

EFFECTS OF GROWING MEDIA AND GROWTH HORMONES ON THE SPROUTING, ROOTING AND FIELD ESTABLISHMENT OF *WOODFORDIA FRUTICOSA* (L.) KURZ (DHAWAI) IN SUB HUMID FOOTHILLS OF EASTERN HIMALAYA

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Abstract: The common method of propagation of *Dhawai* (*Woodfordia fruticosa* (L.) Kurz, through seeds have low germination and seedling survival under normal conditions due to heavy rainfall immediately after the seed maturity and microbotic seed nature. Hence, an attempt on vegetative propagation through stem cuttings was made to observe the effect of different growth hormones, their concentrations and different growing media on its rooting and sprouting. Cuttings were treated with six different concentrations (IBA 250, 500, 750 and 1000 ppm), naphthalene acetic acid (NAA) + indole-3 butyric acid (IBA) (250 ppm each) by using quick dip method while, the untreated cuttings were used as control. The cuttings were planted in three different growing media: soil, sand, and soil + FYM in equal proportion. Results showed maximum survival (80.0 %) at 30 days in IBA- 750 ppm treated cuttings when planted in sand medium and minimum was with control in (soil + FYM). All the combinations of growth hormone and sand gave better results. In the second trial, sand media alone taken to evaluate the effect of different growth hormones, their concentrations in successive studies. Initiation of sprouting ranged from 12.00 to 15.33 days and completion of sprouting ranged from 18.00 to 25.67 days. Maximum survival (35.56 %) at 90 days was recorded in IBA 1000 ppm treated cuttings when planted in sand medium. Healthy and uniform *Dhawai* planting materials in Terai region of West Bengal can be produced by planting *Dhawai* stem cuttings treated with IBA 1000 ppm in sand medium, transplanting of the rooted cuttings to polybags containing soil and FYM in 3:1 ratio after two months with root ball and then transplanted to outfield with root ball.

Keywords: *Woodfordia fruticosa*, Vegetative propagation, Sprouting, Rooting, Survival

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