

## CHAPTER V



### SUMMARY

The results of the present investigation can be summarized as follows :

1. Lysozyme digestion was the best method for phycocyanin extraction of *Aphanothece halophytica*.

2. The optimal conditions of *Aphanothece halophytica* to produce high yield of phycocyanin were prepared by the component of Turk Island Salt Solution + modified BG<sub>11</sub> medium to contain 0.5 M NaCl , NaNO<sub>3</sub> as a N-source at 1.5 g/l.

3. The starvation of NaNO<sub>3</sub> in Turk Island Salt Solution + modified BG<sub>11</sub> medium was reduced phycocyanin production of *Aphanothece halophytica*.

4. The optimal light intensity of *Aphanothece halophytica* to produce high yield of phycocyanin was found to be 1,500 lux. Growth of *Aphanothece halophytica* was the highest when grown under white light whereas phycocyanin content was the highest when grown under red light.

5. The optimal initial chlorophyll concentration of *Aphanothece halophytica* to produce high yield of phycocyanin was found to be 100 µg/ml. At 30 °C , the highest phycocyanin production of *Aphanothece halophytica*

was obtained.

6. The mutation of *Aphanothece halophytica* either by irradiation with UV-light or treatment with NTG couldn't increase phycocyanin content.

7. Partial purification of phycocyanin was accomplished by 2 successive runs on DEAE-cellulose column with high efficiency of phycocyanin purification. The molecular weight of phycocyanin of *Aphanothece halophytica* showing a single band by SDS-PAGE was found to be 17,000 daltons.