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**Dr. R.K. Jain**

I.T. College, Botany

Department, Lucknow, India.

## Effect of natural plant products on the biographical study of whitefly.

**Dr. R.K. Jain**

### Abstract

Among virus vectors, the whitefly (*Bemisia tabaci*) as it is in always alatae due to winged in life cycle. Thus, it is more potent vector than non-alatae adults. These can move to long distances within no time and feed on different plants by settling down. Acquisition and inoculation feeding behaviour is found changed when plant is sprayed with different concentrations of natural plant products. Whiteflies start oviposition within 7 days on the abaxial surface of leaves when get suitable host. The favourite and preferred host is sunhemp (*crotolaria juncea*) Desired results were found when compared with untreated controlled plants.

**Keywords:** whitefly, *crotolaria juncea*, *Bemisia tabaci*, biographical

### 1. Introduction

Whiteflies (*Bemisia tabaci*) appear in March-April when the temperature range is 25-30°C. They infest the late winter crop particularly on different hosts, mostly on *Cucumis sativus* and *Gossypium* species. On Gurhar (*Hibiscus rosa sinensis*), the whiteflies appeared to survive the winter season as pupa forms. The incidence declines during the rains. In some cases, the oviposition of whiteflies was found completely inhibited by taking different plant products.

### Method

The plants are grown and cultivated on which experiments have to be done for the increased incidence of whiteflies depending on weather conditions. The number of potted plants is selected in replicates or plots field size is selected to be carried. Pre direct treatments as well as after oviposition treatments by spraying with different concentrations of natural products were applied. The observations were based on pre-imaginal stages and further pupal development growth behaviour. For getting better results plant cages were used to prevent the escaping of whiteflies to increase the frequency of oviposition.

### Observation, findings and statistical analysis

Natural product treatment	Egg deposition by whitefly (per 10mm <sup>2</sup> )	Observation number of days after treatment	Pupal development time after emergence	Percentage mortality
Neem oil 2%	50	7	15 days	79%
Neem soap 2%	56	6	11 days	46%
Citronella oil 2%	70	5	4 days	39%
Neem seed kernel extract 2%	61	10	2 days	44%

Correspondence:

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I.T. College, Botany

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### Discussion

Neem products are found more effective by preventing preimaginal stages emergence than treatment by citronella oil treatment. Egg deposition is found varied. Depending on the type of treatment, there is simulation also with the pupal development after emergence. The egg deposition co-relates with observation days and hence also with pupal development time. In case of neem oil (2%) egg deposition was found suitably decreased responsible for highest percentage mortality as compared to others. The percentage mortality brings the reduction in adults' number and hence disease incidence and symptomatic appearance.

### Conclusion

The biographical study of virus vector includes all aspects which is essential and may play important role in control of viral diseases.

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