

**Growth periodicity of *Ocotea porosa* and *Araucaria angustifolia* from plantation in the southern Brazil.** Povia de Mattos, P., Botosso, P.C., Carvalho, P.E.R. (*Embrapa Florestas, Brazil; povoa@cnpf.embrapa.br; botosso@cnpf.embrapa.br; ernani@cnpf.embrapa.br*), Tomazello Filho, M. (*ESALQ-USP, Brazil; mtomazel@esalq.usp.br*).

*Ocotea porosa* (Nees) Angely and *Araucaria angustifolia* Kuntze are very important commercial tree species in Brazil but they are being threatened by natural exploitation. Silvicultural studies were conducted to overcome this problem. It was also necessary to understand their growth behaviour in plantations, and under different regimes of precipitation and temperature. This work aimed to study radial growth by analyzing the growth rings of 13-year old trees, (three of *A. angustifolia* and two of *Ocotea porosa*), from an experimental plantation in the Giacomet Marodin Company area of Quedas do Iguaçu, Paraná State. Wood samples were taken from breast height level, and were prepared for microscopic analysis and measurement of the growth rings. Growth rings were distinct in both species, and their identification was more difficult in the earlier years. It was possible to verify the tendency of growth variation related to precipitation. On average, *O. porosa* had an annual growth increment of 4.6 mm and *A. angustifolia*, 7.0 mm. For both species, growth rate was higher in the earlier years, and average increment decreased in the last five years. This effect was more evident in *A. angustifolia*.