

ABSTRACT

Azzah Hanun Abas Karend. 24020122420014. *Somatic Embryo Induction In Protocorms For Propagation Of Phalaenopsis amabilis (L.) Blume Orchid Using 6-Benzyl Amino Purine (BAP).*

Phalaenopsis amabilis (L.) Blume is an orchid with high economic value. P. amabilis orchid species has its own appeal because of its beautiful color and flower shape. Currently, its population in nature is declining due to extensive deforestation in its natural habitat, forest fires, and the conversion of land into residential areas and highways. The slow growth rate of P. amabilis orchids has also resulted in a decline in the wild. Therefore, efforts are needed to cultivate and preserve P. amabilis through somatic embryos to obtain uniform plants in large numbers. Propagation through somatic embryo induction requires hormones, such as is 6-Benzyl Amino Purine (BAP) to accelerate the cell division process. This study aims to determine the optimal BAP concentration for propagation of P. amabilis orchids through somatic embryo induction. The method used is tissue culture to induce somatic embryos in explants. Explants in the form of P. amabilis orchid protocorms, initiated using Murashige and Skoog (MS) media with different BAP concentration treatments. The development of explants was observed weekly for two months using a stereo microscope and OptiLab. The research parameters included the percentage of live and bleached explants, the formation of somatic embryos, and the morphology of P. amabilis somatic embryos over an eight-week period. This study used a single-factor Completely Randomized Design (CRD) with BAP concentrations of 0, 1, 2, 3, and 4 ppm each with 20 replications. The results of the study showed that BAP was able to increase somatic embryo induction in P. amabilis protocorms. The formation time of somatic embryo initiation was 2 weeks after planting (WAP). The highest number of somatic embryos was found in protocorms induced in media supplemented with 3 ppm BAP (65.00 somatic embryos) because it successfully increased the formation of P. amabilis somatic embryos with the highest number of somatic embryos compared to other BAP treatments (0, 1, 2, and 4 ppm). These findings can be developed to support the conservation of endangered orchids.

Keywords: BAP, Phalaenopsis amabilis (L.) Blume, protocorm, somatic embryogenesis