CHAPTER- 8

SIGNIFICANT FINDINGS AND RECOMMENDATONS

Significant findings:

1. From the selected study sites, Padra, Savli, Dabhoi and Karjan, 15 species from seven genera and two families were identified.

2. Maximum species of termite were recorded from family Termitidae.

3. From Karjan, alone 13 species of termites were recorded while from Padra eight species, Savli seven species and Dabhoi nine termite species were recorded. It may be due to the soil difference of respective areas. Padra, Savli and Dabhoi are composed of sandy loam soil while Karjan has deep black soil.

4. Out of 15 species recorded, only five species were noted as pest of selected crops.

5. Sugarcane provides most ground shade as compared to remaining three crops, Castor provides lowest ground shade of all three crops, and Wheat provides more ground shade than cotton. If shade is more, relative humidity increases which promotes the termite activity.

6. From Sugarcane maximum number (five) of termite species were recorded as pest while only two *i.e.* minimum numbers were recorded damaging Castor. From Wheat and Cotton, four and three termite species were recorded as pest respectively.

7. Species *Odontotermes obesus* was found attacking all the four selected crops at both the stages (*i.e.* seedling and maturing stage).

8. Four termite pest species belong to the family Termitidae while only single species of termite pest belongs to the family Rhinotermitidae.

9. Species attacking Wheat, Cotton and Castor were all found as pests of sugarcane crop.

10. All pest species were subterranean in habit and require ground connection to maintain moisture.

11. It was also observed that, factors like food availability and moisture mainly promotes termite activity in the crop field, due to which; threat of the termite attack to the crops increases.

12. Species which was found as pests of the crop was very common and had wide range of micro habitat occupancy out side the crop fields.

13. More evidences of infestation were noted during dry periods of the season. This can be because of drying of soil surface which forces the termite towards the roots of the crop to access moisture which is an essential parameter for their survival.

14. In some crop fields termites were found as secondary pests. The plants which already suffered from primary infestation of the pests (e.g. aphids, jassids, white flies, stem borer, hoppers etc. or due to

mechanical injury were vulnerable to termite attack. *Odontotermes* sp .was found making soil sheeting on fallen plants.

Recommendations:

From the above mentioned findings following recommendations can be made:

1. Treatment of soil and seedlings should be with new generation insecticides. Neem based pesticide treatment around the roots should be preferred inside the agriculture fields.

2. Control can be done using various Termiticides present in the market. It is recommended that, controller should use legally accepted ISI marked pesticides.

3. Employing cultural practices and increasing plant vigor.

4. Clean cultivation and good hygiene should be maintained at the surroundings of the agriculture fields, this reduces termite activity.

5. Continuous monitoring of inside and surroundings of the field should be done, to assess the termite infestation and health of the crops.

6. Biological control of the termites has largely focused on fungi (e.g. *Metarhizium*) and nematodes (UNEP/FAO, 2000). Conservation of vertebrates like Hedgehog and Mongoose, reptiles like Common Garden Lizard, Fan throated lizard, birds like Drongo, Swallow,

Hoopoe, Green bee eater, Bush larks and ants like *Dorylus* sp *and Pheidole* sp. which act as bio-control agents for termites should be encouraged in the fields.

7. A small advisory committee should be set up for information as well as solution to problems related to the termite menace.