

LEAFHOPPER INFESTATION OF VEGETABLE AND FRUIT PLANTS IN SIND-PAKISTAN DURING 1979-1980

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INTRODUCTION

Ahmed et al [1,2] studied the abundance and diversity of leafhoppers on the basis of a general survey of typhlocybinae species throughout the country. These studies showed that quite a few species of typhlocybines, along with some idiocerines were abundant on vegetable and fruit plants. The economic significance of leafhoppers thus realised, it was considered that a thorough, year-round survey of leafhoppers would yield very useful information on the biology and ecology of these pests in Pakistan. The results of first survey of this kind made in Karachi and Hyderabad (Sind) during 1979-80, are being presented here.

MATERIAL AND METHODS

The leafhopper samples from vegetable and fruit plants were collected from Karachi and Hyderabad on weekly basis from October 1979 to October 1980. Each sample was collected by making 25 sweeps of insect net on the concerned plants. All the leafhoppers collected were sucked with the help of an aspirator, and were subsequently killed by placing in the collection tube a few pieces of blotting paper, soaked in ethyl acetate. Climatic and biological factors like temperature, humidity, soil conditions, age of plant, sprayed and unsprayed fields, date and time etc., etc. were noted in case of each sample. The present discussion is a brief presentation of important aspects of the data collected during 52 weeks of study.

RESULTS AND DISCUSSION

Of the 37 species of vegetable plants surveyed, plants like onion, garlic, cabbage, cauliflower, choolai, mustard and soya did not harbour any serious infestation of leafhoppers.

Bauhinia (Bauhinia variegata) was seriously infested by *Zygina binotata*. Potato was heavily infested by *Ammosca devastans*, and *Empoasca signata*. During the period of survey, the vegetable plants namely okra and brinjal were the most seriously infested with 123.5 and 121.4 leafhoppers per sample collected respectively on them. Almost similar situation of infestation has been reported by Ahmed et al [1] to prevail throughout the country on these two plant species. Other vegetable plants observed to harbour quite substantial number of leafhoppers were clusterbean, sweet potato, french beans, tomato, sugarbeet and spinach with maximum infestation of leafhoppers per sample as 28.0, 17.2, 17.0, 16.0, 15.5, and 11.59 respectively. The highest infestations were usually observed from April to June, which is normally a period of dry months in the area, and is most favourable for leafhopper reproduction. From July to September usually intermittent rains wash off the leafhopper population, and so the leafhopper per sample counts could vary unpredictably from year to year.

Amongst the fruit plants the most heavily infested were grevia, melon, water melon, and *Zizyphus* sp. harbouring 72.8, 37.25, 25.73 and 13.5 leafhoppers per sample respectively. Guava, banana and sapota were not affected by leafhoppers. Citrus was observed affected by *Idioscopus clypealis* on only one occasion.

Out of 21 leafhopper species collected in samples, only 11 were considered regularly occurring on fruit and vegetable plants in Karachi and Hyderabad areas. Of these *Ammosca devastans* was the commonest and most abundant on nearly all except two of the plant species surveyed. Next in abundance were *Empoasca punjabensis*, *Empoasca kerri* and *Zygina sindhensis* on vegetable plants. *Zygina rubronotata* was very common on only grevia plants in serious

numbers.

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