

In vitro responses of *Stevia rebaudiana* (Bert) to MS basal medium supplemented with 6-benzylaminopurine and indole-3-butyric acid

ABSTRACT

Propagation of *S. rebaudiana* Bertoni can be done by seed germination and stem cutting. Seed germination of this plant is not efficient due to low fertility and having heterogeneous population, thus producing unstable sweetening level. Therefore, micropropagation can overcome this problem by producing large number of plantlets within a short time. In this effort, the effect of different concentrations of plant growth regulators; auxin and cytokinin were observed to find out the multiplication responses of *S. rebaudiana* in vitro. The nodal segments were used as explant and inoculated onto full strength of Murashige and Skoog (MS) media. The medium was supplemented with different concentrations of 6-benzylaminopurine (BAP); 0, 1, 2, 3 and 4 mg L⁻¹ and indole-3-butyric acid (IBA); 0, 0.5, 1.0, 1.5 and 2.0 mg L⁻¹. After six weeks of culture, the data regarding number and length of shoots, number and length of roots and callus percentage were recorded. The results showed that among the treatment combinations, 3.0 mg L⁻¹ BAP produced the highest number of shoots per explant and application of 1.5 mg L⁻¹ IBA showed the best performance for rooting.

Keyword: 6-benzylaminopurine; Indole-3-butyric acid; In vitro responses; *Stevia rebaudiana*