Date-02-02-2024 Department of Botany - B.Sc-II part - Group-B.
Online class T.T. College, Jora, Dr Sunil pandit (Home) Time - 9:30-10:30 E-Copy

**Question:-** Describe the structure and function of a pond Ecosystem?

**Ans.→** A pond as a whole serves a good Example of fresh water Ecosystem. It is a self sufficient, self regulating and very Complex ecosystem. Here the plant and animals live together. There is a great variations in the shape and size of plant and animals. Thus pond represents a Complete ecosystem. The Components of this ecosystem are as follows:-

(i) Abiotic Components:- The chief Components are heat, light, pH value of water basic inorganic and organic Compound, such as water itself, $Co_2$, $O_2$, Ca, N, phosphate amino acid etc. All these chemicals are found mixed with water.

(ii) Biotic Components:- The pond ecosystem is provided with various organism which Constitute the biotic Component. They are as follows:-

A. producer → The producers are the autotrophic green plants and some photosynthetic bacteria. They absorb radiant energy from sun and with the help of minerals derived from water and mud manufacture Complex organic food like Carbohydrate, protein, lipid etc. They are mainly rooted larger plants which include partly or Completely Submerged and floating hydrophytes. The Common plants are Trapa, Typha, sagittarea, chare etc.

B. phytoplanktons → There are some minute free floating or suspended lower plants, Majority of them are filamentous algae like zygnema, spirogyra, volvox, chlamydomonas etc.

(b) Macrophytes:- They are mainly rooted larger plants which include partly or Completely submerged and floating hydrophytes. The Common plants are Vallisneria, Marsilea, Azolla, Wolffia. etc.

B. Consumers:- The Consumers are the heterotrophs which depend for their food on the organic Compounds formed by the producers are green plants. They are of the following types:-

(i) primary Consumers or Herbivores:- They are also known as macro Consumers. they are all herbivores feeding directly on green plants. The primary Consumers are further differentiated into:- Benthos, zooplanktons, Nektons

(ii) Secondary Consumers:- They are the Carnivores. They feed on primary Consumers They are chiefly insects, Fishes and Frongs.

(iii) Teertiary Consumers :- These are some large fishes as game fish that feed on the smaller fish and thus act as teertiary or top Consumers.

C. Decomposers : The decomposers are the aquatic bacteria, flagellates and Fungi. They are distributed throughout the pond and decompose the animals and plants to simple form. Thus they play an animals important role in the return of mineral elements again to the pond.

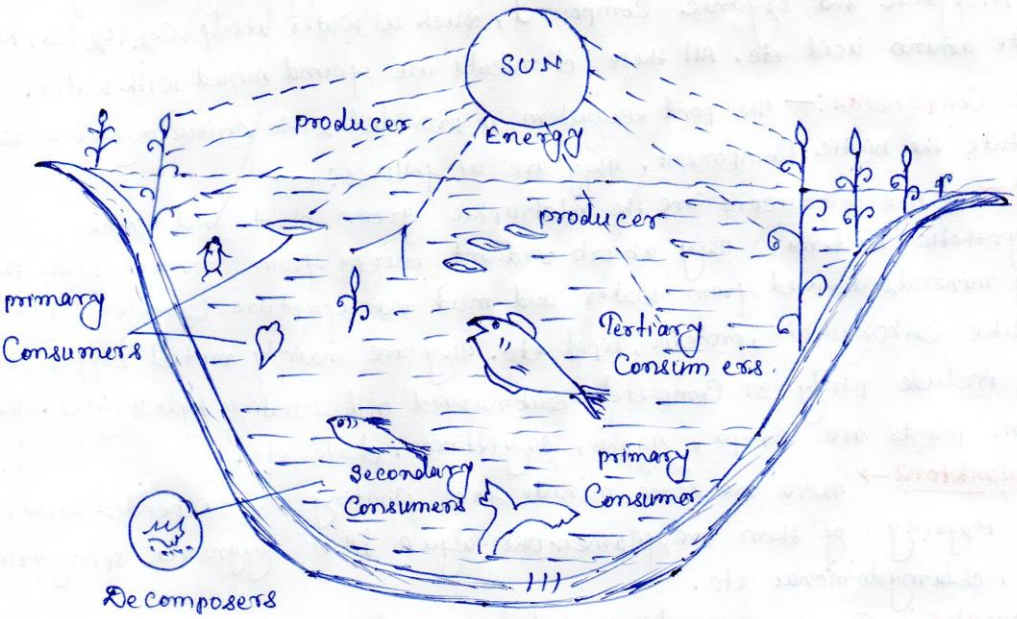


Fig - pond Ecosystem

Date- 02-02-2024 Department of Botany : B.Sc part-II Hons E-Copy
Online class . J.J. College Ara , Dr Sunil pandit. Group-B- plant pathology. Time - 10:30-11:30

Question → Describe the etiology, symptoms and Control of Little Leaf of brinjal ?

Ans → The disease is Caused by mycoplasma and Carried out by Hishimonas phycitis vector. The bitter guard, water melon and Carrot are the host for vector including brinjal.

The disease is first reported from Coimbtore in 1939 by Thomas and Krishnaswamy. The disease is very harmful and Contageous. There is hardly and variety resistant to it. It is very Common disease in Bihar.

Symptoms :— The following symptoms are observed in the diseased plant :—

1. The plants know extreme reduction in size of leaves and nodes giving a bushy apperance.
2. In a heavily infected plants the Following and fruiting is very negligible
3. Virescent and phylloid flowers are very Common as reported by Ayyangah and Rama Krishna (1972)

Control → To check the disease following treatments should be given to the plant :—

(i) The tetracycline treatment is very effective in Controlling the disease.
(ii) Spray of lederomycin at 500 ppm. has given a good result.
(iii) The use of insecticides like Diazinon or parathion with a manture of 0.1% BHC and DDT in equal ratio is also effective.
(iv) Burning of infected plants is also a preventive measure to be taken for the Controle of the disease.

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