

BOTOSSO PAULO C.¹, DE MATTOS PATRÍCIA P.¹, GALVÃO FRANKLIN², RODERJAN CARLOS V.², KUNIYOSHI YOSHIKO S.², TEIXEIRA LINCOLN L.²: ¹Embrapa Florestas, Estrada da Ribeira, km 111, caixa postal 319, 83411-000 Colombo/PR; ²Universidade Federal do Paraná, Departamento de Ciências Florestais, 80210-170 Curitiba, Brazil - **Anatomical features of growth rings in trees of the Atlantic rain forest in Parana State, Brazil** (Poster)

The Atlantic rain forest once covered more than 1.2 million km² of the Brazilian coastline, but is now reduced to less than 7% of its original area. In spite of the importance of this ecosystem, there is not much information about the ecology and growth dynamics of the tree species naturally occurring in the Atlantic forest domain. The aim of the present study is contribute to knowledge of the anatomical characteristics of growth rings of some widely distributed tree species growing in well-preserved remnant forests. The anatomical features of growth rings of 19 representative species of the lowland forest, dense mountain forest and mixed forest (*Araucaria* forest) within the Atlantic rain forest of the state of Parana, occurring between 0-20m, 600-1200m and 800-1200m above sea level, respectively, were studied. Small wood samples were non-destructively collected and prepared for macro and microscopic observations. It was possible to recognize different anatomical patterns of the growth rings, reflecting regular or irregular structural changes. Most of the trees species presented distinct growth rings, with boundaries marked by one or more of the following features: (i) radial flattening and differences in fibre and/or tracheid wall thickness, (ii) distended rays, (iii) fibrous zones associated with marginal parenchyma bands, (iv) regularly spaced regions containing only fibres and rays, and (v) gradually decreasing pore diameter. Indistinct and/or scarcely distinct growth rings were more frequently observed in species growing in dense lowland forest, probably related to the relatively constant climatic conditions in terms of temperature and humidity, with no water deficit throughout the year. On the other hand, tree species growing at higher altitudes in the mixed and dense mountain forests showed distinct growth rings more frequently. In the higher areas, species were affected by high annual thermal variation, with hot-to-moderate summers and cold winters with average winter temperatures below 15°C for at least 4 months with significant low precipitation rates in the period.