

EC IV – BIOFERTILIZERS AND BIOPESTICIDES

Unit I

Biofertilizers – Definition, kinds, microbes as biofertilizers, Symbiotic associates – Rhizobium taxonomy, Physiology, Host cell – Rhizobium interactions, mass cultivation, inoculants and serology.

Unit II

Frankia woodland and Actinornizal nitrogen fixing plants and its host plants, characteristics, identification, cultural method and maintenance of Azospirillum, Azotobacter, Azolla and anabaena.

Unit III

Mycorrhiza - VAM association, types, occurrence, Collection, isolation and inoculum production.

Unit IV

Large scale production of biofertilizer, Organic farming Carrier materials, general outline of microbes as fertilizers, Rhizosphere effect microbial products influencing plant growth.

Unit V

Biopesticides – Definition, kinds and commerce of biopesticide, Bacillus thuringiensis, insect viruses and entomopathogenic fungi – its characteristics, physiology, mechanism of action and application.

Reference:

1. Subba Rao, N.S. 2000 Soil Microbiology. Oxford and IBH Publishing Co. Ltd.
2. Verma A and Hock B. 1995. Mycorrhiza. ISBN
3. Yaacovokan, 1994 - Axospirillum, CBC press.
4. Wicklow, D.T. and B.E. Soderstrom. 1997, Environmental and microbial relationships.. Springer ISBN.

No practical for this paper.