Quality characterization of *Pinus Taeda L.* wood

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The aim of this study was to estimate the relation among wood characteristics as well as mechanical and physical properties of *Pinus taeda L.* wood from young reforestation. Thus, five trees were collected randomly and transformed into logs of 2.5 m long. From those logs, it was prepared a central plank of 8 cm thick. In order to verify the number of growing rings in those logs, the number of growing rings per inch with and without pith, the diameter of those piths as well as the percentage of latewood, it was done a visual qualification of those planks according to the *Catálogo de Normas de Madeira Serrada de Pinus*[1] (ABPM, 1990). To perform the mechanical test of static flexion were used twenty samples of wood measured 2.5 x 2.5 x 40 cm (width, thickness, length), according to ASTM D 143 - 94 (1995)[2]. After doing the analyses, it was found moderated and moderately strong coefficients of determination ($R^2_{aj.}$ over 50%). The best results were observed between density (dependent variable) and the number of rings (independent variable) with $R^2_{adj.}$ =75%; and the modulus of rupture (dependent variable) and density (independent variable) with $R^2_{adj.}$ =71%. Through the results presented in this study, it was possible to verify that the density is closely related to wood characteristics and its mechanical properties.

Keywords: pine wood, modulus of elasticity, modulus of rupture, density.

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