



**Pest Situation of Sugarcane  
Crop in Punjab  
(1<sup>ST</sup> – 15<sup>TH</sup> DECEMBER 2019)**

**PEST SITUATION OF SUGARCANE CROP IN THE PUNJAB FOR THE****1<sup>ST</sup> FORTNIGHT OF DECEMBER, 2019****PEST SITUATION ON SUGARCANE CROP****BORER**

On overall Punjab basis 0.00% spots above ETL have been observed as compared to 0.12% spots during the past fortnight and 0.00% during same corresponding period of the last year while 3.73% spots below ETL have been observed as compared to 12.46% spots during the past fortnight and 0.32% during same corresponding period of the last year.

**PYRILLA**

On overall Punjab basis 0.00% spots above ETL have been observed as compared to 0.12% spots during the past fortnight and 0.16% during same corresponding period of the last year while 3.90% spots below ETL have been observed as compared to 11.28% spots during the past fortnight and 4.20% during same corresponding period of the last year.

**WHITEFLY**

On overall Punjab basis 0.00% spots above ETL have been observed as compared to 1.18% spots during the past fortnight and 0.00% during same corresponding period of the last year while 2.27% spots below ETL have been observed as compared to 8.70% spots during the past fortnight and 1.13% during same corresponding period of the last year.

**BLACK BUG**

On overall Punjab basis 0.49% spots below ETL have been observed as compared to 0.94% spots during the past fortnight and 0.00% during same corresponding period of the last year

**MITES**

On overall Punjab basis 0.00% spots below ETL spots have been observed as compared to 0.47% spots during the past fortnight and 0.00% during same corresponding period of the last year.

**TOKA**

On overall Punjab basis 0.32% spots below ETL have been observed as compared to 1.53% spots during the past fortnight and 0.00% during same corresponding period of the last year

**RED ROT**

On overall Punjab basis 2.11% spot of Red Rot has observed as compared to 7.17% spots above ETL during the past fortnight and 2.26% during same corresponding period of the last year.

**WHIP SMUT**

On overall Punjab basis 0.49% spot of Whip Smut has observed as compared to 0.24% 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.		
<b>Multan</b>	22.40	10.90	78.80	2.00	23.40	9.20	84.20	0.00
<b>Khanewal</b>	22.30	9.10	68.10	12.00	23.80	11.50	69.70	3.30
<b>Vehari</b>	20.90	10.20	71.30	8.00	22.90	11.10	63.40	11.00
<b>Lodhran</b>	23.00	10.40	70.00	4.00	21.50	13.30	66.50	5.00
<b>Sahiwal</b>	23.00	9.00	66.00	12.00	26.00	10.00	68.00	0.00
<b>Pakpattan</b>	22.00	10.00	69.00	3.00	24.00	14.00	66.00	0.00
<b>Okara</b>	20.00	9.50	71.00	6.00	23.00	10.00	69.00	0.00
<b>Bahawalpur</b>	22.53	8.62	70.17	1.50	22.30	10.53	74.08	0.00
<b>Bahawalnagar</b>	20.00	9.00	71.00	1.20	20.00	9.00	71.00	1.20
<b>R.Y.Khan</b>	26.13	9.00	85.75	0.00	25.12	11.50	85.00	0.00
<b>D.G Khan</b>	23.43	10.14	45.29	1.00	25.64	12.00	48.25	0.00
<b>M. Garh</b>	23.98	10.43	74.93	0.00	25.00	9.51	64.05	0.00
<b>Rajanpur</b>	22.83	9.96	62.15	5.00	18.56	10.68	44.15	3.00
<b>Layyah</b>	21.75	7.64	81.28	6.00	22.60	8.90	79.90	6.00
<b>TOT/AVG</b>	<b>22.45</b>	<b>9.56</b>	<b>70.34</b>	<b>61.70</b>	<b>23.13</b>	<b>10.80</b>	<b>68.09</b>	<b>29.50</b>

## Weather forecast for Next 15 Days

Division	Dated	16/12	17/12	18/12	19/12	20/12	21/12	22/12	23/12	24/12	25/12	26/12	27/12	28/12	29/12	30/12
Multan	Max. Temp.	20	21	21	22	21	21	20	20	20	19	19	19	19	19	19
	Min. Temp.	8	7	6	9	9	9	8	8	8	8	9	8	8	8	8
	Humidity %	41	28	32	39	39	29	25	20	19	19	18	17	17	16	15
Sahiwal	Max. Temp.	19	20	18	20	19	18	18	17	18	18	18	18	18	18	18
	Min. Temp.	7	5	5	7	8	9	8	8	8	9	9	8	8	9	9
	Humidity %	50	40	33	40	47	44	34	24	24	21	19	23	20	19	19
Bahawalpur	Max. Temp.	20	20	20	21	20	21	20	20	20	19	20	20	19	19	19
	Min. Temp.	9	7	6	10	11	12	7	6	6	7	8	8	8	8	8
	Humidity %	49	38	41	41	42	38	23	22	21	18	19	20	19	17	17
D.G. Khan	Max. Temp.	21	22	22	22	22	23	20	20	20	20	20	19	19	19	19
	Min. Temp.	8	6	7	9	11	9	9	7	7	8	9	8	8	8	8
	Humidity %	39	26	34	36	32	27	25	21	18	18	17	17	16	16	14
Average Cotton Zone	Max. Temp.	<b>19.68</b>														
	Min. Temp.	<b>8.02</b>														
	Humidity %	<b>26.87</b>														

## 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. It is predicted that the population of this pest will 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. It is predicted that the population of this pest will decrease 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. 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 Punjab basis is as; maximum temperature 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. It is predicted that the population of this pest may sustain as such 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. It is predicted that the population of this pest will may sustain as such 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is

as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. It is predicted that the population of this pest will remain 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. It is predicted that the present climatic conditions may be favorable for the development of this disease in the coming fortnight.

### **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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. It is predicted that the incidence of this disease may decrease 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. It is predicted that the present climatic conditions are not 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 22.459C°, minimum 9.56 C° with R. humidity 70.34. Weather forecast for the next fifteen days is as; maximum temperature 19.68 C°, minimum 8.02 C° with R. humidity 26.87. Incidence of this disease is not expected during the coming 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

## 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.
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