

ABSTRACT

IN VITRO CULTURE OF BLACK BERRY LILY

(Belamcanda chinensis (L.) DC)

BY

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This particular study involved the *in vitro* culture of Black Berry Lily (*Belamcanda chinensis* (L.) DC) under Murashige and Skoog (1962) (MS) modified by the addition of α -naphthalene acetic acid (NAA) and/or 6-benzylamino-purine (BA) at the concentrations of 0, 0.5, 1.0, 1.5 and 2.0 mg/l. Results showed that the *in-vitro* culture of the Black Berry Lily shoots gave the best growth and development in the MS medium modified by 1.5 mg/l BA concentration with an average height of 12.90 cm. The greatest increase in sprouts (5.67) was produced by shoots cultured with 2.0 mg/l BA. The highest number of roots (25.83) was obtained from shoots cultured with NAA at 1.5 mg/l while the longest root (13.17 cm) was produced by shoots cultured in the MS solution. In addition, the *in vitro* culture of Black Berry Lily in under the MS supplemented with NAA (0.5 mg/l) + BA (2.0 mg/l) caused the most complete plant development of the shoots as indicated by height (9.68 cm), number of sprouts (3.83), number of roots (12.67) and root length (1.53 cm). Also, the highest number of callus at the base was shown by plants cultured with NAA (2.0 mg/l) + BA (1.0 mg/l). The average diameter of callus was 1.98 cm with character of a compact callus.

The *in vitro* culture of the young leaves of Black Berry Lily to induce callus formation was conducted using MS modified with NAA and/or BA at 0, 1, 2, 3, 4 and 5

mg/l concentration. Results showed that the MS modified with NAA at 4 mg/l was able to induce the *in vitro* culture to grow and develop into a callus within 30 days while the rest of the treatments were unable to do so. Likewise, when the callus was cultured in a cell suspension under MS modified with NAA and/or BA at 0, 0.5, 1.0, 1.5 and 2.0 mg/l, it was shown that the cell suspension was able to increase its volume. When it was cultured particularly under MS modified with NAA at 0.5 mg/l, the volume of cell suspension increased to 4.80.