Int. J. Agricult. Stat. Sci., Vol. 9, No. 1, pp. 261-272, 2013 *ISSN : 0973-1903*

STATISTICAL MODELS FOR GROWTH PREDICTION IN EUCALYPTUS UNDER VARIOUS TREE BASED SYSTEM

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Abstract

An experiment was initiated at National Research Centre for Agroforestry (NRCAF), Jhansi, India to study the growth and yield of Eucalyptus clones under different agroforestry systems. At 4.5 years age, the MAI (Mean annual increment) of height was 3.62 m in boundary plantation (BP); 3.27 m in agrisilviculture (AS) and 3.14 m in compact block plantation (CB), respectively, whereas the MAI of dbh was 3.88cm in BP, 3.41 cm in AS and 3.22 cm in CB. Non-linear models were attempted to fit height-dbh relationship. The allometric function results in reasonable estimations, even quite outside the observed range also, whereas other two namely Richards and Schumacher leads to merely constant estimation of size for the extrapolated range. Therefore, the allometric functions, which meets both, the criteria's of high R^2-value and reasonably acceptable extrapolated predictions was preferred over the other two. Accordingly, allometric model were separately developed for three agroforestry systems respectively.