SUMMARY & CONCLUSION
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During the course of this research, algae growing in the Nagaon district as aquatic, terrestrial, epiphytic, endophytic and lithophytic were studied. It was interesting to note that Nagaon district was rich in Myxophycean algae as during this study as many as 87 species distributed over 25 genera and 7 families were found.

It was found that the heavy rainfall associated with high humid conditions of the district favoured better growth of Myxophycean algae particularly during the rainy season (May-Sept.) During winter season the Myxophycean algae disappeared except Oscillatoria.

It had been established that different groups of algae were present as phytoplankton at different depths of water. The Myxophycean algae were found to
grow abundantly on the water surface and up to a depth of 30 cm. only. However, lesser population of BGA species were found up to a depth of 1 meter. This sort of distribution of Myxophyceae ranging over a depth of 1 meter from the surface level might be attributed to the effect of light, temperature and water conditions.

The soil texture of this district was loamy to sandy loamy were pH ranging from 5.5-6.8. The pH of water ranged from 6.3-6.9 in fresh water. The BGA favoured to grow in these pH ranges. This study showed that 50,000 algal cells were present in 1 g of paddy field soil. It indicated that during rainy season Myxophyceae algae showed luxuriant growth on the soil surface.

The algae increased the humus content of the soil by death and decay. The Myxophyceae algae played an important role in soil fertility as they had the capacity of fixing nitrogen (Talpasayi, 1963). In the present study it has been seen that the heterocystous BGA are
lesser than the non-heterocystous BGA.

In spite of rich algal flora, particularly BGA in Assam not much work has so far been done on the algae of Assam. Therefore it is expected that when similar studies on BAG from the district of Assam are accumulated, it will be a valuable work in the field of Algal research. This has further demanded of urgency of more co-ordinated study of algae of this part of the country. It is further expected that when such schemes are taken, algae of this region will definitely help in the understanding of:

(a) algal flora of Assam

(b) their usefulness and utilization in enriching soil fertility (as \(\text{N}_2\) - fixers) and

(c) for other economic purposes.