

Detail Syllabus for IDC Life Sciences

Biofertilizers and Vermitechnology

3CH

Unit I

Introduction to biofertilizers: Necessity, Scope and Benefits; Types of biofertilizer inoculants; Isolation and cultivation; Familiarity with culturing techniques; Handling of biofertilizer microbes and characteristic attributes such as PGP traits; Quality control of biofertilizers: BIS standards, quality assessment; Packaging, storage and shelf life

UNIT II

Introduction to Vermitechnology and its various aspects like vermiculture, vermiremediation, vermifiltration and vermicompost; Functional classification of earthworms - External feature, shapes and size, coloration and distribution of earthworm; Species of earthworm used for various purposes of vermitechnology

Unit III

Earthworm farming (vermiculture), extraction, vermicomposting harvest and processing;; Vermiwash, small scale earthworm farming for home gardens and crop production; Earthworms in nutrient cycling, water and climate regulation; Use of earthworms to manage ecosystem

References

1. Bhatt J.V. & S.R. Khambata (1959) "Role of Earthworms in Agriculture" Indian Council of Agricultural Research, New Delhi
2. Dash, M.C., B.K.Senapati, P.C. Mishra (1980) " Verms and Vermicomposting" Proceedings of the National Seminar on Organic Waste Utilization and Vermicomposting Dec. 5-8, 1984, (Part B), School of Life Sciences, Sambalpur University, Jyoti Vihar, Orissa.
3. Edwards, C.A. and J.R. Lofty (1977) "Biology of Earthworms" Chapman and Hall Ltd., London.
4. Soil microorganisms by N.S. Subba Rao, Oxford and IBH Publication Co. NewDelhi
5. Advances in Agril. Microbiology by N.S. Subbarao, Oxford and IBH Publication Co, New Delhi
6. Agricultural Microbiology by Rangaswamy G. and D.J. Bhagyaraj 1988, Oxford and IBH Publication Co. New Delhi.