


**Pest Situation of Sugarcane
Crop in Punjab
(1ST – 15TH MAY 2019)**



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

PEST SITUATION ON SUGARCANE CROP

BORER

On overall Punjab basis 2.87% spots above ETL have been observed as compared to 1.90% spots during the past fortnight and 3.09% during same corresponding period of the last year while 27.75% spots below ETL have been observed as compared to 19.15% spots during the past fortnight and 36.45% during same corresponding period of the last year.

PYRILLA

On overall Punjab basis 0.10% spots above ETL have been observed as compared to 0.00% spots during the past fortnight and 1.24% during same corresponding period of the last year while 4.78% spots below ETL have been observed as compared to 3.36% spots during the past fortnight and 18.27% during same corresponding period of the last year.

WHITEFLY

On overall Punjab basis 0.48% spots below ETL have been observed as compared to 0.00% spot during the past fortnight and 0.09% during same corresponding period of the last year.

BLACK BUG

On overall Punjab basis 1.44% spots above ETL have been observed as compared to 1.32% spots during the past fortnight and 1.85% during same corresponding period of the last year while 22.68% below ETL spots have been observed as compared to 26.46% spots during the past fortnight and 37.33% during same corresponding period of the last year.

MITES

On overall Punjab basis 0.00% spots below ETL have been observed as compared to 0.00% spot during the past fortnight and 0.26% during same corresponding period of the last year.

TOKA

On overall Punjab basis 0.10% spots above ETL have been observed as compared to 0.00% spots during the past fortnight and 0.00% during same corresponding period of the last year while 1.34% spots below ETL have been observed as compared to 0.00% spots during the past fortnight and 3.44% during same corresponding period of the last year.

RED ROT

On overall Punjab basis 1.34% spot of Red Rot has observed as compared to 1.46% spots above ETL during the past fortnight and 1.41% during same corresponding period of the last year.

WHIP SMUT

On overall Punjab basis 4.02% spot of Whip Smut has observed as compared to 3.07% spots above ETL during the past fortnight and 6.18% during same corresponding period of the last year.

RUST

On overall Punjab basis 0.10% spot of Rust has observed as compared to 0.00% spots above ETL during the past fortnight and 0.00% 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	38.30	25.50	66.20	Traces	38.10	26.90	50.70	0.00
Khanewal	39.30	24.30	55.60	0.00	38.30	23.90	37.80	0.00
Vehari	39.50	25.50	62.20	0.00	38.50	24.70	57.40	0.10
Lodhran	39.60	24.90	59.50	4.00	39.10	25.50	35.00	0.10
Sahiwal	40.50	23.30	45.00	0.00	37.50	23.20	45.50	0.00
Pakpattan	40.70	25.90	41.71	0.00	33.00	25.00	45.00	0.00
Okara	43.00	24.00	78.00	0.00	41.50	26.80	53.00	0.00
Bahawalpur	39.04	23.91	40.06	2.00	40.41	26.69	39.04	2.00
Bahawalnagar	39.92	25.31	31.38	0.00	41.00	23.69	29.15	0.31
R.Y.Khan	42.19	24.37	61.50	1.50	43.46	26.81	67.19	0.00
D.G Khan	40.50	25.75	62.62	0.00	43.00	28.07	58.65	0.00
M. Garh	39.44	26.64	27.38	0.00	40.39	25.01	39.61	0.00
Rajanpur	41.92	25.28	63.75	11.00	39.70	24.73	59.87	0.00
Layyah	37.50	23.83	42.00	3.00	40.50	24.66	39.50	0.00
TOT/AVG	40.10	24.89	52.64	21.50	39.60	25.40	46.96	2.51

Weather forecast for Next 15 Days

Division	Dated	15 /5	16 /5	17 /5	18 /5	19 /5	20 /5	21 /5	22 /5	23 /5	24 /5	25 /5	26 /5	27 /5	28 /5	29 /5
Multan	Max. Temp.	35	34	32	36	39	41	38	40	40	39	39	39	39	39	39
	Min. Temp.	26	24	24	25	26	25	29	30	31	31	31	31	31	31	31
	Humidity %	35	39	42	33	22	20	11	7	6	12	13	13	15	9	15
Sahiwal	Max. Temp.	35	33	33	36	39	40	39	40	42	40	39	39	40	40	40
	Min. Temp.	24	24	23	23	25	25	28	29	30	31	31	31	31	31	31
	Humidity %	31	43	39	30	22	19	10	9	6	12	12	16	17	12	17
Bahawalpur	Max. Temp.	34	35	34	36	39	40	37	40	41	40	40	41	41	41	42
	Min. Temp.	27	26	25	25	27	27	27	30	31	31	29	30	31	31	31
	Humidity %	31	33	38	31	22	20	13	8	9	11	16	16	14	9	13
D.G. Khan	Max. Temp.	36	35	32	36	40	41	38	39	40	38	38	39	39	39	39
	Min. Temp.	27	26	25	25	26	26	29	30	31	32	32	32	32	32	32
	Humidity %	31	36	42	32	20	19	11	7	7	11	12	11	14	8	13
Average Cotton Zone	Max. Temp.	38.23														
	Min. Temp.	28.47														
	Humidity %	19.08														

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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. It is predicted that the population of this pest will increase 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. It is predicted that the population of this pest will increase 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. It is predicted that the population of this pest may initiate 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. It is predicted that the population of this pest will increase 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. It is predicted that the population of this pest may sustain as such 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 South Punjab basis is as; maximum temperature 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. It is predicted that the population of this pest may initiate 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. It is predicted that the population of this pest will remain as such 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. 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 40.10C°, minimum 24.89 C° with R. humidity 52.64%. Weather forecast for the next fifteen days is as; maximum temperature 38.23C°, minimum temperature 28.47 C° with humidity 19.08%. As virus is transmitted by insect vector like whitefly. The attack of whitefly has not yet reported due to which the incidence of viral disease is expected to sustain as such 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*

BLACK BUG MANAGEMENT

- ❖ Avoid the cane fields from water stress.
- ❖ Apply granular insecticide carbofuron 3G@ 12-14 kg/acre

RED ROT MANAGEMENT

- ❖ Select the seed for cultivation from diseased free crop.
- ❖ Cultivate resistant varieties.
- ❖ Cut and burn the diseased plants with stubbles.
- ❖ If diseased plants are observed in the fields then avoid ratooning of crop.
- ❖ Sowing of cane after dipping the sets in the solution of Thiophenate Methyl.

RUST MANAGEMENT

- ❖ Cultivate resistant varieties.
- ❖ Cut and burn the diseased plants/ Plant pests.

TOKA MANAGEMENT

- ❖ For the management of Toka, eradicate the weeds along with water channels and field boundaries.
- ❖ In case its population exceeds ETL, dusting should be made with suitable insecticides around field bunds of Sugarcane.

WHIP SMUT MANAGEMENT

- ❖ Cut and burn the diseased plants / Plant pests

ECONOMIC THRESHOLD LEVELS (ETLs) OF SUGARCANE PESTS

INSECT PESTS	ECONOMIC THRESHOLD LEVEL
Borers	10% infested canes.
Pyrrilla	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