

ABSTRACT

Kawista has several benefits, however the population was decreasing due to land conversion, decreasing interest in cultivation, and difficulties in propagation. This research attempted to determine the impact of explants, Benzyl Amino Purine (BAP), and the impact of decreasing the concentration of MS media and sucrose in preserving kawista through micro cuttings and in vitro conservation. The research was conducted at the Plant Tissue Culture Laboratory, Faculty of Agriculture, Malikussaleh University in July-November 2024, by utilizing a two-factor Completely Randomized Design (CRD). Research factor I (micro cuttings) was the type of explant and BAP concentration. The types of explants were E_1 (leaves) and E_2 (shoots) and the BAP concentration was B_0 (BAP 0 ppm), B_1 (BAP 1 ppm), B_2 (BAP 2 ppm) and B_3 (BAP 3 ppm). Research factor II (in vitro conservation) is the concentration of basic media and sucrose. The concentration of MS basic media was M_0 (MS 0), M_1 ($\frac{1}{2}$ MS), M_2 ($\frac{1}{4}$ MS) and the concentration of sucrose was S_0 (Sucrose 0%), S_1 (Sucrose 1.5%), and S_2 (Sucrose 3%). The results of the reserach showed that shoot explants and BAP concentration of 1 ppm produced the best results on micro cuttings, while in in vitro conservation, MS media without concentration reduction and 0% sucrose showed optimal results in slowing shoot growth.

Keywords: explant, micro cuttings, shoots