

## DEVELOPMENT OF A SEED GERMINATION PROTOCOL FOR KITHUL (*Caryota urens*)

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The propagation of Kithul (*Caryota urens*) for agricultural and ornamental purposes is accomplished by seeds. Due to its slow and irregular germination, seed propagation may be a challenge in commercial cultivation. A better understanding of the germination of Kithul seeds is therefore needed to improve germination rates.

Seeds from top and middle bunches were collected from two different trees in the Kotmale area. Seed viability was tested by exposing the seed embryos to tetrazolium salt and, average density of seeds were measured using water displacement method (Ureka method). Nine treatments (three treatments of different concentrations of Gibberlic acid, two mechanical scarifications, and three scarification treatments of different concentrations of Nitric acid) were used in the experiment with decoated seeds which served as the control. 3000 seeds were experimented, and of which 1500 were extracted from the top inflorescence and the rest from the middle inflorescence. Percentage seed germination was recorded after 4 weeks. Survival rate of cotyledonary petiole in germinated seedlings was also recorded.

All seed embryos from the top inflorescence and middle inflorescence were stained by the tetrazolium salt indicating that seeds are viable. The density of seeds of both seed types did not show a significant impact on seed germination. Germination percentages of both seed types from the top most and middle inflorescence were not significantly different ( $p > 0.05$ ). Mechanical scarifications resulted in the highest germination percentage, but had a low survival rate. Interestingly the control had a higher germination percentage and highest survival rate. Kithul seed germination showed a

remote germination pattern and took more than two months for the emergence of the first seedling root (radical) and seedling shoot (plumule).

*Key words:* Kithul, *Caryota urens*, Germination, Protocol