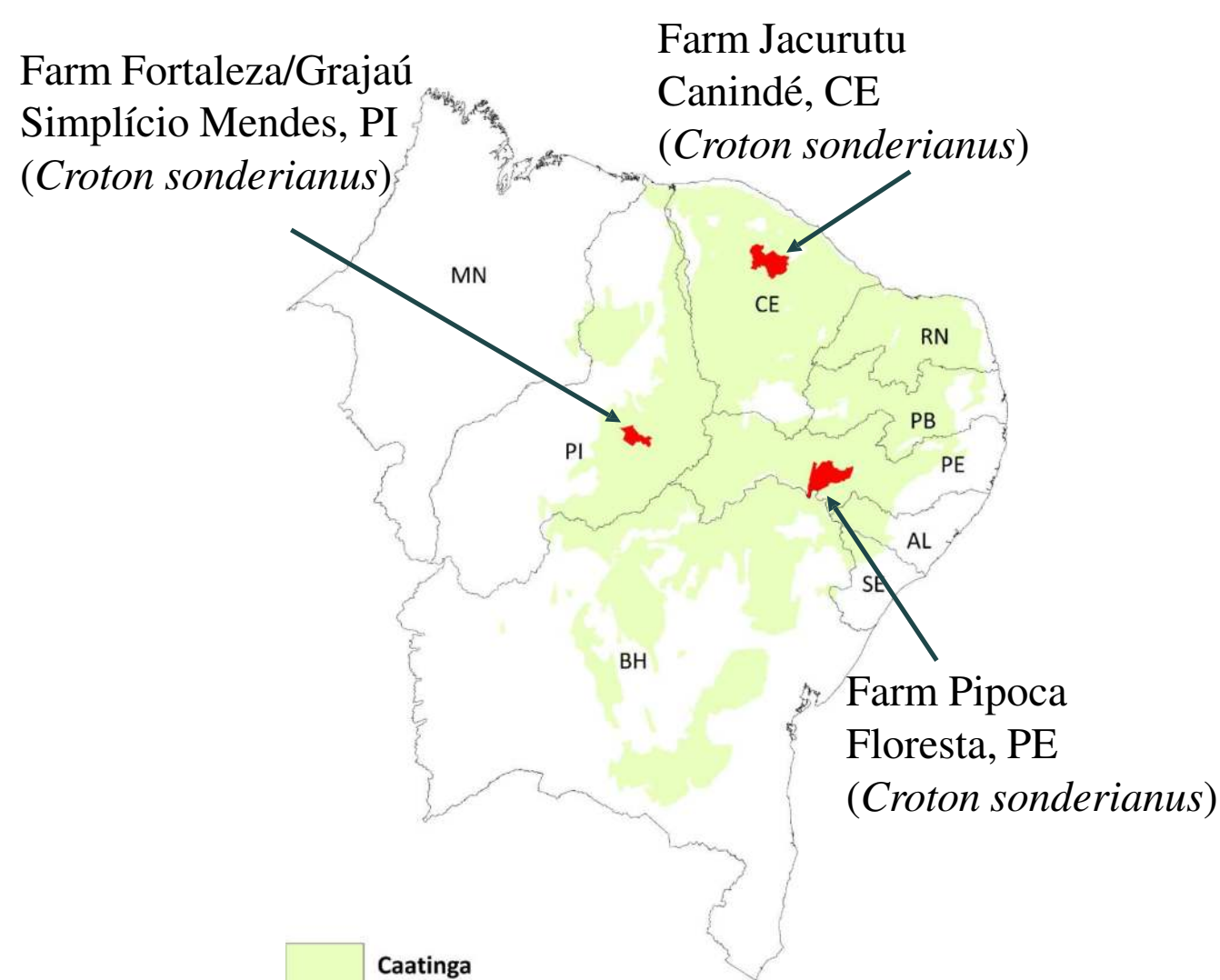
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Introduction

The Caatinga is the only Brazilian natural region that is entirely restricted in the national territory. The species richness of this biome contrasts with the lack of information about tree species with economic potential, restricting its use. The aim of this study was to determine the pattern and the growth rate of *Croton sonderianus* in natural vegetation of Caatinga, to be used as basic information for forest plantation and restoration of degraded areas.



Caatinga biome overview



(Photograph: José Bezerra, 2015)

Material and Methods

Discs samples were collected at 1.30 m above ground level (DBH) for dendrochronological analysis and growth modeling.

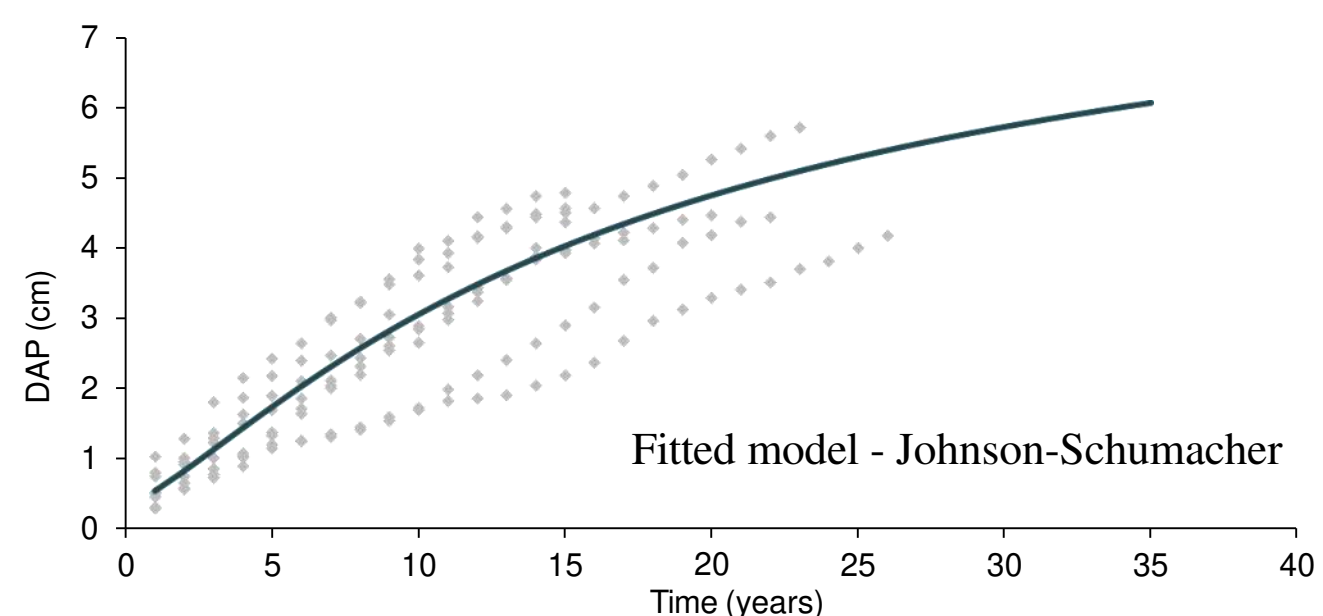


Croton sonderianus

Results

The trees presented DBH (mean) = 4.7 cm, ranging from 4.1 cm to 5.7 cm and mean annual increment of 0.40 cm. The trees had 18 years (mean), with a minimum of 15 and maximum of 23 years.

Johnson-Schumacher growth model showed satisfactory statistical parameters ($R^2_{\text{adjust}} = 0.99$; $CV\% = 19$ e $F = 13,773.8$), residue distribution and adherence to real data.



Final considerations

The application of this model will allow the prediction of the diameter growth dynamics of *Croton sonderianus* in natural conditions in Caatinga biome, Brazil.