



**Pest Situation of Sugarcane  
Crop in Punjab  
(15<sup>TH</sup> - 31<sup>ST</sup> JANUARY 2020)**

## PEST SITUATION OF SUGARCANE CROP IN THE PUNJAB FOR THE

**2<sup>ND</sup> FORTNIGHT OF JANUARY, 2020**

### PEST SITUATION ON SUGARCANE CROP

#### **BORER**

On overall Punjab basis 0.99% spots below ETL have been observed as compared to 0.89% spots during the past fortnight and 0.93% during same corresponding period of the last year.

#### **WHITEFLY**

On overall Punjab basis 0.49% spots below ETL have been observed as compared to 0.45% spots during the past fortnight and 0.00% during same corresponding period of the last year.

#### **RED ROT**

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

#### **WHIP SMUT**

On overall Punjab basis 0.49% spots of Whip Smut have been observed as compared to 0.45% spots above ETL during the past fortnight and 0.00% during same corresponding period of the last year

#### **METEOROLOGICAL DATA OF THE FORTNIGHT**

| Districts           | 2020         |             |              |               | 2019         |             |              |               |
|---------------------|--------------|-------------|--------------|---------------|--------------|-------------|--------------|---------------|
|                     | Temperature  |             | R.H%         | Rainfall (mm) | Temperature  |             | RH%          | Rainfall (mm) |
|                     | Max.         | Min.        |              |               | Max.         | Min.        |              |               |
| <b>Multan</b>       | 16.90        | 6.60        | 86.30        | 0.00          | 16.80        | 7.60        | 85.70        | 1.00          |
| <b>Khanewal</b>     | 18.30        | 6.30        | 80.90        | 0.00          | 18.50        | 6.20        | 72.00        | 3.00          |
| <b>Vehari</b>       | 15.70        | 6.50        | 84.50        | 9.00          | 17.00        | 6.40        | 70.90        | 7.00          |
| <b>Lodhran</b>      | 18.30        | 6.80        | 80.40        | 0.00          | 18.10        | 6.00        | 67.50        | 5.00          |
| <b>Sahiwal</b>      | 17.70        | 6.60        | 73.34        | 33.00         | 17.70        | 6.50        | 79.16        | 17.00         |
| <b>Pakpattan</b>    | 16.30        | 7.20        | 74.00        | 7.00          | 16.90        | 7.70        | 76.00        | 0.00          |
| <b>Okara</b>        | 15.40        | 7.50        | 88.00        | 11.00         | 16.40        | 9.00        | 88.00        | 0.00          |
| <b>Bahawalpur</b>   | 19.24        | 6.68        | 74.50        | 0.50          | 17.53        | 6.82        | 79.64        | 0.80          |
| <b>Bahawalnagar</b> | 18.90        | 6.80        | 72.35        | 0.00          | 19.50        | 7.05        | 74.60        | 0.50          |
| <b>R.Y.Khan</b>     | 21.85        | 8.20        | 80.57        | 0.00          | 20.72        | 6.50        | 86.88        | 0.00          |
| <b>D.G Khan</b>     | 19.79        | 8.21        | 73.29        | 0.50          | 21.56        | 9.30        | 71.07        | 2.00          |
| <b>M. Garh</b>      | 14.68        | 7.47        | 79.18        | 0.00          | 18.23        | 7.27        | 70.63        | 4.00          |
| <b>Rajanpur</b>     | 17.41        | 7.87        | 62.40        | 0.00          | 19.53        | 7.18        | 62.15        | 0.00          |
| <b>Layyah</b>       | 18.28        | 5.71        | 54.92        | 3.00          | 17.92        | 6.50        | 42.64        | 0.00          |
| <b>TOT/AVG</b>      | <b>17.77</b> | <b>7.03</b> | <b>76.05</b> | <b>64.00</b>  | <b>18.31</b> | <b>7.14</b> | <b>73.35</b> | <b>40.30</b>  |

**Weather forecast for Next 15 Days**

| Division            | Dated      | 30/1         | 31/1 | 1/2 | 2/2 | 3/2 | 4/2 | 5/2 | 6/2 | 7/2 | 8/2 | 9/2 | 10/2 | 11/2 | 12/2 | 13/2 |
|---------------------|------------|--------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| Multan              | Max. Temp. | 20           | 21   | 21  | 22  | 22  | 20  | 20  | 21  | 23  | 23  | 23  | 23   | 23   | 18   | 18   |
|                     | Min. Temp. | 7            | 7    | 8   | 7   | 7   | 8   | 8   | 9   | 9   | 10  | 10  | 10   | 11   | 9    | 6    |
|                     | Humidity % | 45           | 42   | 34  | 29  | 30  | 34  | 21  | 20  | 14  | 14  | 15  | 16   | 14   | 35   | 35   |
| Sahiwal             | Max. Temp. | 18           | 19   | 20  | 20  | 21  | 19  | 19  | 20  | 22  | 21  | 21  | 21   | 21   | 19   | 18   |
|                     | Min. Temp. | 9            | 7    | 7   | 7   | 6   | 7   | 7   | 9   | 8   | 9   | 9   | 9    | 10   | 12   | 7    |
|                     | Humidity % | 58           | 53   | 50  | 43  | 42  | 48  | 26  | 24  | 19  | 18  | 22  | 25   | 22   | 36   | 49   |
| Bahawalpur          | Max. Temp. | 20           | 21   | 21  | 21  | 21  | 21  | 21  | 22  | 23  | 24  | 24  | 24   | 23   | 19   | 20   |
|                     | Min. Temp. | 9            | 9    | 9   | 8   | 7   | 10  | 6   | 8   | 6   | 7   | 7   | 8    | 9    | 8    | 4    |
|                     | Humidity % | 45           | 42   | 39  | 36  | 36  | 36  | 21  | 16  | 12  | 12  | 14  | 16   | 14   | 22   | 27   |
| D.G. Khan           | Max. Temp. | 21           | 22   | 22  | 23  | 23  | 21  | 20  | 21  | 23  | 23  | 23  | 23   | 23   | 18   | 18   |
|                     | Min. Temp. | 8            | 7    | 8   | 7   | 7   | 8   | 8   | 9   | 9   | 9   | 9   | 9    | 11   | 8    | 6    |
|                     | Humidity % | 40           | 37   | 29  | 30  | 29  | 37  | 21  | 21  | 19  | 18  | 17  | 17   | 15   | 17   | 29   |
| Average Cotton Zone | Max. Temp. | <b>21.10</b> |      |     |     |     |     |     |     |     |     |     |      |      |      |      |
|                     | Min. Temp. | <b>8.12</b>  |      |     |     |     |     |     |     |     |     |     |      |      |      |      |
|                     | Humidity % | <b>28.28</b> |      |     |     |     |     |     |     |     |     |     |      |      |      |      |

**FORECAST FOR THE NEXT FORTNIGHT****BORERS**

This pest flourishes best at optimum temperature 35-41°C with relative humidity below 65-70%. The current weather conditions on overall South Punjab basis is as; maximum temperature 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. It is predicted that the population of this pest will decrease during the next fortnight.

**PYRILLA**

This pest flourishes best at optimum temperature 29-40C with relative humidity 75-84%. The current weather conditions on overall South Punjab basis is as; maximum temperature 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. It is predicted that the population of this pest will remain as such during the next fortnight.

**WHITEFLY**

This pest flourishes best at optimum temperature 29-40C with relative humidity 75-84%. The current weather conditions on overall South Punjab basis is as; maximum temperature 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. It is predicted that the population of this pest will remain as such during the next fortnight.

**BLACK BUG**

This pest flourishes 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 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. It is predicted that the population of this pest will remain as such 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 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. It is predicted that the population of this pest may sustain as such during the next fortnight.

**MEALY BUG**

This pest flourishes best at optimum temperature 29-40C with relative humidity 75-84%. The current weather conditions on overall South Punjab basis is as; maximum temperature 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. 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 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. 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 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next

fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. It is predicted that the population of this pest will remain such during the next fortnight.

### **RUST**

This disease flourishes 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 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. 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 flourishes 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 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. It is predicted that the incidence of this disease may initiate in the coming fortnight.

### **WHIP SMUT**

This disease flourishes best at optimum temperature 14-35C with relative humidity 55-80%. The current weather conditions on overall South Punjab basis is as; maximum temperature 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. 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 flourishes best at optimum temperature 14-35C with relative humidity 55-80%. The current weather conditions on overall South Punjab basis is as; maximum temperature 17.77 C°, minimum 7.03 C° with R. humidity 76.05. Weather forecast for the next fifteen days is as; maximum temperature 21.10 C°, minimum 8.12 C° with R. humidity 28.28. 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.

### WHITEFLY MANAGEMENT

- ❖ Cut severe infested leaves of whitefly and bury in the soil.
- ❖ Install cards of beneficial insects i.e *Chrysoperla carnea*

### 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.

### 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            |