Economic Importance of Algae

Algae play a small but important role in the direct economy of many countries. They are used as food, and as fertilizers.

Algae as Food

- Porphyra, Ulva, Chlorella, Alaria, Rhodymenia, Chondrus, Laniinaria and Nostoc are the most commonly used edible forms.
- People of China , Japan, etc. have long been using seaweeds and other algae as a source of food.
- Moreover Indirectly algae provide food to man through their position in food chain.
- In both fresh and marine water, algae are ingested by lower animals which in turn are eaten by fish, shellfish and sea mammals.
- Algae can be fruitfully utilized in fish culture. So there has great economic importance of algae as food in some area.

Algae Used As Fodder

- The seaweeds like Ascophyllum, Fucus and Laminaria are used as food for sheep and cattle. Because of its high mineral and vitamin content seaweed meal is very nutritious also.
- Egg-yolks of fowl fed on chopped phaeophytes are rich in carotene and iodine. So algae has it's greet fodder value.

Industrial Usefulness of Algae

- Agar, carrageenan, alginates and diatomite are derived commercially from algae.
- Many minerals are also extracted from algae.
- Agar-Agar is extracted from species of red algae primarily from Gelidium, and Gracilaria.
- It is used extensively as a culture medium in biological laboratories, as a stabilizer or emulsifier in food, cosmetics, leather, textile and pharmaceutical industries, as a lubricant for photographic films and in the medicine as a laxative.
- Carrageenan has its innumerable uses and it is usually extracted from Chondrus crispus.
- As component of tooth pastes, cosmetics and paints, as a remedy for cough Carrageenan is often used.

- Alginates are the salts of alginic acid found in the cell wall of Phaeophyi Alginates are usually extracted from Macrocystis, Laminaria, Fucus, Sargassum and Ascophyllum.
- As it has remarkable water-absorbing qualities, it finds numerous uses in various industries for thickening, suspending, stabilizing or emulsifying colloid is required.
- Diatomite is the siliceous cell walls of diatoms which are relatively insoluble accumulate in marine and fresh water basins. Since diatomite is inert chemically and has unusual physical properties, it has become a valuable product in industry. It can resist very high temper; and used in the manufacture of fire bricks which are used in blast furnaces.

Agricultural Use of Algae

- Terrestrial algae play an important role in the biology of the soil.
- Blue-green algae are the chief agents for nitrogen fixation in rice fields.
- The larger brown and red algae are used as organic fertilizers.
- These are usually richer in potassium but poorer in the phosphorus and nitrogen than farm manure.
- Blue-green algae can be used tot in reclaiming saline and alkaline waste lands.

Algae in Sewage Disposal

- Sewage consists of domestic and industrial waste.
- The disposal of sew is an aerobic process and thus requires oxygen which is released by algae.
- Sewage oxidation ponds have been created to bring about complete oxidation of sewage into mineral components with the help of oxygen released by algae during photosynthesis.
- Such oxidation ponds support the luxuriant growth of algae which help in its bacterial decomposition by providing oxygen which also suggest the economic importance of algae.

Algae in Medicines

- Brown algae are used in various goiter medicines because of their high iodine content.
- Agar-agar is used in making many kinds of pills, ointments and laxative.
- Carrageenan extract acts as a blood coagulant.
- Antibiotics from algae are known which inhibit several species of bacteria.