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IMPACT OF VARIOUS PRESOWING SEED TREATMENTS ON Teak (*TECTONA GRANDIS* L.)

Abstract - The world's most magnificent cylindrical deciduous tree, the teak (*Tectona grandis*), is well-known for its industrial uses. Since ancient times, teak has also been used in building projects. Its characteristic reddish-brown hue is the main cause of this. The most sought-after species in the furniture production sector is teak because of its fine-grained finish and leathery appearance. The current study examined the impact of various seed treatment techniques on teak germination at the Netaji University West Bengal agroforestry nursery. It includes data on the commercial cultivation of teak as well as the development and performance of *Tectona grandis* in four seed treatment techniques, namely: (T₁) For 48 hours, seeds were submerged in cold water. (T₂) For seventy-two hours, seeds were submerged in cold water. (T₃) For 10 minutes, seeds were immersed in 80% H₂SO₄. (T₄) Control. After five months, the performance of the seedlings was measured. The results revealed that the maximum germination percentage (40.83%), collar diameter (1.23 cm) and root length (35.35 cm) was found in T₁ (Seeds were soaked in (80%) H₂SO₄) while the highest seedling height (30.22 cm) was recorded in T₂ (Seeds were soaked in cold water for 72 hours) treatments. According to the study, a 10-minute conc. H₂SO₄ (80%) treatment for seed germination produces good results, breaks dormancy easily, and produces healthy seedlings.

Key words: seed treatment, germination percentage and growth.

Introduction - *Tectona grandis* was first formally described by Carl Linnaeus the Younger in his 1782 work *Supplementum Plantarum* (Cardoso, 2015). Teak occurs in natural forests between 9° to 26° N latitude and 73° to 104° E longitude, which includes southern and central India, Myanmar, Laos People's Democratic Republic and northern Thailand (White, 1991). A member of the Verbenaceae family, teak (*Tectona grandis*) is the most beautiful cylindrical deciduous tree in the world and is extensively used in industry worldwide. For the compliant tree, regional names include Brazil Teak, Indian Teak, Sagwan, Thekku, and Java-Teak in Germany. Teak wood is a luxurious species hardwood with physical properties, durability, and good esthetic (Sanwo, 1987). Teak wood has a medium specific gravity, strength and dimensional stability (Freitas, 1958), corrosion resistance and easy processing with good seasoning performance, and reputed for its excellent weathering and decay resistance (Bailleres and Durand 2000).

The inborn qualities of teak timber, fast growth rate with elasticity in seedling establishment mechanism makes it superior species in all aspects in many countries (Indra and Basha, 1999). Although Teak having good market value, but people do not interest in growing teak seedling in their own farm due to their low germination percentage. Jackson (1994) also stated that the drupes germinate very slowly and asymmetrical if they are untreated. Uncertainty germination provides low quality seedlings as well as degraded timber quality. So that the management cost of teak nursery increases. Several studies found that the Teak seeds have a low moisture content because of which they are inactive. (Adhikari *et al.*, 2021). But hydro-priming beforehand encourages water imbibition, which makes enzymes