CONCLUSIONS

On the basis of results and discussion on ammonia excretion by *A. chroococcum* strains, following conclusions could be drawn:

1. Large number of *A. chroococcum* strains are capable of ammonia excretion under proper conditions.

2. Ammonia excreted could be estimated more accurately by electrode method compared to the Indophenol method.

3. Among the chemical factors (sugars, inorganic nitrogen sources, trace elements, organic acids, amino acids, growth factors, pesticide, and inhibitors), Mn$^{++}$ (57%), amino acids like glutamic acid (86%), growth factor like riboflavin (80.9%) and pesticide like TMCD (32.9%) could increase ammonia excretion, whereas sodium nitrite, potassium nitrate and urea decrease ammonia excretion. Cu$^{++}$, Zn$^{++}$ and Co$^{++}$ are inhibitory to ammonia excretion.

4. GDH enzyme which is known to function under high ammonia concentrations seems to be nonfunctional under ammonia excreting conditions. Whereas, GS/GOGAT enzymes which function under ammonia limiting conditions are not affected by high ammonia and are active throughout the period of incubation.

5. Cell wall analysis show that there is not much difference between the excretor and nonexcretor strains.
except the content of lysine, aminobutyrate and phospholipid, which is more in excretor strain.

6. Exopolysaccharides content is more in excretor strains compared to the nonexcretor.

7. Lipid content increase with increase in ammonia excretion but considerable variation exists among different strains of _A. chroococcum_.

8. Nitrogen fixing ability (ammonia excretion) seems to be plasmid associated.

9. The ammonia excreted by various _A. chroococcum_ strains is not taken up by all the crops effectively. For example, maize and barley are maximally benefited on the basis of dry weight and percent nitrogen.