

Effect of Various Fertilizer Levels and Weed Control Measures on Nutrient Content, Uptake and Biomass Productivity in *Populus deltoides* Bartr at Nursery Stage

Sushil Kumari¹ and DPS Nandal²

^{1,2}Department of Forestry, CCS Haryana Agricultural University, Hisar
E-mail: ¹sushil.punia100@gmail.com

Abstract—Proper nutrition is essential for satisfactory growth and production of trees. Poplar has gained great importance in agroforestry due to its fast growth, short rotation, easy propagation and multiplicity of uses of its wood. Raising nursery requires proper selection of cuttings, fertilization and weed control. The study was conducted out to workout nutrients requirements of poplar at nursery stage under various fertilizer and weed control methods. Weed free and chemical treatments recorded highest uptake of N and P at all the fertilizer levels during experimental period. Potassium uptake was in the order of weed free > chemical weeding > manual weeding > weedy check at all fertilizer levels. Uptake of N did not increase with increasing fertilizer levels in weedy check; however, in weed free it increased with successive increase in the fertilizer levels during both the years. Reverse trend was observed in P uptake. Maximum content and uptake of nitrogen, phosphorus and potassium in poplar was found in weed free plots closely followed by herbicidal treatment and then manual weeding and weedy check during both the years. It is further suggested that application of 200 kg N + 50 kg P₂O₅/ha or 20 t/ha FYM could be sufficient to meet the nitrogen and phosphorus requirements to produce quality nursery stock of poplar. Application of FYM @ 20 t/ha was found to be as good as 200kg N + 25kg P₂O₅/ha and this could be sufficient to meet the nitrogen and phosphorus requirement to produce quality nursery stock of poplar.