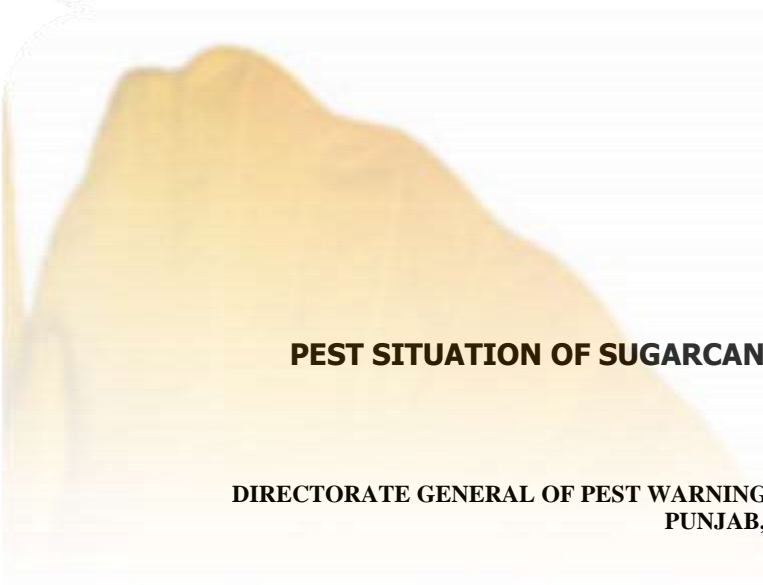




**Pest Situation of Sugarcane
Crop of Punjab
(1ST -15TH SEPTEMBER, 2018)**



Directorate General
Pest Warning & Quality Control of
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PEST SITUATION OF SUGARCANE CROP IN THE PUNJAB FOR THE

1ST FORTNIGHT OF SEPTEMBER, 2018**PEST SITUATION ON SUGARCANE CROP****BORERS**

On overall Punjab basis, 0.09% above ETL of borers has observed as compared to 0.36% spots during the past fortnight and 0.54% during same corresponding period of the last year. Similarly, 17.73% below ETL spots have observed as compared to 21.68% spots during the past fortnight and 23.35% during same corresponding period of the last year.

PYRILLA

On overall Punjab basis 2.06% above ETL of has observed as compared to 1.37% spots during the past fortnight and 0.97% during same corresponding period of the last year. Similarly, 14.68% spots below ETL have observed as compared to 14.39% spots during the past fortnight and 18.81% during same corresponding period of the last year.

WHITEFLY

On overall Punjab basis 6.27% above ETL of Whitefly has observed as compared to 3.46% spots during the past fortnight and 8.11% during same corresponding period of the last year. Similarly, 22.74% spot below ETL have observed as compared to 18.21% spot during the past fortnight and 27.68% during same corresponding period of the last year.

BLACK BUG

On overall Punjab basis 0.18% spots above ETL of Black Bug has observed as compared to 0.00% spots during the past fortnight and 0.00% during same corresponding period of the last year. Similarly, 5.37% below ETL have observed as compared to 5.46% spots during the past fortnight and 5.41% during same corresponding period of the last year.

MITES

On overall Punjab basis 0.18% spot above ETL of Mites has observed as compared to 0.18% spots during the past fortnight and 0.00% during same corresponding period of the last year. Similarly, 2.06% below ETL has observed as compared to 1.18% spots during the past fortnight and 1.30% during same corresponding period of the last year.

TOKA

On overall Punjab basis 4.57% spots below ETL has observed as compared to 4.64% spots during the past fortnight and 8.00% during same corresponding period of the last year.

MEALY BUG

On overall Punjab basis 0.72% of Mealy bug have observed as compared to 0.46% spots above ETL during the past fortnight and 0.11% during same corresponding period of the last year.

RED ROT

On overall Punjab basis 5.91% spot of Red Rot has observed as compared to 4.19% spots above ETL during the past fortnight and 9.30% during same corresponding period of the last year.

WHIP SMUT

On overall Punjab basis, 1.88% of Whip Smut has observed as compared to 3.10% spots during the past fortnight and 1.62% during same corresponding period of the last year.

MOSAIC VIRUS

On overall Punjab basis, 0.00% of Mosaic Virus has observed as compared to 1.18% spots above ETL during the past fortnight and 0.00% during same corresponding period of the last year.

RUST

On overall Punjab basis, 0.09% of Rust has observed as compared to 0.00% spots above ETL during the past fortnight and 0.86% during same corresponding period of the last year.

METEOROLOGICAL DATA OF THE FORTNIGHT

Districts	2018				2017			
	Temperature		R.H%	Rainfall (mm)	Temperature		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	35.20	27.40	76.00	0.00	34.10	27.50	77.90	40.00
Khanewal	37.80	28.20	55.70	0.00	37.60	27.50	51.80	0.00
Vehari	34.10	30.00	51.50	0.00	37.40	27.60	53.60	0.00
Lodhran	36.10	28.40	52.70	0.00	34.90	26.10	64.50	28.00
Sahiwal	36.80	27.10	66.50	0.00	37.00	24.90	65.64	0.00
Pakpattan	35.10	24.70	82.89	0.00	34.80	24.70	83.10	0.00
Okara	36.50	28.20	81.00	0.00	37.50	25.70	82.00	1.80
Bahawalpur	36.75	27.51	61.80	0.00	36.60	26.48	69.07	8.00
Bahawalnagar	37.82	28.82	51.50	0.00	36.77	25.91	66.14	42.00
R.Y.Khan	39.56	26.69	64.53	0.00	36.46	26.44	63.34	27.00
D.G Khan	27.43	39.43	51.46	0.00	27.71	37.00	60.36	0.00
M. Garh	39.94	28.07	64.66	0.00	38.01	29.36	61.96	0.00
Rajanpur	38.38	27.70	47.20	0.00	35.92	24.67	49.60	0.00
Layyah	39.73	27.66	42.33	0.00	38.60	26.53	42.80	0.00
AVERAGE	36.52	28.56	60.70	0.00	35.96	27.17	63.70	146.80

Weather forecast for Next 15 Days

Division	Dated	13/ 9	14/ 9	15/ 9	16/ 9	17/ 9	18/ 9	19/ 9	20/ 9	21/ 9	22/ 9	23/ 9	24/ 9	25/ 9	26/ 9	27/ 9
Multan	Max.Temp.	39	40	37	37	40	37	38	37	37	38	38	37	37	36	36
	Min.Temp.	26	26	26	26	27	28	29	29	29	29	29	29	28	28	27
	Humidity %	36	31	37	35	28	15	13	15	14	14	13	17	21	19	16
Sahiwal	Max.Temp.	39	39	38	38	39	35	36	36	36	37	37	37	36	36	36
	Min.Temp.	26	26	23	25	24	27	27	27	27	27	27	27	27	27	27
	Humidity %	34	32	31	31	28	15	13	14	13	14	12	14	19	17	15
Bahawalpur	Max.Temp.	38	38	36	36	39	37	38	36	37	37	37	36	36	36	36
	Min.Temp.	27	26	25	26	26	25	26	25	24	24	24	25	25	25	25
	Humidity %	37	35	39	38	29	19	16	19	16	16	16	20	23	26	22
D.G.Khan	Max.Temp.	39	40	36	37	40	37	37	37	37	38	37	37	36	36	36
	Min.Temp.	26	27	26	26	28	28	29	29	29	29	29	29	29	28	28
	Humidity %	34	33	42	34	25	11	12	13	14	14	14	17	22	21	20
Average Cotton Zone	Max.Temp.	37.20														
	Min.Temp.	26.80														
	Humidity %	22.05														

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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. 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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. 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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. It is predicted that the population of this pest may increase 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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. It is predicted that due to increasing trend in temperature 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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05% It is predicted that the population of this pest may sustain 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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. It is predicted that the population of this pest may increase 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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. 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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. It is predicted that the population of this pest will increase during the next fortnight subject to dry weather.

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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. It is predicted that the present climatic conditions are not 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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. 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 36.52 C°, minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. 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 36.52 C°,

minimum 28.56 C° with R. humidity 60.70%. Weather forecast for the next fifteen days is as; maximum temperature 37.20 C°, minimum temperature 26.80 C° with humidity 22.05%. 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 increase 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

RUST MANAGEMENT

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

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