

**PAPER-II (DIVERSITY OF ALGAE, LICHENS AND BRYOPHYTA)**

**Economic Importance of Cyanobacteria**

- 1. Cyanobacteria** are one of the early colonizers of bare and barren areas and generate such conditions that favour the growth of other organisms even in the most hostile environment.
- 2.** They are good food source for several aquatic animals. Moreover, the cyanobacteria are now-the-days exploited as food for animals including humans. Spirulina, a filamentous cyanobacterium, is now incorporated in food supplement as well as animal feed through 'single cell protein' manufacture because of its high protein content (upto 70%).

Some Indian dishes, for instance, like 'puri' 'idli' and 'sandwich' prepared by supplementing 5-10% *S. fusiformis* have been found to be palatable. In parts of Rajasthan *Anabaena* and *Spirulina* are collected from Sambar lake and used as fodder and manure.

**3.**  $N_2$ -fixation is the characteristic feature of many cyanobacteria and this function is performed by heterocysts present in them. *Aulosira*, *Nostoc*, *Anabaena*, etc. are some such cyanobacteria that are now regularly inoculated in the rice fields for nitrogen supply. This saves consumption of nitrogen fertilizers.

**4.**  $N_2$ -fixing cyanobacteria (e.g., *Nostoc*, *Anabaena*) are often used for reclamation of 'user' soils. They produce acidic chemicals for counteracting alkalinity of the soil and they supply nitrogen compounds which are generally deficient in these soils.

**5.** Species of *Anabaena* and *Aulosira* do not allow mosquito larvae to grow

nearby. Such cyanobacteria can be inoculated in village ponds to prevent the growth of mosquitoes.

**6.** Extracts of *Lyngbia* are used to manufacture antibiotic-like compounds.

**7.** Certain cyanobacteria such as *Microcystis aeruginosa* (= *Anacystis cyanea*),

*Anabaena flos-aquae* and *Aphanizomenon flos-aquae* produce toxins harmful to most aquatic animals. These toxins may prove equally harmful to humans drinking or bathing in such water.

**8.** Cyanobacteria generally grow on walls and roofs of buildings during the rainy seasons and cause discolouration, corrosion, and leakage.