


**Pest Situation of Sugarcane
Crop of Punjab
(1ST – 15TH FEBRUARY, 2019)**



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**PEST SITUATION OF SUGARCANE CROP IN THE PUNJAB FOR THE
1ST FORTNIGHT OF FEBRUARY, 2019**

PEST SITUATION ON SUGARCANE CROP

BORERS

On overall Punjab basis, 1.00% below ETL spots have observed as compared to 0.93% spots during the past fortnight and 1.08% during same corresponding period of the last year.

PYRILLA

On overall Punjab basis 0.00% spots below ETL have observed as compared to 0.00% spots during the past fortnight and 0.81% during same corresponding period of the last year.

WHITEFLY

On overall Punjab basis 1.50% spot below ETL have observed as compared to 0.00% spot during the past fortnight and 2.16% during same corresponding period of the last year.

METEOROLOGICAL DATA OF THE FORTNIGHT

Districts	2019				2018			
	Temperature		R.H%	Rainfall (mm)	Temperature		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	17.90	8.80	83.00	9.00	21.20	9.50	78.40	1.50
Khanewal	18.10	7.50	75.80	11.00	17.50	6.30	75.50	3.00
Vehari	17.60	8.40	71.40	3.00	20.60	9.20	72.00	1.60
Lodhran	19.90	8.10	74.10	0.50	22.40	7.30	53.80	4.00
Sahiwal	19.60	7.50	69.75	4.00	20.70	7.70	68.71	4.00
Pakpattan	21.90	8.00	82.86	0.00	22.30	7.80	82.30	0.00
Okara	17.20	8.20	88.00	9.00	21.90	7.50	83.40	0.00
Bahawalpur	19.01	6.61	71.50	23.00	22.39	7.83	66.13	2.00
Bahawalnagar	20.92	7.58	67.00	0.69	23.92	8.19	56.77	0.31
R.Y.Khan	22.63	7.75	59.75	0.00	24.59	7.69	60.13	0.00
D.G Khan	21.50	8.57	64.71	0.00	24.36	9.14	61.43	1.00
M. Garh	19.62	10.97	59.29	2.00	22.00	8.42	93.28	1.00
Rajanpur	20.45	8.05	56.11	5.50	22.67	6.71	50.11	0.50
Layyah	18.66	8.08	64.24	26.00	18.30	7.60	68.20	0.00
TOT/AVG	19.64	8.15	70.54	93.69	21.77	7.92	69.30	0.00

Weather forecast for Next 15 Days

Division	Dated	29/ 1	30/ 1	31/ 1	1/ 2	2/ 2	3/ 2	4/ 2	5/ 2	6/ 2	7/ 2	8/ 2	9/ 2	10/ 2	11/ 2	12/ 2
Multan	Max.Temp.	9	12	10	9	8	8	9	10	9	7	5	5	6	6	9
	Min.Temp.	22	16	15	17	20	21	20	21	17	18	20	18	20	20	20
	Humidity %	36	53	64	56	43	37	22	19	24	14	9	10	10	10	17
Sahiwal	Max.Temp.	5	11	10	8	9	8	9	10	9	7	8	8	7	7	9
	Min.Temp.	22	20	16	18	21	22	20	20	16	17	16	17	20	20	20
	Humidity %	36	40	64	54	45	42	21	23	27	20	16	12	15	16	16
Bahawal pur	Max.Temp.	10	13	10	9	9	9	7	8	7	5	5	5	5	6	8
	Min.Temp.	23	21	17	18	20	22	21	21	18	18	17	17	19	20	20
	Humidity %	33	33	56	52	42	37	23	21	27	16	10	11	9	10	14
D.G.Khan	Max.Temp.	7	10	8	8	8	9	10	10	8	7	5	5	6	6	9
	Min.Temp.	23	16	16	18	21	22	20	20	17	18	20	18	19	20	20
	Humidity %	34	60	60	50	37	35	22	23	22	15	9	10	10	10	10
Average Cotton Zone	Max.Temp.	7.98														
	Min.Temp.	19.17														
	Humidity %	27.87														

Optimum Temperature and Humidity of Sugarcane Insects

Insects	Optimum temperature (C*)	Relative Humidity (%)
Pyrilla	29C Retard at 43C	75-84
Borer	35-41C	65-70
Mealy bug	32C	50-60
Toka	28.5-33	60-70
Black Bug	22.9C- 40.9C	46
Mite	30-36	20-40
Termites	35-40	70-80
Red rot of Sugarcane	25.5-26.5°C	60%
Whip smut of sugarcane	14 to 35°C	55-80%
Rust of sugarcane	12° to 14°	80-85%
Sugarcane Mosaic Virus	35-41	Below 50%

FORECAST FOR THE NEXT FORTNIGHT

BORERS

This pest flourish best at optimum temperature 35-41C° with relative humidity below 65-70%. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the population of this pest will decrease during the next fortnight.

PYRILLA

This pest flourish best at optimum temperature 29-40C with relative humidity 75-84%. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the population of this pest will decrease during the next fortnight.

WHITEFLY

This pest flourish best at optimum temperature 29-40C with relative humidity 75-84%. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87% It is predicted that the population of this pest may decrease during the next fortnight.

BLACK BUG

This pest flourish best at optimum temperature 22.9-40.9C with relative R. humidity 46%. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the population of this pest will remain zero during the next fortnight.

TOKA

The optimal temperature and RH conditions for the feeding activities are 28.5-33C and 60-70 C° % respectively. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the population of this pest may sustain at zero during the next fortnight.

MEALY BUG

This pest flourish best at optimum temperature 29-40C with relative humidity 75-84%. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the population of this pest may remain zero during the next fortnight.

TERMITES

The optimal temperature and RH conditions for the feeding activities are 35°-40C and 70-80% respectively. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the population of this pest will may sustain on zero during the next fortnight.

MITES

The optimal temperature and RH conditions for the feeding activities are 30°-36C and 20-40% respectively. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the population of this pest will decrease during the next fortnight.

RUST

This disease flourish best at optimum temperature 12-14C with relative humidity below 80-85%. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the present climatic conditions may be favorable for the development of this disease.

RED ROT

This disease flourish best at optimum temperature 25.5-26.5C with relative humidity 60%. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the incidence of this disease may increase in the coming fortnight.

WHIP SMUT

This disease flourish best at optimum temperature 14-35C with relative humidity 55-80%. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°,

minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. It is predicted that the present climatic conditions are favorable for the disease development so its incidence is expected to increase during the next fortnight.

MOSAIC VIRUS

This disease flourish best at optimum temperature 14-35C with relative humidity 55-80%. The current weather conditions on overall Punjab basis is as; maximum temperature 18.75 C°, minimum 7.13 C° with R. humidity 72.89%. Weather forecast for the next fifteen days is as; maximum temperature 7.98C°, minimum temperature 19.17C° with humidity 27.87%. As virus is transmitted by insect vector like aphid and whitefly. The attack of these insect pests has been reported due to which the incidence of viral disease is expected to sustain in the next fortnight.

RECOMMENDATIONS

BORERS MANAGEMENT

- ❖ Install cards of beneficial insects (*Trichogramma*) from the start of crop.
- ❖ Apply granular insecticide carbofuron 3G@ 12-14 kg/acre to the fields where infestation of sugarcane borers observed above ETL.

PYRILLA MANAGEMENT

- ❖ Promote parasitic insects (*Tetrastichus pyrillae*) against eggs of pyrilla and (*Epiricania melanoleuca*) against nymphs and adults of pyrilla.
- ❖ Cut the leaves 6 inch in length from those fields having parasite eggs and pupae in abundance and shift/hang them in fields where parasites are not found.
- ❖ Apply Granular insecticide Carbofuron 3G@ 12-14 kg/acre to the fields where infestation of sugarcane Pyrilla reaches ETL and parasites are not found. Application of granules may be done till the 6 feet height of canes.

WHITEFLY MANAGEMENT

- ❖ Cut severe infested leaves of whitefly and bury in the soil.
- ❖ Install cards of beneficial insects i.e *Chrysoperla carnea*

ECONOMIC THRESHOLD LEVELS (ETLs) OF SUGARCANE PESTS

INSECT PESTS	ECONOMIC THRESHOLD LEVEL
Borers	10% infested canes.
Pyrilla	3 per leaf.
Whitefly	10 per Leaf
Black bug	10 per sheath.
Toka	3 per sweep
Mites	10 per Leaf
Mealy bug	Only presence
Termites	10% damage
Rodents	5 live burrows per acre
Diseases	Only presence