Tippawan Mahawan 2013: *In Vitro* Propagation of Little Star *Pogostemon helferi* Hook f. Master of Science (Fishery Science), Major Field: Fishery Science, Department of Fishery Biology. Thesis Advisor: Associate Professor Chatcharee Kacwsuralikhit, M.S. 59 pages.

Shoot buds , axillary buds and young leaves of Little Star *Pogostemon helferi* Hook f. were surface sterilized using various concentration of NaOCl. The cleaned explants were cultured for 4 weeks on semi-solid MS medium. Then shoots were cultured for 6 weeks on semi-solid MS medium supplemented with 6-Benzyladenine (BA) at 0, 1 and 2 mg/l combination with α-Naphthalene acetic acid (NAA) at 0 and 0.25 mg/l to induced callus. The callus were cultured for 6 weeks on 4 different concentrations of MS medium which were MS, ½ MS , MS + 2 mg/l BA + 0.25 mg/l NAA and ½ MS + 2 mg/l BA + 0.25 mg/l NAA to induced plantlets.

The appropriate part of Little Star for surface sterilization in NaOCl was the shoot buds. The shoot buds which were surface sterilized with 15 minutes of 6% NaOCl followed by 10 minutes of 3% NaOCl shown 10% contamination and 88.89 % regenerated rate. The appropriate media for induced callus was semi-solid MS medium supplemented with 1 mg/l BA. The media induced 100% of callus regenerated rate, 85% survival rate. The callus which were cultured on ½MS medium shown 100% shoot regenerated rate. The average size of callus was 10.67 $\pm$ 2.54 mm within 6 weeks. One hundred percent of callus can regenerate to plantlets in ½MS medium. The number of shoots, leaves and roots developed from pieces of callus were 15.25 $\pm$ 3.83 shoots/piece, 3.13$\pm$0.82 leaves/piece, 26.00$\pm$6.72 roots/piece, respectively and the plantlets height was 1.57$\pm$0.43 cm within 6 weeks.

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