



**Pest Situation of Sugarcane  
Crop in Punjab  
(15<sup>TH</sup> – 31<sup>ST</sup> DECEMBER 2019)**

**PEST SITUATION OF SUGARCANE CROP IN THE PUNJAB FOR THE  
2<sup>ND</sup> FORTNIGHT OF DECEMBER, 2019**

**PEST SITUATION ON SUGARCANE CROP**

**BORER**

On overall Punjab basis 10.97% spots below ETL have been observed as compared to 3.73% spots during the past fortnight and 1.68% during same corresponding period of the last year.

**PYRILLA**

On overall Punjab basis 8.36% spots below ETL have been observed as compared to 3.90% spots during the past fortnight and 4.61% during same corresponding period of the last year.

**WHITEFLY**

On overall Punjab basis 2.04% spots below ETL have been observed as compared to 2.27% spots during the past fortnight and 0.42% during same corresponding period of the last year.

**BLACK BUG**

On overall Punjab basis 1.30% spots below ETL have been observed as compared to 0.49% spots during the past fortnight and 0.00% during same corresponding period of the last year

**TOKA**

On overall Punjab basis 0.93% spots below ETL have been observed as compared to 0.32% spots during the past fortnight and 0.00% during same corresponding period of the last year

**RED ROT**

On overall Punjab basis 5.02% spot of Red Rot has observed as compared to 2.11% spots above ETL during the past fortnight and 3.56% during same corresponding period of the last year.

**WHIP SMUT**

On overall Punjab basis 0.19% spot of Whip Smut has observed as compared to 0.49% 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	22.40	10.90	78.80	2.00	23.40	9.20	84.20	0.00
Khanewal	22.30	9.10	68.10	12.00	23.80	11.50	69.70	3.30
Vehari	20.90	10.20	71.30	8.00	22.90	11.10	63.40	11.00
Lodhran	23.00	10.40	70.00	4.00	21.50	13.30	66.50	5.00
Sahiwal	23.00	9.00	66.00	12.00	26.00	10.00	68.00	0.00
Pakpattan	22.00	10.00	69.00	3.00	24.00	14.00	66.00	0.00
Okara	20.00	9.50	71.00	6.00	23.00	10.00	69.00	0.00
Bahawalpur	22.53	8.62	70.17	1.50	22.30	10.53	74.08	0.00
Bahawalnagar	20.00	9.00	71.00	1.20	20.00	9.00	71.00	1.20
R.Y.Khan	26.13	9.00	85.75	0.00	25.12	11.50	85.00	0.00
D.G Khan	23.43	10.14	45.29	1.00	25.64	12.00	48.25	0.00
M. Garh	23.98	10.43	74.93	0.00	25.00	9.51	64.05	0.00
Rajanpur	22.83	9.96	62.15	5.00	18.56	10.68	44.15	3.00
Layyah	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 South 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 South 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 South 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 South 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 South 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 South 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 South 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 South 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 South 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 South 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 South 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 South 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

#### **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 Thiaphenate Methyl.

### **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**

<b>INSECT PESTS</b>	<b>ECONOMIC THRESHOLD LEVEL</b>
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