



**Pest Situation of Sugarcane  
Crop in Punjab  
(15<sup>TH</sup> – 30<sup>TH</sup> NOVEMBER 2019)**

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

On overall Punjab basis 0.12% spots above ETL have been observed as compared to 1.34% spots during the past fortnight and 0.00% during same corresponding period of the last year while 12.46% spots below ETL have been observed as compared to 12.39% spots during the past fortnight and 1.47% during same corresponding period of the last year.

**PYRILLA**

On overall Punjab basis 0.12% spots above ETL have been observed as compared to 0.36% spots during the past fortnight and 4.95% during same corresponding period of the last year while 11.28% spots below ETL have been observed as compared to 5.83% spots during the past fortnight and 11.51% during same corresponding period of the last year.

**WHITEFLY**

On overall Punjab basis 1.18% spots above ETL have been observed as compared to 1.22% spots during the past fortnight and 4.69% during same corresponding period of the last year while 8.70% spots below ETL have been observed as compared to 12.39% spots during the past fortnight and 13.52% during same corresponding period of the last year.

**BLACK BUG**

On overall Punjab basis 0.94% spots below ETL have been observed as compared to 2.19% spots during the past fortnight and 0.00% during same corresponding period of the last year

**MITES**

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

**TOKA**

On overall Punjab basis 1.53% spots below ETL have been observed as compared to 1.46% spots during the past fortnight and 0.13% during same corresponding period of the last year

**RED ROT**

On overall Punjab basis 7.17% spot of Red Rot has observed as compared to 6.44% spots above ETL during the past fortnight and 3.35% during same corresponding period of the last year.

**WHIP SMUT**

On overall Punjab basis 0.24% spot of Whip Smut has observed as compared to 0.12% 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>	23.80	13.60	78.10	5.20	26.70	8.90	84.10	0.00
<b>Khanewal</b>	23.90	13.60	72.90	0.30	23.90	12.70	62.50	0.00
<b>Vehari</b>	24.00	14.20	73.10	10.00	21.60	14.50	61.20	0.00
<b>Lodhran</b>	23.90	14.40	70.00	13.00	25.60	13.00	60.00	0.00
<b>Sahiwal</b>	25.00	12.50	72.67	3.00	26.70	12.80	64.07	0.00
<b>Pakpattan</b>	25.00	13.70	74.00	4.00	26.00	13.00	68.00	0.00
<b>Okara</b>	26.00	14.00	73.00	0.00	25.00	16.00	71.00	0.00
<b>Bahawalpur</b>	25.15	13.93	72.57	19.80	27.98	13.28	69.13	0.00
<b>Bahawalnagar</b>	24.98	11.75	67.21	1.58	28.31	11.41	58.85	0.00
<b>R.Y.Khan</b>	26.70	13.60	79.40	0.00	30.30	14.40	82.00	0.00
<b>D.G Khan</b>	24.93	13.57	47.50	0.00	29.79	15.15	48.18	0.00
<b>M. Garh</b>	28.26	19.53	46.68	0.00	29.31	14.60	56.22	0.00
<b>Rajanpur</b>	26.79	13.32	78.60	0.50	26.41	12.54	45.30	0.00
<b>Layyah</b>	22.83	12.33	82.08	0.00	22.99	15.91	79.58	0.00
<b>TOT/AVG</b>	<b>25.09</b>	<b>13.86</b>	<b>70.56</b>	<b>57.38</b>	<b>26.47</b>	<b>13.44</b>	<b>65.01</b>	<b>0.00</b>

**Weather forecast for Next 15 Days**

Division	Dated	28/11	29/11	30/11	1/12	2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12
Multan	Max. Temp.	23	23	23	23	24	23	24	25	24	23	22	22	21	22	22
	Min. Temp.	12	11	9	8	8	8	12	12	12	12	12	12	11	11	11
	Humidity %	46	37	28	26	23	20	12	12	12	14	14	14	14	15	21
Sahiwal	Max. Temp.	23	22	21	22	22	24	23	23	23	23	22	21	20	20	20
	Min. Temp.	13	11	8	7	7	6	11	11	11	12	12	12	12	12	12
	Humidity %	54	41	38	34	31	22	12	12	11	13	13	15	19	23	35
Bahawalpur	Max. Temp.	24	23	22	23	23	24	24	24	24	24	23	22	21	21	22
	Min. Temp.	12	12	10	8	7	8	9	9	9	9	10	10	10	10	10
	Humidity %	43	38	33	29	29	22	11	10	11	13	12	13	16	20	24
D.G. Khan	Max. Temp.	24	24	24	24	25	25	23	24	25	25	23	22	21	21	22
	Min. Temp.	12	11	9	9	8	9	11	11	12	12	11	11	11	11	11
	Humidity %	36	31	26	25	23	22	15	14	13	15	15	14	14	15	17
Average Cotton Zone	Max. Temp.	<b>22.82</b>														
	Min. Temp.	<b>10.33</b>														
	Humidity %	<b>21.67</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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is

as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. It is predicted that the population of this pest will decrease 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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 25.09C°, minimum 13.86 C° with R. humidity 70.56. Weather forecast for the next fifteen days is as; maximum temperature 22.82 C°, minimum 10.33 C° with R. humidity 21.67. 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

## **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**

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