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Based on Meteorological Parameters the Study of disease incidence in relation to vectors

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Abstract
The vectors most commonly taken into account and most commonly found elsewhere are whiteflies (*Bemisia tabaci*) and aphids (*Aphis gossypii*) Due to Meteorological - climatological variations then accordingly there is found change in the incoming of diseases, exposes on the plants body also varied. This is because the population of insects as vectors here get reached a climax state and hence epidemiological pattern overall is influenced. The population density of vectors could possibly be analyzed by the use of coloured traps having smear coating of vaseline to enhance the adherence probability of insect vectors.

Keywords: Vectors, whiteflies, *Bemisia tabaci*, *Aphis gossypii*, Meteorological

1. Introduction

The vectors were found to be most sensitive and hence the viruses were also influenced by seasonal climate conditions of fluctuations like temperature, RH relative humidity, sunlight intensity, and the direction, velocity and time duration of wind. The Lucknow region on which is under East-UP is with distinct periods of summer spring rain and winter seasons and thus vector migration & their life cycle accordingly gets changed.

Method

For the work to proceed, all the infrastructural requirements were made available like insect trapping boxes suitably fit on potted plants covered over. For this to provide aeration nylon net were fixed on to the window made on plastic boxes and also the insects are stably trapped. The incidence frequency of vectors was monitored during day time for different months with different the movement of vector also influence the disease gradient in the crop. Precautions were taken for the observation of climate changes with multiple parameters. The plants to be tested for disease incidence were cultivated according to seasonal variations and accordingly sown.

Observation table findings and analysis

Weather climatic changes in Lucknow.

Weather factor	Dec	Jan	April	May	Aug	Sep
Minimum temp (mean) (^{0}C)	9.1	8.9	21.8	28	25.1	19.8
Mean Maximum temp (^{0}C)	24.8	23.3	38.3	41.2	32.5	3.3
Wind velocity (Km/hr)	1.6	2.3	4	4.4	3.3	3.0
Wind direction	calm	calm/west	west	west	calm/East	calm/East
Mean Relative humidity%	81	82	39	44	85	82
Mean no. of clear days and sky	22	17	21	22	1	8
Mean cloud amount (IST)	1.0	2.0	1.1	1.2	6.0	4.0
Mean rainfall (mm)	6.2	16	0.6	1.0	12.6	8.1

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decreased. It is expressive that nymphal developmental behaviour gets changed. It is being observed that application of neem oil by its 1% and 2%, sprayed out of which 2% neem oil has given desired results.

Weather at glance in Lucknow

Month	Daily temp ⁰C.		Relative daily humidity percent (IST)	Daily wind speed Km/hr	Disease incidence percentage
	Maxm	Minm			
Dec	24.3	7.7	80	4.1	27
Jan	22.2	7.9	84	6.1	25
April	38.1	20.6	33	10.2	40
May	41.1	25.7	37	11.0	47
August	32.3	25.9	86	8.6	80
Sept	33.0	24.8	81	8.3	92

Discussion

By observing this climate variability which are most prominent, the incidence pattern of viral diseases was also found varied when results were compared with seasons of autumn, summer & spring, the disease incidence is found to be numerically different.

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