

**EFFECT OF MYCORRHIZAL INOCULATION AND WATERING REGIME ON  
THE GROWTH OF *Terminaliaivorensis* (Chev) SEEDLINGS**

**BY**

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## ABSTRACT

This research work assessed the effect of mycorrhizal inoculation: M<sub>0</sub> (No mycorrhizal), M<sub>1</sub> (ectomycorrhizal), M<sub>2</sub> (endomycorrhizal) and watering regime: W<sub>0</sub> (watering everyday), W<sub>1</sub> (watering every other day) and W<sub>2</sub> (watering once in a week) on the seedlings of indigenous Tropical hardwood specie *Terminalia ivorensis*(Chev). In this experiment, nine experimental treatments were replicated 5 times. Split-plot experimental design was used to analyze the data obtained for a period of 8 weeks taken fortnightly. The result indicated that in *Terminalia ivorensis* seedlings application of endomycorrhizal and ectomycorrhizal and watering everyday (W<sub>0</sub>) enhanced best morphological characteristics such as highest shoot height (58.9cm) and (48.36cm) in endomycorrhizal and ectomycorrhizal respectively. The highest collar diameter (0.65cm) and (0.75cm) endomycorrhizal and ectomycorrhizal respectively. The highest leaf area (453.99cm<sup>2</sup>) and (41.79cm<sup>2</sup>) endomycorrhizal and ectomycorrhizal respectively. The highest number of leaf (45) and (43.8) in endomycorrhizal and ectomycorrhizal respectively. The highest fresh weight obtained (20.08g) was in topsoil and watering everyday. The highest dry obtained (8.03g) and (8.3g) in endomycorrhizal and watering once a week (W<sub>2</sub>) and ectomycorrhizal and watering everyday (W<sub>0</sub>) respectively. Irrespective of mycorrhizal inoculation, watering everyday (W<sub>0</sub>) produced the highest morphological parameters in *T. ivorensis* seedlings. Both endomycorrhizal and ectomycorrhizal inoculation increased the physiological parameters such as Net Assimilation Rate, Relative Growth Rate and Absolute Growth Rate. Ectomycorrhizal and watering every other day (W<sub>1</sub>) produced the highest Relative Growth Rate (0.061), Net Assimilation Rate (0.062) and Absolute Growth Rate (0.95). The highest leaf turgidity was (41.67%) at endomycorrhizal and watering every other day (W<sub>2</sub>) and the highest relative water content was recorded as (46.87%) at topsoil and watering daily (W<sub>0</sub>). Mycorrhizal inoculation of *Terminalia ivorensis* combined with daily watering will be appropriate for healthy and good seedlings performance in the nursery.