

**Short Communication**

**Effect of seed mass on regeneration of a medicinal pant *Sapindus mukorossi* Geartn**

**ROSHAN SARMAH\* AND APURBA SAIKIA**

*Department of Botany, D.R. College, Golaghat, Assam - 785621, India*

Received: February, 2021; Revised accepted: March, 2021

*Sapindus mukorossi* Geartn (in Assam locally known as *monisa*) is a deciduous tree belongs to the family Sapindaceae, The fruits are of considerable importance for their medicinal value for treating a number of diseases like excessive salivation, pimples, epilepsy, migranes, eczema and psoriasis (Suhagia, *et. al.*, 2011; Goya *et. al.*, 2014). A number of farmers are earning livelihood by marketing and selling the fruits from natural habitat. In Assam collection of fruiting bodies were made mostly from wild state. As the domestication and cultivation are being started the demand for quality seedling during planting time is very high. Seed germination requires pre sowing treatments in most of species. In seed germination process, seed mass is considerable and significant factor and also in growth of the plant in early stage (Varun *et. al.*, 2014, Varun *et. al.*, 2017). A mature seed is full of different nutrients for growth and development of the upcoming seedling. Different size of seed having different levels of starch and proteins or other food storage which influences seed germination (Ming *et. al.*, 2018). Having heavy weight seeds

germinates quickly then light seeds (Venkatesh and Nagarajaiah, 2010). The present paper tried to comprehend the normal water treatment in different seed mass for germination.

The fruits were collected from the forest area of Golaghat district, Assam, during the months of January-February in 2016. The outer seed coat of the collected fruits were removed and washed with pure water and allowed to dry in shade. Individual seed was weighed and then separated according to their weight. The seeds were categorized in the three different groups' viz. large seeds with seed weight  $2.32 \pm 0.87$  g. as seed class I (SC I), medium seeds with seed weight  $2.11 \pm 0.52$  g. seed class II (SC II) and small seeds, seed class III (SC III) with seed weight  $1.5 \pm 0.63$  g. Seeds (n =300 in each class) of different categories were soaked under normal tap water for 72 hours. The water treated seeds were sown in three different seed beds with similar soil properties under 75% absorbent net house condition and allowed to germinate. The germination of different seed classes were recorded separately.

Table 1: Effect of seed mass on seed germination of *Sapindus mukorossi* Geartn

SL No	Seed Class (SC)	First germination time after sowing (in days)	Last germination time after sowing (in days)	Rate of germination (%)
1	SC I	44	60	80
2	SC II	55	65	74
3	SC III	61	80	65

Germination of a particular seeds has influenced by seed size and weight. The data (table 1) revealed that the large size seeds (seed class I) gave maximum germination (80%), followed by medium size seeds (seed class II) with 74% and small size (seed class III) recorded only 65% germination. Present experiment showed that the large sized seeds have maximum germination than medium and small sized seeds. Larger seed germinated faster and achieve greater germination percentage than

smaller seeds might be attributed to large food reserves. Large seeds contain more nutrient reserve for germination purpose than small seeds, and seedlings developing from such seeds might have a greater probability of recovery following shoot damage. Large seeds are only at an advantage during establishment during the time when reserves are being deployed from cotyledons, once seed reserves have been committed; there is no longer any advantage for the larger seeds.

\*Corresponding author: roshansarmah@gmail.com

Due to the hard seed coat, *Sapindus mukorossi* seeds usually exhibited slow and poor germination rate. Seed mass and pre-sowing treatment of seed influenced the germination percentage under nursery condition. It was recorded that the seeds started germination after 44 days of sowing and complete within 80 days. Maximum and faster germination was recorded in seed class I (SC I) with 80 % and completed within 60 days and the seed class III (SC III) recorded least rate of germination with 65 % and completed within 80 days (Table 1).

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## Acknowledgements

The authors are thankful to Ministry of Environment and Forest Government of India for financial assistance vide Sanction Letter F. No. 14/20/2012- ERS/ RE. Principal, D.R. College and HoD Department of Botany, D.R. College for providing basic facilities to carry out the research work.