Studies on the germination and seedling growth of *Withania somnifera* L. (Amukkara)

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Withania somnifera L. (Family Solanaceae, s. Amukkara) is one of the important medicinal plants used in traditional systems of medicine to cure many diseases, weaknesses and increase the vigour and stamina. However, almost 90% of local requirement (about 40,000 kg) is annually imported from India, expending Rs. 3-4 million due to lack of proper cultivation system in the country. Therefore, in the present study was carried out to compare different nursery sterilization methods, seed treatment methods and seedling growth. Factorial combinations of three nursery bed sterilization methods (nursery beds without sterilization (control), sterilised with burning with rice straw and covering with transparent polythene) and two seed soaking periods (Seeds without soaking and seeds soaked) were taken as treatments (3 x 2). Each treatment was replicated 4 times. The experimental design used was RCBD. It was found that nursery sterilization could be done by burning with layer of rice straw or covering with transparent polythene for 14 days. Seed germination was started after 7 days of seed sowing and continued up to 6 weeks. The number of seedlings emerged in seed beds sterilised with burning with rice straw and covering with transparent polythene was significantly higher to the control. Effect of soaking and two-way interaction was not significant. Early seed germination was also observed in sterilized beds than the control. Therefore, Amukkara could be directly used for establishment of nursery. Seedling could be used for potting or transplanting 6 weeks after seed establishment. It can be concluded that seedbed sterilization (burning or cover with a polythene) is essential for this species to obtain a higher number of seedlings and also for early germination

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