

Relationship Between Induction of Novel Somaclonal Variants and Types of Organogenesis in Muskmelon (*Cucumis melo* L.) cv. Birdie A.K.M. Mohiuddin¹, Zaliha Christine Abdullah², M.K.U. Chowdhury³, K. Harikrishna⁴, and Suhaimi Napis^{5*}

A comparative study on induction of somaclonal variation in muskmelon (*Cucumis melo* L.) cv. Birdie regenerants obtained through direct and indirect organogenesis was carried out. Two types of non-meristematic explants e.g. cotyledon and petiole were used for this study. A significantly lower ($p < 0.05$) frequency of variation was observed in muskmelon somaclones regenerated via direct organogenesis compared to indirect. Morphological study showed that the somaclones regenerated from proximal cotyledon, petiole and distal cotyledon explants through direct organogenesis did not show any variation in elongation medium at the concentrations of BAP 0.1, 0.3 and 0.5 mg/l, respectively. In contrast, higher number of morphologically somaclonal variants was obtained from these explants at the same concentration of BAP obtained through indirect organogenesis. Hormone (BAP) free MS medium as well as medium containing higher concentration of BAP, added to the elongation medium showed a higher percentage of somaclones with different types of novel variations e.g. early flowering, slow growth of shoots, higher number of flower formation, stubby shoot apices, flattened stem, and leaf with long and thick petiole, etc .

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Enhanced Virulence Gene Activity of *Agrobacterium* in Muskmelon (*Cucumis melo* L.) cv. 'Birdie'

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