

## CHAPTER 5

### CONCLUSSION

#### 5.1 Explants sterilization

In this experiment, three types of explants including leaf, stem and rhizome were used for sterilization. After different methods of sterilization, the explants were placed in MS media and incubated at 25 °C with photosynthetic photon flux densities (PPFD) of 0-40  $\mu\text{molm}^{-2}\text{s}^{-1}$  for 16 hours. Then, contamination and regeneration was observed within 7 and 15 days, respectively. The result of the explants regeneration found that high regeneration percentage of 82.96 % and 73.33 % can be obtained from stem and rhizome, respectively. No regeneration was obtained from the leaf explants under this culture condition. The result of contamination of each types of explants after sterilization with NaOCl and HgCl<sub>2</sub> was observed and it was found that 0.1% HgCl<sub>2</sub> for 10 minutes was the best condition for explants sterilization.

#### 5.2 Shoot multiplication and callus induction

Propagation of Plookao was studies in the ½MS and MS medium contain various plant growth regulators between 2,4-D and BAP. It was found that the highest number of shoot per explants was 19.40 shoot in the MS medium supplemented with 10  $\mu\text{M}$  BAP alone. The shoot in MS medium present a normal and healthy form of stem compared to the one in ½MS. Green-Yellowish friable callus in the MS medium supplemented with 10  $\mu\text{M}$  BAP and 1  $\mu\text{M}$  2,4-D is the highest growth and size compare with ½MS supplemented with BAP and 2,4-D in the same concentration.

### 5.3 Root induction

*In vitro* raised roots with three to four nodes were excised from the proliferating shoot cluster and placed on  $\frac{1}{4}$ MS,  $\frac{1}{2}$ MS, MS and MS medium supplemented with indole-3-butyric acid (IBA) at 20  $\mu$ M. IBA alone produced better root induction than  $\frac{1}{4}$ MS,  $\frac{1}{2}$ MS, MS medium. Optimal root induction was observed on 20  $\mu$ M IBA alone.

### 5.4 Gas chromatography-mass spectrometry (GC-MS) Analysis between fresh and *in vitro* Plookao

There were 3 major components found in fresh Plookao distillation including Glucine, Indole and Silicic acid and from fresh Plookao crude extract 7 major component such as Phenol, 1,3-Benzenediol, Caryophyllene, Pyrazine, 7-Oxabicyclo [4.1.0] heptanes, Phytol and 1,2-Benenedicarboxylic acid. *In vitro* Plookao distillation was composed of 3 major components of Benzothiophene-3-carboxylic, Silicic acid and Vitamin E. There were 9 major components found in *in vitro* Plookao crude extract including Dichloropropylphosphine, Acetic acid, 2-propanamine, Caryophyllene, Oxirane, Stibine, Phytol, Stigmasterol and 1,2- Benendicarboxylic acid. The chromatogram of fresh Plookao crude extract show three peak of the same chemical found in *in vitro* Plookao crude extract, and the chromatogram of fresh Plookao distillation show one peak of the same chemical found in *in vitro* Plookao distillation.