In vitro propagation of Zingiber officinale Rosc. 'Tambunan'

Abstract

Rhizome buds of ginger (Zingiber officinale Rosc. 'Tambunan') were sterilized and cultured on Murashige and Skoog (MS) medium supplemented with different concentrations and combinations of NAA and BAP hormones (1-3 mg/L) to induce shoot multiplication and rooting formation. Shoot formation was first observed on treatment of 3.0 mg/L BAP + 1.0 mg/L NAA after 7 days of culture. This treatment also promote the highest number of proliferated shoots, 6.14 ± 0.91 shootlets per explant, with an average shoot length of 1.69 ± 0.17 cm observed after 10 weeks of culture. Rooting of ginger plantlets were significantly initiated on medium supplemented with 2.0 mg/L NAA. This treatment induced up to 34.40 ± 1.81 roots per explant with an average length of 4.52 ± 0.20 cm after 10 weeks of culture. Plantlets were successfully acclimatized in pot containing medium mixture of sand and clay (1:4) with 64% of survivality after transplanted for 3 weeks.