Case Study

Rayat Shikshan Sanstha's
Maharaja Jivajirao Shinde Mahavidyalaya, Shrigonda
Department of Zoology & Botany
Field visit to Agricultural farm near the college campus at Shrigonda for
Integrated Pest Management
(Academic Year 2020 – 2021)

Zoology is the study of animals and their habitats. The knowledge of zoology that we get in classroom is rather not lively. So to study animal diversity, each student of zoology must visit place like river, pond, sea shore, sanctuaries and national parks. So there Field education are arranged to give exposure to students. Field education is equally important as classroom teaching. It adds vigor in learning processes and relieves monotones of indoor education. These Field visit help to build good repo amongst students and teachers. Students of zoology try to observe various habitat living animals in them and collect few species to preserve them in our laboratory for further study. The department organizes field visit to create scientific temper among the students. The 95 % students participated in the Field visit.

Date - 17th February, 2021.
Class – S.Y.B.Sc.
No.of students participated: 50
Place of visit: Shrigonda
Organizing Department: Department of Zoology & Botany
Faculty- Dr.D.K.Mhaske
Dr. Satish G. Parte
Dr.A.B.Tate
Dr. Waghire H.B.

Aims and Objectives-

The Field visit was organized to fulfill the following objectives-

1) To develop the habit of keen observation & enhance meaningful learning
2) To observe natural farming methods
3) To study types of agricultural pests and Major insect pests of agricultural importance.

4) To gain the idea bout Application of organic fertilizers, bio-pesticides and chemical formulations for various agricultural crops in different seasons.
5) To observe Intercropping practices.
6) To increase the love and affection about the nature.
7) To develop the interest in Zoology.

Conclusion -

As per aims and objectives the student learnt about natural farming methods & which different crops applied in Kharif & rabbi which are basic supporting platforms for study types of agricultural pests. Students and teachers discussed with farmers on various strategies of tree plantation, crop selection, plowing, soil selection and application of organic fertilizers, bio-pesticides and chemical formulations for various agricultural crops in different seasons. Student'swell explained to farmers about how diseases are caused in plants by fungi, insects and nutrient deficiency& life cycle stage ofinsect pests. Students also given information to farmers about how efficient use of land can be made by using modern techniques with traditional practices.They promote the use of organic materials.

Faculty of Botany Department Dr.H.B.Waghire visit the field of *Melia dubia* plant farm of Takali kade- Walit and discus about the plantation and diseases infected during seedling and later

Melia Dubia plantation at Takali kade- Walit

Discussing about pest management

IPM for insect pests of *Melia dubia.* Mechanical: Infested leaves can be hand plucked and destroyed if the pest is at low to medium level.

Chemical: Application of 12 % Neem oil emulsion pointed towards the underside of the leaves can reduce the population level.

Nursery pests and control

Red spider mite: The mites occur in groups beneath the leaves and feed on the epidermal tissues. Chlorosis can be easily located on the adaxial side in infested seedlings Low to medium level infestation was found during June to July and November to December. Application of Derrimax 0.3 ml/lit of water can control the mites.

Ascortis selenaria defoliator: A polyphagous defoliator attacks *Melia* seedlings during the rainy season- June to July and November to December.

The main host is *Prosopis juliflora*. It also occurs in *Peltophorum ferrugenium, Santalum album, Delonix regia* etc. At low infestation level, handpicking of caterpillars can be done to manage the pest. Adults are usually attracted to light and therefore light traps can be installed for a week after the first showers. At high infestation level Methyl parathion (2 ml/lit) can control the pest.

Mealy bug: Occassional incidence of mealy bugs was noticed at low levels in seedlings. Application of Neem oil or tobacco extract directed towards the underside of the leaves controlled the scales.

Leaf miners: Leaf miners also damage the leaves in nursery seedlings at very low levels.

A. Red spidermite

B. Clorosis on leaves due to mite feeding

C. Scale insects

D. *Ascortis selenaria* larva

E. Leaf miner Mealy bug attack on coppice shoots *Nursery diseases* .

In this way the *Melia dubia* can be saved by applying different application like hand plucking Neem oil, tobacco extract Derrimax, Methyl parathion etc.