

# EVALUATING EFFECT OF DOMINANT FAMILIES ON SURVIVAL RATE, GROWTH, AND BIOMASS OF *Machilus odoratissima* Nees AT THE NURSERY STAGE AT THE AGE OF 6 MONTHS IN QUANG TRI PROVINCE

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Summary

Evaluating survival rate and growth of seedlings at the nursery stage has been considered as a basis for the selection of tree species and seedling sowing techniques (*Machilus odoratissima* Nees) are necessary. In the present study, we randomly conducted the experiment with three replications using the  $\chi^2$  and Duncan analyses to assess survival rate and separate subgroups on tree growth rate. The results showed that the survival rate of *M. odoratissima* Nees at the nursery stage at the age of 6 months had differences. The survival rate ranged from 77.33% to 91.67%. In 50 dominant families, there were 21 families with a high survival rate by over 85%, while 5 families were recorded to be over 90%. The stump diameters of families ranged from 2.83 mm to 5.9 mm. The highest stump diameter was recorded with 5.9 mm in the family of M.odora.QT8, whereas the lowest stump diameter was recorded in the control group, M.odora.QT2, M.odora.QT3, and M.odora.TTH16 (2,83 mm), respectively. The growth in height ranged from 30.03 cm to 36.83 cm. The largest growth in height was recorded in M.odora.TTH12 and in M.odora.GL38 (36,83 cm), respectively, while the smallest growth in height occurred in the control group and in M.odora.QN21 (30.03 cm), respectively. The fresh biomass of the families ranged from 5.90 g/tree to 10.05 g/tree. The highest fresh biomass occurred in M.odora.QT4 (10.5 g/per tree), while the control group showed the lowest value with 5.90 g/per tree. The dry biomass of the families ranged from 1.60 g/tree to 3.06 g/tree. The dry biomass between families showed differences. The highest dry biomass was recorded in M.odora.QT18 (3.06 g/tree). In contrast, the lowest dry biomass occurred in the control group (1.60 g/tree). The result of the separating subgroups using Duncan analysis selected 10 families with the highest growth in the stump diameter, height, fresh and dry biomass including M.odora.QT4, M.odora.QT8, M.odora.GL49, M.odora.GL38, M.odora.GL43, M.odora.KOT28, M.odora.GL33, M.odora.KOT24, M.odora.TTH12, and M.odora.QN18, respectively.

**Key word:** *Survival rate, growth, Machilus odoratissima* Nees, nursery stage, Quang Tri.