

Equilibrium moisture content and moisture exclusion efficiency of acetylated rattan (Calamus manan)

ABSTRACT

The reduced equilibrium moisture content (EMCR) and moisture exclusion efficiency (MEE) of acetylated rattan was studied in relation with age and time of acetylation. Rattans aged 10 and 13 years grown under rubber trees were reacted with acetic anhydride for 0.25 to 30 hours. Results showed that the lowest EMCR and the highest MEE were obtained after 10 hours reaction or at the levelling-off per cent weight gain for both rattan ages. The EMCR values at the levelling-off per cent weight gain were lower in acetylated older rattan than the younger rattan. The low EMCR was highly correlated with the bulking coefficient.

Keyword: Acetylation; Equilibrium moisture content reduced; Moisture adsorption; Per cent weight gain