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PAPER

**Development of suitable propagation systems for *Tephrosia* spp. and *Flueggea leucopyrus* in Sri Lanka**

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Different species of both genera *Tephrosia* and *Flueggea* are commonly used as ingredients in traditional therapeutic preparations. Due to the increasing popularity of these plants as ingredients in traditional therapeutic systems, production of planting materials for commercial cultivation is a timely requirement. This research was carried out to develop suitable propagation systems for *T. purpurea*, *T. villosa*, *T. noctiflora*, *T. pumila* and *F. leucopyrus*. Though *Tephrosia* spp. seeds have shown higher viability, low germination percentage was observed within a week on wet filter paper as well as in different six potting media. Six potting media were prepared using five raw materials namely coir dust, sand, top soil, cow dung and compost with different compositions to evaluate the seed germination and growth performance of *Tephrosia* species.

Water impermeability of seed coats was identified as the reason for the seed dormancy in *Tephrosia* spp. and soaking in Con. H<sub>2</sub>SO<sub>4</sub>: H<sub>2</sub>O; 3:1 for 25 mins and rubbing on sandpaper for 2 mins were determined as suitable seed dormancy breaking methods. Variation was observed in the growth performance of *Tephrosia* spp. in six different potting media. Soil medium was determined as a more suitable medium compared to the hydroponic solution for all four *Tephrosia* species. Due to less seed production in *F. leucopyrus*, stem cutting propagation methods in three different potting media (Coir dust, Sand, Coir dust: Sand 1:1) were applied to evaluate the efficiency in propagation. Semi hardwood and hardwood cuttings of *F. leucopyrus* were well established within a period of a week in sand potting medium. These findings can be used to establish suitable propagation systems for genera *Tephrosia* and *F. leucopyrus* for commercial cultivation.

**Keywords:** *Tephrosia* spp., *Flueggea leucopyrus*, Potting Media, Seed Dormancy Breaking Methods