A review on role of micro-organisms in improving soil fertility and production of soil probiotics

B. Sampurna[1], Y. Geetha Priyanka[1], B. Anil Kumar[1], N. Preetham[1], K.Narasimhulu[1]

[1]Department of Biotechnology, National Institute of Technology Warangal, Warangal, Telangana, India-506004.

Mail id: bsampurna@student.nitw.ac.in

Abstract

Soil fertility of agricultural land is decreasing day by day. As a result the yield is reducing and the world is suffering from the deficient food supply with increasing population as another major problem on the other hand. Major reasons which constitute the reduction in soil fertility are the decrease in the microbial population and increase in the chemical fertilizers in the agricultural soil. Many methods have come up to increase the yield of crops but with a short time effect or costly. Sophisticated technology has also been developed but it cannot be guaranteed that it will be used by every farmer in India. A possible solution with being cost effective at the same time is use of soil probiotics. Soil probiotics are the mixture of micro-organisms with are helpful for the plants as well as increasing yield by their biological processes. These micro-organisms in the soil probiotics have both traits of helping in the supply of nutrients and also degrading the environmental pollutants present in the soil. One of the major advantage of the soil-probiotics are they do not harm the environment unlike pesticides when added to the soil. Another advantage of the soil-probiotics is they can be produced easily through a cost effective process. It also reduces the cost of raising crops as there will be decreased use of costly chemical fertilizers. In the coming future there are high chances for the soil probiotics to replace the traditional chemical fertilizers. This review mainly focuses on the methods and parameters to enhance the soil fertility.