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Research Article



Entomological survey of sucking insect pests of cotton in district Bahawalpur

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Abstract

A survey was conducted to evaluate month-wise comparison of infested area of above and Below Economic Injury Level (AEIL and BEIL) of sucking insect-pests of cotton in District Bahawalpur during 2012-2013. The surveyed data showed that (0.59% & 0%); (3.16% & 0.23%); (4.38% and 1.72%); (3.40% and 3.00%); (2.15% and 3.06%) and (0.50% & 1.88%) infestation on AEIL was recorded by Jassid however (8.03% & 12.35%); (9.07% & 8.47%); (9.95% & 9.73%); 9.28% & 10.54%); (9.61% & 9.82%) and (7.65% & 9.46%) area was infested BEIL by Jassid during 2012-2013. The surveyed data showed that (0.17% & 0.61%); (0.13% & 0.15%); (0.60% & 0.81%); (1.49% & 1.27%); (1.06% & 1.14%) and (0% & 0%) infestation on AEIL was recorded by Thrips, on the other hand (11.32% & 17.89%); (12.31% & 10.72%); (12.84% & 11.45%); (10.93% & 12.01%); (10.29% & 11.31%) and (4.85% & 8.06%) area was infested BEIL by Thrips. The surveyed data showed that (0% & 0%); (0.15% & 0.15%); (0.20% & 0.29%); (0.05% & 0.11%); (0.02% & 0%) and (0% & 0%) infestation on AEIL was recorded by mites however (0.13% & 0%); (0.75% & 0.56%); (0.62% & 2.17%); (0.65% & 1.36%); (0.62% & 0.69%) and (0.24% & 0.19%) area was infested BEIL by mites. At the end it was concluded that population of jassid; Thrips and mites was increasing gradually with the passage of time up to August. However the farmers are advised to be vigilant and conduct regular pest scouting of their crop with the consultation of Agriculture Officers working in their respective area to avoid high infestation.

Keywords: Pest, Scouting, Survey, Cotton, Jassid, Thrips, Mites, Bahawalpur

Introduction

Cotton (*Gossypium hirsutum* L.) is a cash crop known as silver fiber, back bone of Pakistan; considered the 4th largest producer and 3rd largest consumer throughout the world (Zeeshan et al. 2010). Cotton having a share of 1.4% in GDP, 6.7% in agriculture value addition and an important source of raw material to the textile industry. During July-March 2013-14, textile industry fetched foreign exchange earnings of US\$ 10.385 billion. The crop was cultivated on an area of 2806 thousand hectares, 2.5% less than last year's area of

2879 thousand hectares. The production stand over 12.8 million bales during this period against the target of 14.1 million bales, showing decline of 9.2% against the target and decline of 2.0% over the last year production of 13.0 million bales (Anonymous, 2013). Pest complex is recorded in cotton crop; however huge quantity of pesticides were sprayed to break out the life cycle of these pests. The results revealed that cotton crop was damaged up to 30-40% by the attack of Insect Pest (Huque, 1972). Insect pests

are major limiting factors in producing cotton and hundreds of species of insect pests found in a cotton field, but 10-15 of those species are capable of producing economical damage (Greene, 2012).The insect pests cause heavy qualitative and quantitative losses varying from 40-50% (Naqvi, 1976). The sucking insects pests included jassid (*Amarasca devastans* dist.); thrips (*thrips tabaci* Lint.); whitefly (*Bemisia tabaci*Gennadius), aphids (*Aphis gossypii* Glov.) and mites are responsible for reduction in boll production.Furthermore, bolls from healthy plants produce about 33.3% more Lint than those from normally infested plants. The continuous and indiscriminate use of synthetic pesticides led to adoption of Integrated Pest Management (IPM) approaches which are very useful potential means of ameliorating commodity losses to pests, thereby enhancing the long term sustainability in agro-ecosystem. Under IPM the host plant resistance is internationally recognized approach. The varietal resistance can be played an important role in compatible with different pest control tactics of IPM (Ali and Ahmad, 1982; Jin et al. 1999and Khan et al. 2003).However the study had been planned to evaluate month-wise comparison of infested area of Above and Below Economic Injury Level (AEIL and BEIL) of sucking pests of cottonin District Bahawalpur during 2012-2013.

Materials and Methods

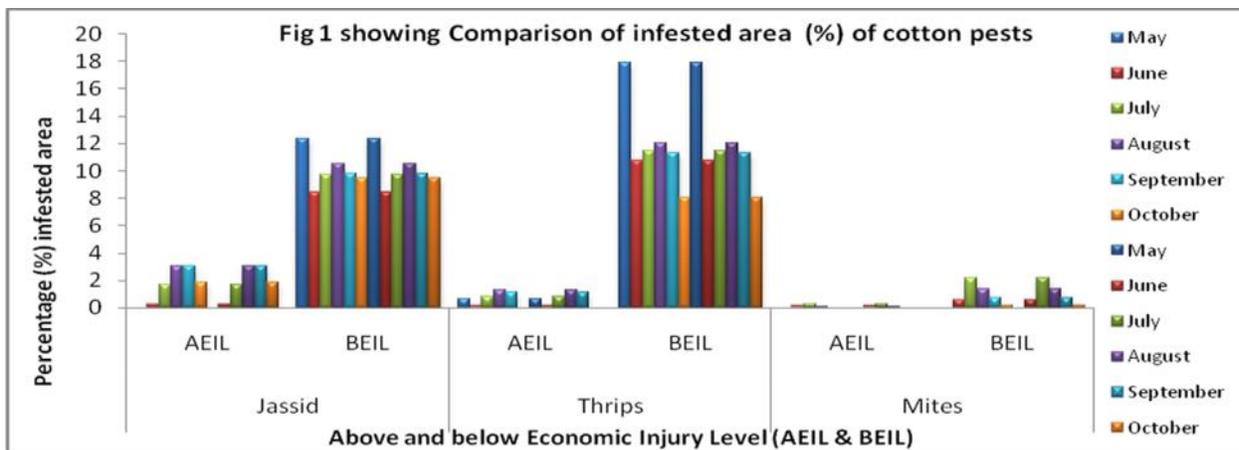
Entomological survey was conducted to evaluate month-wise comparison of infested area of Above and Below Economic Injury Level (AEIL and BEIL) against sucking insect pest of cotton in District Bahawalpur during 2012-2013.The entire District was divi

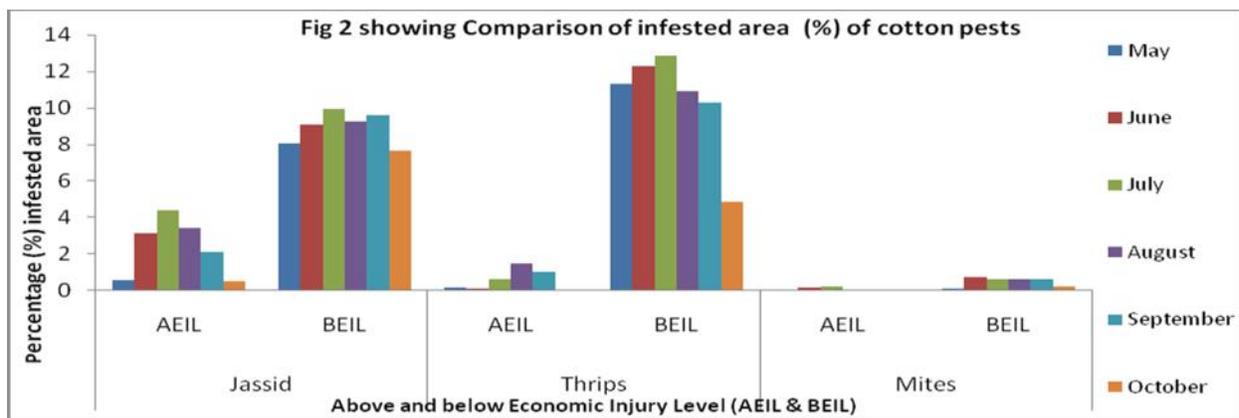
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kets and pest scouting was done by Mario Methodat morning and evening time. The EIL of both nymph and adult of jassid was 1/leaf; thrips 8-10/leaf and mites 10-15/leaf during the whole season. The attack was recorded from three upper, middle and lower portions of leaves from randomly selected plant then taken its average. When bolls were mature and opened at the end of September and later on 2-3 picking was applied in the field (Shah et. al., 2015).

Results and Discussion

From Fig. 1 and 2 the data showed that (0.59% & 0%); (3.16% & 0.23%); (4.38% and 1.72%); (3.40% and 3.00%); (2.15% and 3.06%) and (0.50% & 1.88%) infestation on AEIL was recorded by Jassid however (8.03% & 12.35%); (9.07% & 8.47%); (9.95% & 9.73%); 9.28% & 10.54%); (9.61% & 9.82%) and (7.65% & 9.46%) area was infested BEIL by Jassid during 2012-2013. The surveyed data showed that (0.17% & 0.61%); (0.13% & 0.15%); (0.60% & 0.81%); (1.49% & 1.27%); (1.06% & 1.14%) and (0% & 0%) infestation on AEIL was recorded by Thrips, on the other hand (11.32% & 17.89%); (12.31% & 10.72%); (12.84% & 11.45%); (10.93% & 12.01%); (10.29% & 11.31%) and (4.85% & 8.06%) area was infested BEIL. The surveyed data showed that (0% & 0%); (0.15% & 0.15%); (0.20% & 0.29%); (0.05% & 0.11%); (0.02% & 0%) and (0% & 0%) infestation on AEIL was recorded by mites however (0.13% & 0%); (0.75% & 0.56%); (0.62% & 2.17%); (0.65% & 1.36%); (0.62% & 0.69%) and (0.24% & 0.19%) area was infested BEIL by mites. These results were in accordance to Sontakke et al., (2000); Natwick et al., (2002), Fairbanks et al., (1999), Yunus et al., (1980), Bhatnagar and Sharma (1991).





Conclusion

At the end it was concluded that population of jassid; Thrips and mites was increasing gradually with the passage of time. However the cotton growers are advised to be vigilant in crucial time and conduct regular pest scouting of crop with the consultation of Agriculture Officers with their respective area to avoid high infestation.

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