

***IN VITRO* REGENERATION OF *Hylocereus* sp.**

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ABSTRACT

***IN VITRO* REGENERATION OF *Hylocereus* sp.**

Hylocereus sp. (Cactaceae) or pitaya is the valuable plants in horticulture, medicinal, and food industry. Recently, rapid mass production of this species is vital as pitaya has increasing demand in the market. Conventional method becomes inefficient and gives low multiplication rate for propagation of *Hylocereus* sp. Therefore, *in vitro* regeneration of *Hylocereus* sp. using tissue culture is an alternative method to mass propagate this species. The objectives of this study are to investigate the growth performance of *Hylocereus* spp. *in vitro* by using stem explants and to determine the propagation of this species in different hormonal combination. 10 mm of sterilized stem explant were cut from subculture of *Hylocereus* sp. and was inoculated in Muroshige-Skoog (MS) media (control) and MS media supplemented with four different treatments (0.1 μ M kinetin+1.0 μ M 2,4-D, 0.1 μ M kinetin + 1.0 μ M IAA, 0.1 μ M kinetin+ 1.0 μ M IBA, 0.1 μ M kinetin+ 1.0 μ M NAA). The parameters used in this study were number of shoots and roots produced the length of roots and the height of shoots. Within six weeks of cultures in incubated room, multiple shoots and roots were developed from stem explants cultured on treatments. The result revealed that for shoot production, IBA shows the highest shoot growth (18.40 mm) but it was not significantly different (0.925) from the means while for root production, treatment with hormonal combination of IAA gave the best root (49.62 mm) and it was significantly different (0.006) with other treatments. In this study, *in vitro* regeneration of *Hylocereus* sp. was successfully achieved through organogenesis from stem explants.