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Micropropagation of *Munronia pinnata* (Binkohomba)

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Binkohomba is a rare and endemic medicinal plant found in Sri Lanka. Propagation of this species through seeds showed various difficulties i.e. low seed viability, seasonal availability of seeds, difficulties in collection and short viability period of seeds. Therefore a suitable protocol was developed for *in vitro* propagation of the species.

Fully opened, immature leaves were collected from five leaflet type Binkohomba plants grown in the greenhouse at ITI. These leaves were surface disinfected in 0.1% $HgCl_2$ for 10 minutes and washed three times in sterilized distilled water. Then 1 cm x 1 cm explants were prepared and cultured on MS solid medium supplemented with combinations of two concentrations of BA (1 and 2 mg/L) and two concentrations of IAA (0 and 0.2 mg/L). Five explants were introduced to a jam jar containing 25 mL of medium and incubated in dark at 25 °C. Each treatment was replicated 10 times. After 6 weeks the highest number of shoot regeneration (17.9 shoots per leaf piece) was achieved in medium containing 2 mg/L BA and 0.2 mg/L IAA followed by 12.7 shoots in 1 mg/L BA and 0.2 mg/L IAA, 9.3 in 2 mg/L BA, and 6.1 in 1 mg/L BA (5% LSD = 3.2).

About 1 cm long shoot tips were collected from regenerated shoots and introduced to MS solid medium supplemented with five concentrations of BA (0, 0.5, 1, 2, & 5 mg/l) in culture tubes containing 10 mL of medium for shoot multiplication. All cultures were incubated under 16 h light at 2500 – 3000 lux light intensity. Each treatment was replicated 10 times. The highest number of shoots (14.9) per shoot tip explant was achieved in medium with 0.5 mg/L BA. Shoot regeneration was lower in other media tested i.e. 6.9 in 1 mg/L BA, 6.1 in 2 mg/L BA, 2.7 in 5 mg/L BA and 1.3 in 0 mg/L BA (5% LSD = 4.3).

Rooting of *in vitro* multiplied shoots was tested in different media with combinations of three levels of IBA (0, 0.1, & 0.2 mg/L) and two levels of activated charcoal (0 & 0.2%). About 2 cm long shoots were separated from shoot clusters and introduced to culture tubes containing 10 mL of medium. Each treatment was replicated 10 times and over 60% of shoots were rooted in the medium containing 0.2 mg/L IBA without activated charcoal. Roots not produced in other media tested. Rooted plants were successfully transferred to 2" plastic pots containing potting medium with equal portions of sand, topsoil and compost.

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