

RESPONSE OF TREE PRUNING ON TIMBER AND FUELWOOD PRODUCTION OF *DALBERGIA SISSOO* IN AGRI-SILVICULTURE SYSTEM

M.L. SAHU* AND YOGESH KUMAR

*Department of Forestry, Jawaharlal Nehru Krishi Vishwavidyalaya,
Jabalpur - 482004, Madhya Pradesh, India*

**Corresponding author: mlsforestry@gmail.com*

ABSTRACT: An experiment has been carried out to evaluate the response of different tree pruning intensities on diameter growth and wood biomass of *D.sissoo* under agri-silviculture system in central India during the year 2014. Age of plantation was 16 years. Four selected pruning intensities were 0 (P₀), 25 (P₂₅), 50 (P₅₀) and 75% (P₇₅) pruning of total tree height. Stems/branches were categorized into large sized timber (diameter ≥ 10), small sized timber (7 cm ≤ diameter < 10 cm) and fuel wood (4 cm ≤ diameter < 7cm). Branches of diameter < 4 cm were ignored. Length and mid diameter of sections of stem/branch were measured in standing tree. Volume of section was estimated by Huber's formula. Density of wood pieces were determined in the laboratory. Significant highest dbh was recorded in P₂₅ (27.4 cm) followed by P₀ (27.3 cm), P₅₀ (21.4 cm) and P₇₅ (18.2 cm). Similarly significant highest large sized timber volume was recorded in P₂₅ (145.95 m³ha⁻¹) followed by P₀ (97.34 m³ha⁻¹), P₅₀ (87.13 m³ha⁻¹) and P₇₅ (58.07 m³ha⁻¹). Small sized timber also exhibited similar trend with numeric values of P₂₅ (14.56 m³ha⁻¹), P₀ (14.06 m³ha⁻¹), P₅₀ (8.38 m³ha⁻¹) and P₇₅ (5.24 m³ha⁻¹). Estimated fuelwood quantity was highest in P₀ (15.9 tonnes ha⁻¹), followed by P₂₅ (12.3 tonnes ha⁻¹), P₅₀ (7.6 tonnes ha⁻¹) and P₇₅ (4.5 tonnes ha⁻¹). Combined wood quantity (Large + Small + Fuelwood) was highest in P₂₅ (169.63 tonnes ha⁻¹), followed by P₀ (125.12 tonnes ha⁻¹), P₅₀ (101.22 tonnes ha⁻¹) and P₇₅ (66.56 tonnes ha⁻¹). It was concluded that in view of wood biomass moderate pruning of 25% is best among the selected four pruning intensities.

Keywords: *Dalbergia sissoo*, pruning intensity, large sized timber, small sized timber, fuelwood, wood biomass

Citation: Sahu ML, Kumar Y (2015) Response of tree pruning on timber and fuelwood production of *Dalbergia sissoo* in agrisilviculture system. Indian J Trop Biodiv 23(1): 88-90
