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This paper describe the collection of technical information of some lesser known plantation species, such as *Eucalyptus microcorys*, *Eucalyptus citriodora*, *Eucalyptus pilularis*, *Eucalyptus grandis*, *Eucalyptus robusta*, *Eucalyptus globulus*, *Pinus patula*, *Pinus insularis*, *Pinus caribaea* and development of the structure-property relationships of these species.

Specimens made from the above species were subjected to mechanical and physical tests in green and seasoned states¹. The selection and testing of specimens were based on the British Standard². Microstructure was observed on the transverse, radial and tangential sections of these species with the Vickers M55 Optical Microscope.

The test results were computed and compared with other well-known local species. Suitability of Eucalyptus and Pine timbers for building construction, railway sleepers, transmission poles, furniture manufacture and panelling were investigated. The effects of structure - length and arrangement of fibres or tracheids, size and number of vessels, arrangement of rays, presence of parenchyma especially in Eucalyptus, and presence of resine canal especially in Pine - on strength properties were discussed. They demonstrated the complexity of some of these relationships.

References

1. Navaranjan, N. Eirisinghe, M.J., Jayatilaka, A. de S. and Ponnampalam, R. (1984) Materials section for testing of Sri Lankan Eucalyptus wood, Int. Conf. on Timber Tech., Univ. of Moratuwa
2. British Standard 373 : 1957