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Titulo: Growth periodicity of six tree species from Araucaria Forest

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Tema: 3. Los bosques al servicio de la gente
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Resumen: Araucaria forest is a typical forest formation from the Brazilian Southern highlands, occurring mainly in the states of Parana, Santa Catarina and Rio Grande do Sul, with occasional areas in the States of São Paulo, Minas Gerais and Rio de Janeiro. It occupied 200,000 km², but it is now mostly fragmented, reduced to near 3% of the original area. The growth rings studies are related to the tree wood information recovering over time, presenting great potential in tropical regions with defined climatic seasonality. The present work is part of the project "Development of innovative models to manage protected areas: case study in an Araucaria Forest area and surroundings", coordinated by Embrapa Forestry. This project activity is conducted in the Embrapa/Epagri Forest Reserve, located in Caçador County, Santa Catarina State, Brazil, and its objective is to estimate the past growth of selected tree species of the Forest Reserve. The methodology involves the measurement of the growth rings, analysis of the annual periodic increment and identification of key years to be used in cross-dating. Samples were collected in adult trees. It was used 48 non destructive samples, collected from *Araucaria angustifolia*, *Ocotea porosa*, *Ilex paraguariensis*, *Cedrela fissilis*, *Ocotea puberula* and *Ocotea pulchella*. The samples were collect at breast height, using an increment core. They were fixed in wood support, dried and sanded, to help forward the visualization of the growth rings. The rings were then marked and measured, using a stereoscope microscope and a measuring table and computer. The average periodic diameter increment until 2006 was approximately 0.4 cm/year, for *A. angustifolia*, *C. fissilis*, *O. porosa* and *O. pulchella*, considering the longest series starting in 1917, 1916, 1869 and 1934, respectively. *O. puberula* and *I. paraguariensis* presented average periodic diameter increment until 2006 of 0.9 cm/year and 0.6 cm/year, starting in 1967 and 1958, respectively. It was noticed differences in the growth pattern, during the period analyzed. The six species presented higher average growth diameter increment in 70`s and 80`s, although *O. porosa* presented this pattern only in the 70`s. *Araucaria angustifolia*, *Ocotea porosa*, *Ilex paraguariensis*, *Cedrela fissilis*, and *Ocotea pulchella* presented narrow rings between the 20`s and 50`s. As a sequence of this work, it is suggested to evaluate if this different growth pattern is a consequence of changes caused by local wood exploitation in remote period or a reflex of climatic changes so frequently mentioned by all means.

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Trabajo Completo: -

