

Influence of Weed Control Methods and Various Fertilizer Levels on Economics of Raising Poplar (*Populus deltoids* Bartr.Ex.Marsh) Nursery

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Abstract—Poplar (*Populus deltoides* Bartr Ex Marsh) is promising tree species and it has gained great importance in farm forestry/agroforestry due to its fast growth, short rotation, easy propagation and multiplicity of uses of its wood. Selection of suitable weed control method and application of optimum fertilizer dose play an important role for raising healthy poplar plants and getting higher income from the nursery. The study conducted in the nursery showed significant effect of different weed control methods and fertilizer levels on the growth parameters, biomass and economics of poplar nursery. As the fertilizer levels increasing the net income also increased. Application of 200 kgN + 50 kg P_2O_5 per ha or 20 ton per ha of FYM produced significantly maximum net income was recorded both the year of study. Weeds were effectively controlled by manual weeding at 30 days interval and by the directed spray of glyphosate at 1.0% solution on product basis 60 days after bud emergence even at higher doses was found to have little effect on the all growth parameters of poplar plants in the absence of efficient weed control. Growth of poplar seeding was found to be superior in weed free and herbicidal treated plots at all fertilizer levels. The application of 200kg N + 50kg P_2O_5 ha⁻¹ or 20t/ha FYM could be sufficient to meet the nitrogen and phosphorous requirement to produce quality nursery stock of poplar and also increased the economics of poplar nursery.

Keywords: Fertilizer, Growth Poplar, Nursery, Weed control characters, Economics Abbreviations: ETPs (Entire transplants of stock),