

EFFECT OF TREE GIRTH ON SEED VIABILITY AND GERMINATION IN SAL

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ABSTRACT: Seeds of sal from trees of different girth classes were examined in laboratory to establish the relationship between age and viability and germination. Results of experiments revealed higher viability and germination in seed from middle girth class trees. Statistical analysis also showed significant difference in germination in seed from different girth classes.

Key words : Girth class, viability, germination,

INTRODUCTION

Seed quality has a great impact on the quality of planting stock. Seed testing includes viability, germination and vigour. The viability of seed depends on a number of factors such as the seed morphology, weight, site quality and age of the parent tree. On the basis of successful storage of seeds at low temperature and dry condition, seeds have been classified as orthodox and recalcitrant (Roberts, 1973). The former can be stored for a longer time while the latter lose viability in short period and can not be stored.

Sal (*Shorea robusta* Gaertn. f.) is an important timber tree species confined to tropical deciduous forests in India. Storage studies on this species envisaged recalcitrant nature of this species (Yadav, *et al.*, 1986). The present paper deals with the effect of girth of parent trees on the viability and germination capability in seeds of sal trees.

MATERIAL AND METHODS

Fresh seeds of sal from trees of different girth classes were obtained from State Forest Research Institute, Jabalpur, which were collected from Amarkantak, M. P. on 8-6-86. These seeds were brought to laboratory in air tight polythene bags and stored at room temperature in closed black containers. Seed viability and germination studies were performed after fifteen days. Viability of seeds was determined with 2, 3, 5. Tri-phenyl tetrazolium chloride at pH-7 (Fiala, 1981). For germination studies, 100x3 seeds, were soaked in water for 24 hours and placed on moistened filter paper sheets in a seed germination incubator at $25 \pm 2^\circ\text{C}$ (ISTA, 1976). Experiments were performed in triplicate. Statistical analysis is followed after Snedecor and Cochran (1967).