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Course content/Syllabus

THEORY

(Paper code: BOT-VT-1012)

Unit-I Introduction **10 Hrs**

Introduction to vermiculture: definition, meaning, history, economic importance, their value in the maintenance of soil structure; role as four R's - reduce, reuse, recycle, and restore; its role in bio-transformation of the residues generated by human activity and production of organic fertilizers. The matter and humus cycle (product, qualities); transformation process in organic matter; Choosing the right worm. Useful species of earthworms.

Unit-II Earthworm Biology and Rearing **10 Hrs**

Key to identify the species of earthworms; Biology of *Eisenia fetida*; Taxonomy, Anatomy, physiology and reproduction of *Lumbricidae*; life cycle of *Eisenia fetida*, *Eudrilus eugeniae*: alimentation, fecundity, annual reproducer potential and limit factors (gases, diet, humidity, temperature, P^H, light, and climatic factors);

Unit-III Vermicompost Technology (Methods and Products) **10 Hrs**

Small scale earthworm farming for home gardens- Earthworm compost for home gardens; Conventional commercial composting- Earthworm Composting larger scale, Earthworm Farming (Vermiculture), Extraction (harvest), vermicomposting harvest and processing; Nutritional Composition of Vermicompost for plants, comparison with other fertilizers; Vermiwash collection, composition & use; Enemies of Earthworms, Sickness, and worm's enemies. Frequent problems, how to prevent and fix them.

PRACTICAL

(Paper code: BOT-VT-1012-P) **18 Hrs**

1. Study of sytematic position, habits, habitat & external characters of *Eisenia fetida* & *Eudrilus eugeniae*.
2. Study of vermiculture, vermiwash & vermicompost equipment, devices.
3. Preparation of vermibeds, maintenance of vermicompost & climatic conditions.
4. Harvesting, packaging, transport, and storage of vermicompost and separation of life stages
5. Study of verms diseases & enemies.
6. Study the effects of vermicompost & vermiwash on any two short-duration crop plants

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