

MSc. ZOOLOGY

Field Visit Report : Excursion to CSK HP KV Palampur



Date - September 28, 2024

Location - CSK HP KV, Palampur - 176062, HP

Purpose - To observe and understand the operations, management practices of Apiculture, Fisheries and Vermicompost unit used at the University.

Introduction

As part of our academic and professional development our class of 36 students visited the Apiculture, Fisheries Department and Vermi compost processing unit at the University.

Entomology department

Apiculture



The department is responsible for promoting bee keeping, honey extraction & production and pollination services.

Observation :

Section 1: Beekeeping and Honey Production

- 1. Bee colony management:** We observed the maintenance of healthy bee colonies, including hive inspection, queen bee management, and disease control.
- 2. Honey extraction and processing:** We witnessed the extraction, filtering, and packaging of honey.
- 3. Bee breeding programs:** We learned about the department's efforts to improve bee stocks through selective breeding.

Section 2: Pollination Services

- 1. Pollinator health:** We discussed the importance of pollinator health and the department's initiatives to protect pollinators.
- 2. Crop pollination:** We observed the department's role in providing pollination services to local farmers.
- 3. Bee-friendly crops:** We learned about the department's recommendations for bee-friendly crops

Insect Pests



Fisheries



The department is responsible for managing and conserving fishery resources, promoting sustainable fishing practices, and ensuring food security.

Observations:

- 1. Fish Hatchery:** We visited the fish hatchery, where we saw various species of fish, such as Roop Chanda, Silver carp and Golden carp being bred and reared. The hatchery staff explained the breeding process, water quality management, and disease control measures.
- 2. Fish Farm:** We observed the fish farm, where fish were cultivated in ponds. The farm manager discussed the importance of water quality, feeding practices, and harvesting techniques.
- 3. Ornamental fishes:** We also observed ornamental fishes such as Guppy, Molly,Platy and Swordtail fishes in aquarium.



Vermi compost processing unit



The unit aims to promote sustainable organic farming practices through vermicomposting, converting waste into nutrient-rich fertilizer.

Observation:

Section 1: Vermicomposting Process

- 1. Waste collection and segregation:** We observed the collection and sorting of organic waste (food waste, crop residues, and animal manure).
- 2. Bed preparation:** We saw the preparation of vermicomposting beds with adequate moisture, temperature, and aeration.
- 3. Worm introduction:** We learned about the introduction of *Eisenia fetida* (red wiggler) earthworms and their role in breaking down organic matter.
- 4. Monitoring and maintenance:** We observed regular monitoring of temperature, moisture, and pH levels to ensure optimal conditions.

Section 2: Composting Techniques

- 1. Windrow composting:** We saw the composting process using windrows, where organic waste is stacked in long rows.
- 2. Pit composting:** We observed the composting process using pits, where waste is buried and decomposed.

3. Vermibeds: We learned about the use of vermibeds, raised beds with earthworms, for efficient composting.

Section 3: Product Development and Utilization

1. Vermicompost harvesting: We witnessed the harvesting of vermicompost, a nutrient-rich fertilizer.

2. Quality control: We saw the quality control measures to ensure the compost meets standards.

3. Marketing and extension: We learned about the unit's efforts to promote vermicomposting among farmers and gardeners.



Natural cow farm



Our group visited a natural cow farm to gain hands-on experience and insight into sustainable dairy farming practices. The farm is certified organic and focuses on maintaining soil health, biodiversity, and animal welfare.

Observations:

Section 1: Farm Overview

1. Farm size: [12 hectares]
2. Number of cows: [167]
3. Breed: [himachali pahari / Desi Cow]

Section 2: Principles of Natural farming

1 Jeevamrit - It is a Sanskrit term meaning "elixir of life." In natural farming, it refers to a fermented liquid solution used as a soil conditioner, fertilizer, and plant growth promoter.

Composition:

1. Cow dung (Gomaya)
2. Cow urine (Gomutra)
3. Water
4. Jaggery or sugar

5. Flour or wheat bran

2 Beejamrit - It is a Sanskrit term meaning "seed elixir." In natural farming, it's a fermented liquid solution used to treat seeds before sowing, promoting healthy germination and plant growth.

Composition:

1. Cow dung (Gomaya)

2. Cow urine (Gomutra)

3. Water

4. Turmeric powder

3. Mulching - It is a technique of covering the soil surface with organic materials to conserve moisture, suppress weeds, and regulate soil temperature.

4. Vapsa - It is a holistic farming approach integrating vermicomposting, polyculture, and integrated farming practices to promote sustainable agriculture.

Section 3: Cow Management

1. Breeding and calving: Natural breeding, calf rearing.

2. Milking: Hand milking.



Bee Research Station, Nagrota Bagwan



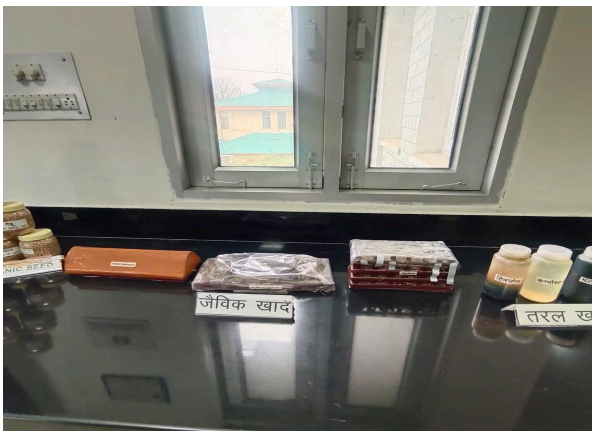
Nagrota Bagwan Bee Keeping Research station was established in 1936 under the Department of Agriculture, Punjab. It is an important station for the information and technical knowhow for beekeeping and is a pioneer for introducing exotic *Apis Mellifera* bee, commonly known as European Honey bee, in the country in 1964.

Observations:

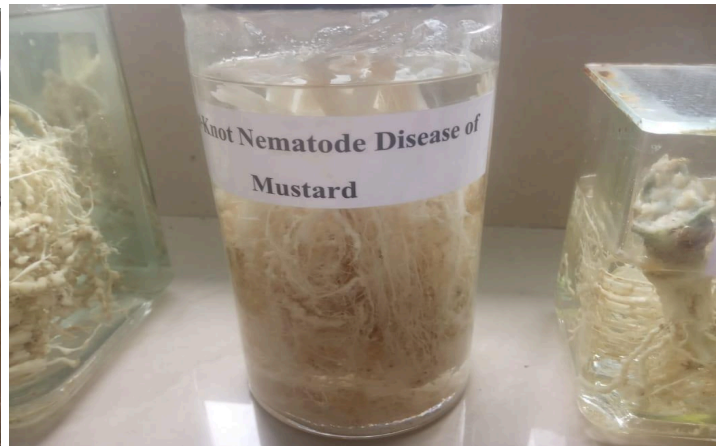
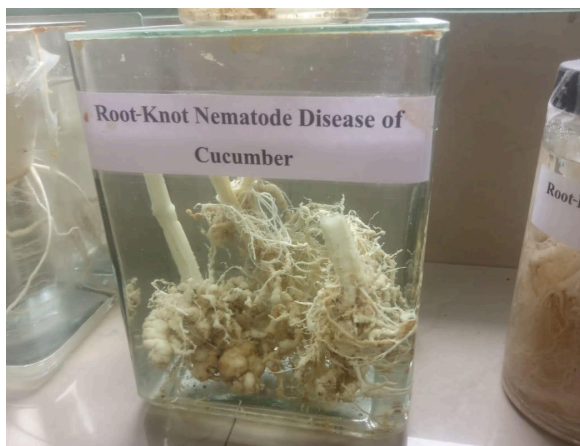
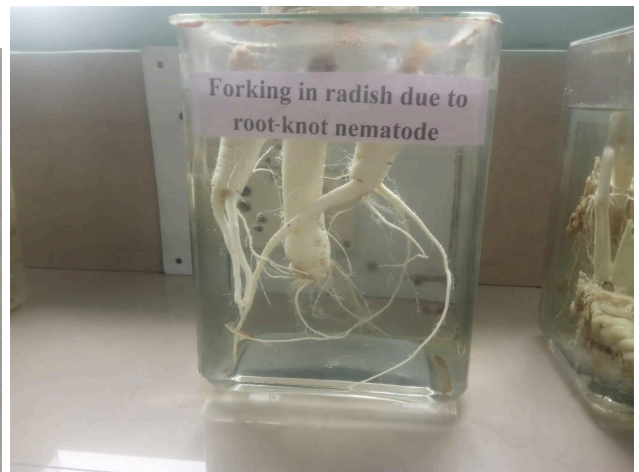
Apiary setup

1. **Location** - The apiary is situated in a secluded area with minimal human disturbance.
2. **Hive Type** - Langstroth hives with 10 frames each.
3. **Number of Hives** - 20.
4. **Bee species** - *Apis mellifera* (European Honey Bee).

Museum



Nematode lab







The field visit provided valuable insights. We gained practical knowledge and appreciation for promoting sustainable agricultural practices.

Submitted by -

MSc. Zoology 1st semester

Department of Animal sciences

