

**EFFECT OF PRE-TREATMENTS ON
GERMINATION OF DORMANT QUEEN PALM
(*Livistona rotundifolia*) SEEDS**

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ABSTRACT

Queen Palm (*Livistona rotundifolia*) is a popular hermaphroditic palm. It has highest demand as a pot plant in world foliage market. Seeds are used as propagation material. It may cause slow and uneven seed germination mainly because of hard and impermeable seed coat. The hard seed coat prevents imbibition and gaseous exchange that leads to physical dormancy. To overcome this problem softening of hard seed coat is important. Seeds become hydrated and reduce physical dormancy due to pre seed treatments and subsequently the foremost resulted in the emergence of radical.

This experiment was conducted to find out the most effective pre-treatment technique to enhance the vigor index of *Livistona rotundifolia* seeds in a net house at Omega Green Pvt Ltd. Single Factor experiments with four treatments in four replicates were established in a CRD design. Seeds were collected from numerous arbitrarily selected trees in Godigamuwa area and sample was tested for viability. Seeds were assessed for germination behavior and seedling characters with four pretreatments. Treatments were T₁. Presoaking treatment in cold water, T₂- Hot water Treatment, T₃- Mechanical Treatment and T₄- Chemical Treatment (10% Na₂HOCl solution).

Results showed that pre seed treatments have a significant effect on seed dry weight in second month of sawing. A significant effect was observed on Germination percentage and Vigor index of seeds with treatments. Seeds showed that the Chemical Treatment (10% Na₂HOCl solution) for 10 minutes followed by 12 hours water soaking was optimum to overcome dormancy. This treatment produced more number of seedlings while mechanically treated seeds showed low amount.

Key words: Hermaphroditic, Dormancy, Arbitrarily