

## CHAPTER V

### SUMMARY

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

1. The Basal Medium was the best medium for growth of *H. pluvialis* NIES 144

2. The optimal conditions for growth of *H. pluvialis* NIES 144 were obtained by culturing the cells with initial cell number of  $20 \times 10^4$  cells per ml under light intensity of  $20 \mu \text{mol m}^{-2}\text{s}^{-1}$ , 12 h - dark, 12 h- light at  $21 - 23^\circ \text{C}$

3. The optimal conditions for astaxanthin accumulation in *H. pluvialis* NIES 144 were obtained by supplementation to the medium containing 21.9 to 43.8 mM of sodium acetate with ferrous sulphate.

4. Changing ferrous sulphate contents in 43.8mM sodium acetate supplemented medium did not affect the astaxanthin content.

5. An increase of initial light intensity from 20 to  $60 \mu \text{mol m}^{-2}\text{s}^{-1}$  in the sodium acetate supplemented medium did not change astaxanthin contents.

6. Extracting the cells with dimethylsulfoxide was the suitable method for quantitation of astaxanthin and chlorophyll because of its simple and complete extraction.

7. Partial astaxanthin analysis was accomplished by High Performance Liquid Chromatography on a reverse-phase C18 column with acetonitrile : H<sub>2</sub>O and ethylacetate solvent systems. Astaxanthin content were 0.7 and 1.27% (w/w) for green cell and red cyst cell.