

AQUA CULTURE 1994

Cultivation of plants and animals in water is called as Aquaculture.

Amongst plants, algae and some hydro-phytes are generally available in water. Algae are used as a source of many commercial products like agar-agar, caragheen, alginic acid and diatomite.

The agar-agar is obtained from algae like *Gelidium*, *Gracilaria* and *Criger* etc. The chief sources of alginic acid are *Laminaria*, *Macrocystis*, *Lessonia* and *Eisenia*. The alginates are used as thickener in food industry, cosmetics and in textile industry as printing pasters. They are also used in production of plastics and artificial fibres. Few algae are also used as food. e.g.:- *Spizogona*, *Cedogonium*, *Ulva*, *Nostoc*, *Chlorella*, *Laminaria*, *Porphyra* and *Sargassum* etc. Algae like *Fucus*, *Laminaria* and *Macrocystis* are used as fodder.

Chlorella is an antibiotic obtained from an algae *Chlorella*.

The basal media for algal culture require carbon, nitrogen, oxygen, hydrogen, sulphur, potassium, magnesium, iron and manganese. Some trace elements like cobalt, Boron, copper and Molybdenum are also needed. Algae can be cultured on solid as well as liquid media.

All the laboratory media

have to be sterilized at 121°C to kill all the micro and macro living organisms. Sterilized media are inoculated with the alga to be cultured under sterile conditions so that the medium is not contaminated. Inoculation is made by a fresh form of alga obtained from the nature. First masses of alga can be teased by sterilized needles in sterilized water and shaken well. From this mixture a single cell or filament is picked up by a fine capillary pipette and then transferred to the medium.

Trapa culture in ponds is common throughout India. In Bihar this practice is very much common in Saharsa and Darbhanga districts. In these two districts makhara (*Euryala ferox*) is cultivated extensively.

Pisciculture is a part of aquaculture which has now become an important feature of the country. Fishing industries have drawn wide attention to it and it has been added to national income considerably.

Aqua culture needs further exploitation because more than 75% of earth's surface is covered by rivers and fresh water bodies. A large number of algae of great economic value are harvested from these water bodies. There is need of makhara (*Euryala ferox*) which can be cultured extensively in shallow fresh water bodies.