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Short Note

CONJOINTED TWIN AND TRIPLET SEEDLINGS IN *SALACIA CHINENSIS* LINN: AN IMPORTANT MEDICINAL PLANT

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ABSTRACT

Seed germination and seedling grading are important stages in nursery management. Abnormal seedlings are generally discarded from planting programme. Reporting of such abnormalities are important in further breeding programme. Such abnormalities in *Salacia chinensis* are reported in this article.

INTRODUCTION

Morphological abnormalities in seedling as polyembryony, double embryo, twin and triplet seedlings, albino and chlorophyll mutant seedlings are widely reported in country. Such abnormalities are due to several factors such as developmental error during development of ovary, during fertilization, genetic factors or mutation (*Gunaga et al., 2008*). Grading of seedling is nursery step in the forest nursery, which may help in separation of under-growth or abnormal growth of seedling and also the abnormal seedling. These abnormal seedlings are generally discarded from packing stock before transportation of seedling to the planting site. In this study, such abnormalities like twin seedlings were recorded in *Salacia chinensis* Linn. The roots and stem of this plant have been extensively used in the treatment of diabetes in the ayurvedic system of Indian traditional medicine (Wolf and Weisbrode, 2003).

MATERIALS AND METHODS

The forest nursery of College of Forestry, Dapoli raise seedlings of commercial important species found in Konkan region. *Salacia chinensis* L. seedlings are also produced on mass scale .The seedlings were prepared from seeds collected from healthy plants from Amboli village of Taluka Sawantwadi District Sindhudurga. 1400 matured seeds were sown in nursery bed and regular observations were made to calculate the germination percentage.

RESULTS AND DISCUSSION

The total germination percentage of seed lot was 75 per cent. So also, it was observed that 1.85 per cent seedling were of conjointed twin type (fig.2) while 1.10 per cent of conjointed triplet type (fig.3). Usually the seed of *Salacia chinensis* L. has only one embryo per seed and it produced into single seedling (fig.1). However, in the nursery two *Salacia chinensis* L. seedling with one having conjointed twin and triplet seedlings having two main shoots and two main roots and the other had three main shoots having three main roots (fig 2 and 3).

Fig.1 Normal seedling

Fig.2 Conjointed twin seedlings

Fig. 3 Conjointed triplet seedlings

Table No. 1. Percentage of abnormalities in *Salacia chinensis*

Abnormalities	Seedling (%)
Conjointed Twin	1.85
Conjointed Triplet	1.10

Reporting of such variation is most important for future genetic improvement and conservation programmes. Verma *et al.,* (2009) reported conjointed twin seedlings in *Madhuca latifolia.* While, Gunaga and Vasudeva, (2008) have reported such abnormal seedlings in several tropical tree species like *Acacia farnesiana, Robinia pseudocasia, Terminalia arjuna, Tectona grandis, Santalum album, Mangifera indica , Shorea robusta, Dalbergia sissoo, Bombax ceiba, Putranjiva roxburghii, Nathopodytes nimmoniana, Saraca asoca, Garcinia indica* and *Mammea suriga* across the country. However, the growth of the abnormal seedlings at juvenile stage has not been observed by earlier workers. The genetic potential of such abnormal seedlings, if desirable, can be used for future breeding programmes. Hence, such seedlings instead of discarding could be retained and grown to test their early performance under field conditions. However, some research workers on such twin seedlings had recommended keeping leading shoot for higher vigour and remaining shoots can be culled out at earliest possible to use these seedlings for field planting (Gunaga and Vasudeva, 2008).

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