Department of Botany and Plant Protection

Tour at Dadasaheb Mokashi College, Rajmachi

Tour Report

Botanical Excursion was conducted by the Department of Botany and Plant Protection for B. Sc. II year students of Plant Protection students during academic year 2022-23 to Dadasaheb Mokashi College, Rajmachi on Friday 11th Nov. 2022. The college is located at Karad – Vita road nearly 8 Km. away from Karad.

The College was established with the vision of Hon. Late. Dadasaheb Mokashi Krishi Vikas Pratisthan. This College was established in 1999 in view to empower rural youth and farmers do as to complete with the coming era of globalization. About 120 acre of land at Rajmachi was acquired by this college.

The main objectives of this excursion were

1. Visit to entomology department and observing various preserved insects.
2. Visit to polyhouse and observe the acclimatized crop plants and horticultural plant.

Ecological conditions of Rajmachi

1. Latitude : 17.32^0 N
2. Longitude : 74.25^0 E
3. Temperature : Minimum: 27^{0}C
   Maximum: 34^{0}C
4. Annual rainfall: 866 mm
5. Soil type : Red Gravelly soil
6. Moisture : 54%

ENTOMOLOGY DEPARTEMT

We visit the Department of Entomology. In Department of Entomology, we observe and study the various insects and their life cycle. Mostly we observe the insects at,

1. White grubs
2. Stem borer
3. Fruit borer
4. Stored grain pests
5. Various butterflies and moths
6. Cockroaches
7. Grasshoppers,
8. Crickets,
9. Water beetles
10. Praying mantis
11. Honey bees
12. House flies
13. Bugs etc.

POLYHOUSE

The area of polyhouse is 1744 square feet, out of which 872 sft area is under the cultivation of *Gerbera* and remaining 872 sft area is under cultivation of hybrid variety of *Capsicum* (Bell paper). Physiological conditions of soils like pH, EC, mineral and nutrient level were regularly maintained in polyhouse.

Insect pests are controlled by using physical control method (Sticky trap method) and plant diseases are controlled by using frequent proper control methods.

The various Ornamental plants are grown under controlled conditions. The following ornamental flowering plants observed in campus of Mokashi college are

1. Rose varieties
2. Carnation
3. Chrysanthemum
4. Tagetus

5. Gerbera
6. Chaffa varieties
7. Marigold varieties
8. Bakul plant

Various fruit and vegetable plants are also grown on well irrigated and well fertilized soils are

1. Mango
2. Sapota
3. Eugenia (Jambhul)
4. Cotton
5. Moringa
6. Sugarcane
7. Tamarind

   On these plants variety of Lichen and Fungi (Polyporous) were observed.

BIOFERTILIZER DEPARTMENT

In addition to this we also visited the plant of Biofertilizer. In that section they aseptically isolate the different strains of *Trichoderma*, *Azotobacter* and *Rhizobium*. These biofertilizers are multiplied with the help of liquid broth in aseptic condition, then dried and used in powdered form for treatment to seeds.

SERICULTURE DEPARTMENT

We also visited to Sericulture department. In this department we observed sericulture process and established cocoons formation. Sericulture is the process of cultivating silkworms and extracting silk from them. The caterpillars of the domestic silkmoth (also called '*Bombyx mori*') are the most commonly used silkworm species in sericulture. Other types of silkworms (such as Eri, Muga, and Tasar) are also cultivated for the production of 'wild silks'.

VEMICOMPOSTING

Vermicomposting is simply composting with earthworms. Earthworms speed up the composting process, aerate the organic material in the

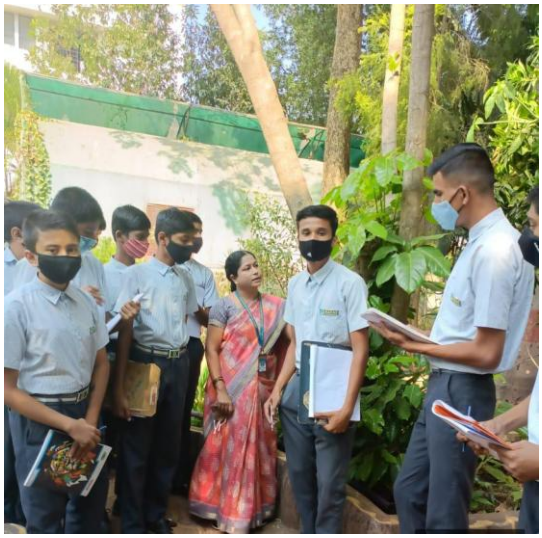
bin, and enhance the finished compost with nutrients and enzymes from their digestive tracts. Even a small bin of red worms will yield pounds of rich compost, also known as worm castings. Well developed and properly maintained vermicomposting plant was observed.

Micropropogation and successful establishment of Banana and Sugarcane plants are done in tissue culture laboratory. Usually the banana crop is being propagated by vegetative means such as suckers and bits. However, banana trees can easily adapt to tissue culture technology in the laboratory. The banana mother plant material used in tissue culture method is from areas that have recorded disease free cropping many years. In the clonal selection process of tissue culture, healthy, high yielding, quality and vigorous donor banana plants of desired varieties are identified. As a part of the initiation of tissue culture meristem tissue portion of the bud is teased but from the basal corm of donor banana plants surface sterilized and inoculated to on artificial nutrient media due to rapid cell division in the meristem region, it is devoid of systemic microbes, especially viruses and viroids. The initiated tissue will be disease free and in a controlled environment of a laboratory which can be multiplied several folds to obtain the required number of banana plants and their varieties depending upon the market demand.

Sugarcane is a suitable plant for plant biotechnology and genetic engineering tool due to its complex genomic structure, rare flowering and poor fertility. Successful protocols for shoot tip culture, callus culture, virus free plant production have been already established in this department.

In this way Plant Protection Excursion tour was successfully completed as per objectives of the syllabus.

Head
Department of Botany and Plant Protection
S. G. M. College, Karad



Photographs: Field visit at Dadasaheb Mokashi College, Rajmachi