Selection of Nepalese Timber for Small Wind Turbine Blade Construction

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The paper describes the selection of Nepalese timber for development of small wind turbine blades on the basis of locally based low cost timbers, along with the selection of coatings to protect the timber from weathering. The selection criterion of timber includes timber mechanical properties, weathering effect on coatings, price, growth and availability of the timber. Mechanical properties such as Young's modulus of elasticity, breaking strength, breaking strain and Brinell's hardness of selected Nepalese timbers are presented. The effects of weathering on timbers without coating, and with different coatings, are analysed on the basis of the change in weight of the timber due to the effect of humidity and rainfall over a period of nineteen months. Degradation of different coatings of timber are compared.

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