

SUMMARY

Anthurium plowmanii (Croat.) is a leaf ornamental plant with considerable economic value. The propagation *A. plowmanii* has been carried out conventionally using seeds and separation of tillers, which result in both slow and non-uniform plants. To address the growing demand for a large quantity of good quality and uniform *A. plowmanii* seeds, in vitro culture technique offers a promising solution. The success of *A. plowmanii* multiplication in vitro is determined by several factors, including media formulation and solidifying agent. This research has been conducted with a view to study the effect of the interaction between media formulations and phytigel concentrations on *A. plowmanii* microshoots multiplication; as well as to determine the best media formulation and phytigel concentration for *A. plowmanii* microshoots multiplication.

This research has been carried out experimentally using a Completely Randomized Design (CRD) on a factorial treatment pattern consisting of two factors. The first factor was the media formulation which consists of 4 levels, namely MS full strength, MS half strength, MS half strength supplemented with AB-Mix, and AB-Mix. The second factor was the concentration of phytigel which consisted of 3 levels, i.e. 2.5 g. L⁻¹, 3 g.L⁻¹ and 3.5 g. L⁻¹. Each treatment combination was repeated 6 times, which resulted in 72 experimental units. The independent variables tested involved media formulations and phytigel concentrations, whereas the dependent variable observed was the growth of *A. plowmanii* microshoots. The results showed that the interaction between media formulations and phytigel concentrations did not affect *A. plowmanii* microshoot growth. However, the media formulation used controlled the shoot elongation and root formation. The most cost-effective media formulation to induce *A. plowmanii* microshoots multiplication was half-strength MS solidified with 2.5 g.L⁻¹ phytigel.

Keywords: *AB-Mix, Anthurium plowmanii* Croat, *Microshoots, Multiplication, Murashige & Skoog*