

ECONOMIC IMPORTANCE OF BACTERIA

→ Economic Importance of Bacteria with special reference to decomposers, Industrial importance and Medicinal values?

Introduction ⇒ When we look back from the period of Leeuwenhoek and recall his statement "Dear God, what marvels there are in a so small creature", then it seems that Bacteria are really unique structures because it is important to men and other living organisms of the world in many ways. They do at one hand a great service to the living world while on the other hand they are known to the general public as causative agent of chronic diseases. Thus Bacteria possess both positive and negative

Importance.

Beneficial species liberate fertilizer for growing crops, destroy sewage and other wastes. Activities of Bacteria have been utilized for various industrial purposes to produce valuable chemicals, medicines and other essential products for human society.

BENEFICIAL ACTIVITIES ⇒ There are many kinds of bacteria whose presence on the earth are necessary. Following are the useful activities:-

Bacteria and Soil fertility ⇒ [As decomposers of all the living organisms found in the soil]

are the most active. They are specially abundant on the surface layers of the soil. These bacteria along with other soil organisms play a dominant role in soil fertility. In general they are succeeded in converting insoluble materials into such forms that can be utilized by higher plants. Nitrogen is an essential ingredient of all living protoplasm. It makes about 80% of the atmospheric composition. It also occurs in the soil in the form of soluble compounds of nitrogen (Nitrates). Green plants are generally unable to use the elementary nitrogen of the air. In nature, the presence of regular supply of these nitrates is insured by bacterial activities. These

(a) Bacteria are of two types:-

(1) Nitrogen fixing bacteria

(2) Nitrifying bacteria.

Nitrogen fixing bacteria are also of two types - some live free in the soil and others in the root nodules of leguminous plants. These bacteria are able to make use of atmospheric nitrogen and change it into nitrogenous product. The process of nitrogen transformation is called nitrogen fixation. The examples of such bacteria are Azotobacter Clostridium (soil living) and Bacillus species (root nodule).

Nitrifying bacteria convert free nitrogen into ammonium compounds. The