

IN VITRO* ROOT INDUCTION OF *Catharanthus roseus

SITI NAZLIAH BINTI MOHAMED NAZIR

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ABSTRACT

IN VITRO ROOT INDUCTION OF *Catharanthus roseus*

Catharanthus roseus has high significant study due to its medicinal properties, but there is still lacks of information about the best combination of the hormones of the root induction. Thus, *C. roseus* are propagated by using plantlets through the techniques of tissue culture. The objectives of the study are to investigate the cells formation by subculturing of *C. roseus* in MS media and to evaluate the performance of *C. roseus* plantlets by using different concentration of the hormones. The subject was treated with control (C) and four different treatments that consist of different combination of hormones of auxin and cytokinin (T1, T2, T3 and T4). Begins with the preparation of the media, Murashige and Skoog (MS) media was used. The plantlets then were transferred into the media to be incubate at 25°C for 8 weeks with the photoperiod of 16:8 hours. In week 4, the white callus shows friable structure compared to the green callus that is more compact and granular in all treatments. The cross section of the stem exhibit a ring structure of discrete vascular bundle with a narrow cortex situated externally indicates a dicots plants. The leaves of the control environment is generally yellow in color while greenish color observed in the T1 to T4 treatments, especially in T4. In week 8, the roots induction proliferates more in the T4. While the concentration of cytokinin was held constant at 0.5 mg/ml, T1 with equal concentration of auxin-cytokinin mostly show the growth of shoots. T2, T3 and T4 with concentration auxin of 1.0 mg/ml, 1.5 mg/ml, 2.0 mg/ml respectively show the growth of roots. However, the most number of generated roots come from the T4.