METHODOLOGY

Experiments can be done on the host plant onion, *Allium cepa*. In the beginning of this research the 4-5 fields will select in order to survey the effectiveness of thrips on onion crops from different villages of the district Aligarh and its related regions. After surveying of fields about thrips, some plants of onion will collect from different outfields by random sampling method. By using this method the intensity of thrips will measure in experimental units and then sampling plants will be chosen randomly from the central areas of the fields. A green house will establish near a laboratory in D.S. College, Aligarh for the cultivation of the plants. The green house will be kept free from weeds and grasses and it will be constructed with plastic sheet. In green house the potted plants will be arranged in a systematic linear fashion. After this the observation survey will be done on onion crop at fortnightly (15 days) interval in the first month and at weekly interval in next month’s and thereafter, at alternative days. Collected specimens will be sent to the department of Zoology in Aligarh Muslim University and some other agricultural research stations for the identification of thrips species. In this manner, the following steps will also follow:

1. The use of BOD (biological oxygen demand) incubation for rearing, of selected thrips from different sites and locations will be done.

2. A green house will prepare for the cultivation of plants under which we will observe the damaged characters performed by thrips under controlled climatic conditions.

3. The use of biological control methods for controlling of thrips such as; control of *Allium cepa* by predators, parasitoids and by the combination of predators and parasitoids.

4. The taxonomical studies will be performed with the help of binocular microscope such as; when first two leaves appear (3-4 weeks after planting), there petioles will be cut and leaves will be placed in small vials (approximately 20ml) filled with water, for the study of biology and taxonomy of thrips.

5. The rearing cages, Petri dishes, Plastic vials, plexi glass containers (20*15*10cm) with lids and insect collecting boxes will also use to facilitate the total procedure of experiments.

The use of various species of insect predators and parasitoids will be obtained from research institutes and research centers or insect suppliers for the study of exploration. Thrips will be reared from *Allium cepa* under controlled climatic conditions.
Some insect predators and parasitoids will be like these,

Predators:

- Mites, *Amblyseius cucumeris*.
- Minute pirate bug, *Orius tantillus*.
- *Aeolothrips faciatum*.

Parasitoid:

- Eulophid wasps, *Ceranisus menes*.

The various steps of methodology will follow like this:

- Survey for exploration and sampling of thrips and their natural enemies.
- Seasonal population/fluctuation of *Thrips tabaci* in onion field.
- Study on infestation and damage level of thrips in onion crop ecosystem.

The whole research experiment will be done in favour of ecosystem by biological control methods. There will no use of insecticides against thrips.

WORK PLAN

1. Make a introduction
2. Collect different reviews
3. Survey in area
4. Collect data
5. Data interpretation
6. Results, findings
7. Discussion and conclusion
8. Recommendation