Variation in wood density and shrinkage in two latex timber clones of rubber trees in different planting densities

ABSTRACT

Wood density and types of shrinkage were examined in two rubberwood latex timber clones of rubber (Hevea brasiliensis) namely RRIM 2020 and RRIM 2025, planted at densities of 500, 1000, 1500, and 2000 trees/ha, within a trial plot. The mean wood density showed a low descending trend towards high planting densities in both clones. Wood density was significantly and negatively correlated with planting density. The strength of correlation was moderate. The mean longitudinal shrinkage in both clones and tangential shrinkages in clone RRIM 2020 showed no significant difference among planting densities. The tangential (in RRIM 2025), radial and volumetric shrinkages in both clones decreased from low to high planting densities and the differences were more pronounced between densities of 500 trees/ha and 2000 trees/ha. The magnitudes of correlation between these shrinkages and planting density were low. The regression models indicated that wood density could be more ascribed by planting density followed by volumetric shrinkage. This study exhibited low variations in wood density and shrinkages among clones and the respective planting densities; however, RRIM 2025 was more stable than RRIM 2020.

Keyword: Wood physical properties; Rubberwood; Clonal effects; Correlation; RRIM 2025; RRIM 2020