

**EFFECT OF HYDRO AND CHEMICAL PRIMING
ON SEED GERMINATION AND SEEDLING
GROWTH OF RUBBER (*Hevea brasiliensis*)**

A dissertation submitted to the
Faculty of Animal Science and Export Agriculture
Uva Wellassa University
In partial fulfillment of the requirements for the award of
Bachelor of Science in Palm & Latex Technology and Value Addition

By
**PELAWATHTHA HETTIGE DONA NADEESHA
JAYANGANI**

**Palm & Latex Technology and Value Addition Degree
Programme**

Faculty of Animal Science and Export Agriculture

Uva Wellassa University of Sri Lanka

2019

ABSTRACT

Rubber (*Hevea brasiliensis*) is one of the economically important tropical trees. Both rootstock and budwood should be of high quality for producing high yielding rubber plants. Rubber seeds are used to produce high-quality plants; however rubber seeds belong to recalcitrant seeds category according to the seeds classification. Therefore, rubber seeds lose their viability within a few days after falling from the tree. For most rubber nurseries, nurserymen purchase seeds from outside suppliers who collect and store seeds for few days to weeks before supplying in bulk quantities. The main objective of this study is to investigate the effects of hydro and chemical priming on the germination of rubber seeds and the growth of rubber seedlings. The experiment was conducted in a nursery located at the Rubber Research Institute of Sri Lanka, Dartonfield Agalawatta in Kalutara district of the low country Wet Zone. Two experiments were conducted, one for studying the germination attributes and another for studying the growth of the seedlings. The experiments were laid down according to a Randomized Complete Block Design. Zinc Sulphate and Urea were used as chemical priming agents and both chemical and hydro priming were tested. Germination percentage and growth parameters were taken for getting an idea about the effect of priming. Analysis of variance was done to know about the significant value at 0.05% level and Duncan's Multiple Range Test was done for mean separation. There was a significant effect of priming on the germination percentage but there was no effect on the growth parameters of the seedlings. Further, the values of hydro priming were on par with those of chemical priming. Therefore hydro priming may be the simplest and cost-effective strategy to improve the germination of rubber seeds.

Keywords: Germination, Growth , Priming , Urea, Zinc Sulphate