

Economic Imp. of Bryophyta

The bryophytes are also called a Liliptione amongst of land plant, mostly occurring in moist shady places include liver warts (Hepaticopsida) having 300 genera & 6000 sps. Horn warts (Hepaticopsida) having 12 genera & 50 sps & Mosses (Bryopsida). Some bryophyte members like Peat moss (Sphagnum) cap hair moss (Polytrichum) & some liver warts (Marchantia) are not directly used to man kind they are often play in economic nature acids in soil conservation & play very imp. role in the development of vegetation.

[A]. Direct use in Bryophytes →

(i) Sphagnum the peat → The pieces of dead vegetable matter partially decomposed by water & gradually composed carbonised under pressure of the late deposit i.e. called peat.

→ It is a brown & dark colour spongy substances.

→ Sphagnum is the main source of peat because dead remains of older part of this plant grow very rapidly in each year which fill the ponds & lake.

→ Peat are cut into blocks and dried rich in carbon are used as fuel.

\* Preparation of ethyl alcohol : →

Cellulose which is present in peat is broken down into sugar through fermentation it converts in to ethyl alcohol with the help of chemical treatment.

→ Production of gas from peat with the help of by product of ammonium sulphate.

→ They are also used in manufacture of paper and artificial wood.



(ii) Used in horticulture : → Sphagnum & peat are also a great used in horticulture. when it added to soil (sandy) & other humus poor soil it improve the water holding capacity and serve as a source of organic matter.

→ Peat is used as packing material for fruits, cut vegetables, fish, egg, bulb & tubers. It protect against heat & cold.

→ They are used in industries such as acetic acid, methyl alcohol, humic carbonic acid, Paraffin are obtained from peat by different methods.

→ Stokes (1942) → Reported that peat mass a suitable material for use in surgical dressings.

(iii) Medicinal used in Bryophyta → Few sps of liver warts like marchantia polymorpha, Horn warts (Anthoceros) & mosses (Polytrichum) are used in medicine for the treatment of diseases.

→ Marchantia polymorpha is used in Pulmonary tuberculosis.

→ M. Polymorpha, M. scellata & Polytrichum commune Posses antitumour properties.

→ Polytrichum commune helps to dissolve stone of kidney & gall bladder.

→ Sphagnum is used in treatment of wound & cut.

(iv) Antibiotic activities of Bryophyta →

Antibiotic properties of bryophytes are reported by several scientists Hayer (1947) reported that some sps of mosses such as sphagnum



Parvicornis and S. Strichum which inhibit the growth of Staphylococcus aureus and Pseudomonas aeruginosa.

→ Atrichium, Minum, Polytrichum & Sphagnum shows pronounced antibiotic activity against the bacteria (Positive & Negative).

→ Two sps of mosses namely Barbula & Timmella are antibiotically active against 33 bacterial sps which includes gram positive (+), gram negative (-) & acid part bacteria, Staphylococcus aureus gram (+), Escheri coli, Salmonella typhi (-) Mycobacterium phlei (acid part bacteria).

→ They are also effect the fungi such as Aspergillus oryzae, Hemimthasporium oryzae & Curvularia buntata etc.

→ During last decade several unsaturated lipids, flavonoids, triterpenoids, phenolics & other chemical substances have been reported to be presents in bryophytes.

(v) Use of Bryophyte in experimented botany →

→ The liver warts and mosses have an imp. role as research tools in the various phases of botany such as genetics, experimented morphology & Physiology.

→ The mechanism of sex determination in plants was discovered for the first time in a liver warts (Shaemocarpus).

→ Berie (1964) made experimented studies on polypeptide in liver warts.

(vi) Bryophytes as a source of food →

The bryophyte does not directly used in human food. Sphagnum used as an ingredient in the preparation of bread.



Some English birds used some mosses as a small part of their regular diet.

(vii) Bryophytes as pollution indicators: → Both aline and air dried mosses particular sphagnum can absorb metals used as atmospheric and aquatic pollution indicators.

[B]. Indirect use of Bryophyte →

(i) As acids in soil conservation → The mosses prevent sheet erosion of soil.

(ii) Formation of soil & development of vegetation cover. The lichen & mosses play an important role in soil formation. Both are slow but efficient soil former.

(iii) Bog succession → Weaver & Clements remarked that mosses play important role in bog succession from open water to climax forest.

(iv) Role of rocks builders → Certain mosses growing in association with other aquatic plants play remarkable role as rock builders.

