B-04: Identification of storage behaviour of woodapple (*Limonia acidissima* L.) seeds

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Woodapple which belongs to the family Rutaceae, naturally occurs in drier parts of some tropical countries. In Sri Lanka loss of genetic material is observed due to deforestation and other human activities.

The present investigation is designed to understand the storage behaviour of woodapple seeds as seed conservation is the easiest method for *ex situ* genetic conservation.

An experiment was carried out to find the effect of seed moisture levels on the germination of woodapple seeds. Seeds taken from the mature fruits were used and germination percentage was taken at different moisture levels. Seed moisture was achieved by using silica gel desiccation method. (Seeds: silica gel - 1 : 0.5 ratio on weight basis).

Seed moisture sampling was done at 24 h intervals to estimate both seed moisture content and germination rates. Germination estimation was carried out for 14 seed moisture levels ranging from 50.5 to 5.9%. Germination test was conducted at 30°C in the germinator. Seeds were placed on moist blotting papers in germination box.

Initial germination of woodapple seeds at 50.5% seed moisture content was over 90%. After passive desiccation to 5.9% seed moisture content, the woodapple seed showed a germination level of 89%, thus indicating there is no significant change in the germination rates. However a 5% reduction in germination due to fungal attack was observed, when the seeds were extracted from fruits that were kept under refrigeration (10°C), prior to the extraction of seeds.

Results indicate that woodapple seeds can be dried without loss of their viability. Even when the seed moisture was reduced below 5.9% the seeds maintained germination percentage over 85%. Therefore, woodapple can be categorized as seeds with orthodox storage behavior. Hence, reduction in seed moisture to lower levels may be used to increase the longevity of seeds.