Short Note:

Twin seedling in *Terminalia bellerica:* An important medicinal plant in Aurveda

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Morphological abnormalities in seedling as polyembryony, double embryo, twin and triple 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 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 abnormality like twin seedlings were recorded in *Terminalia bellerica* in of the commercially important medicinal tree species. During the survey of natural regeneration of *Terminalia bellerica* in sacred groove of Chikhali village of Guhagar in Ratnagiri district, Maharashtra. At time of survey of Natural regeneration quality of recent year seedling were observed. Seeds of *Terminallia bellerica* have only one embryo per seed and it produced into single seedling. Whereas during survey of natural regeneration four seed of *T.bellerica* produced twin seedling (fig 2 a&b). We have surveyed total 2500 seedlings and in that it is observed that 4 widlings are with twin seedling. It produces 0.16% twin seedlings (fig 2 a&b).

Reporting of such variations is most important for future genetic improvement and conservation programmes. Further Gunaga and vasudeva (2008) have reviewed such abnormal seedlings recorded in several tropical tree species like *Acacia farnesiana, Robinia pseudocasia, Terminalia Arjuna, Tectona grandis, Santalum spicatum, Mangifera indica, shorea robusta, Dalbergia sissoo, Bombax ceiba, Putranjiva roxburghii, Nathopodytes nimmoniana, Saraca asoca, Garcinia indica and Mammea suriga* across the country. 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 use 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 to keep 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).

Fig.1: Normal seedling

Fig.2a:Twin seedling

Fig 2b: closed view

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