

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 4th WEEK OF JULY, 2021

Whitefly: On overall Punjab basis 18.32 above ETL spots have been observed during current week as compared to 12.18% in last week and 19.22% during the same corresponding period of last year. And 81.59% below ETL spots have been observed during current week as compared to 86.55% in last week and 79.11% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of whitefly

| S. NO. | TEHSIL | %AGE | S.NO. | TEHSIL | %AGE |
|--------|---------------|------|-------|---------------|------|
| 1 | JAM PUR | 69.6 | 30 | JALAL PUR P.W | 16.3 |
| 2 | CHICHA WATNI | 55.0 | 31 | MIANWALI | 16.0 |
| 3 | RAJAN PUR | 50.0 | 32 | LAYYAH | 15.4 |
| 4 | ROJHAN | 42.9 | 33 | JAHANIAN | 15.2 |
| 5 | KOT CHUTTA | 42.0 | 34 | RENALA KHURD | 15.0 |
| 6 | MAILSI | 35.3 | 35 | PIR MAHAL | 15.0 |
| 7 | ARIF WALA | 33.3 | 36 | PIPLAN | 15.0 |
| 8 | VEHARI | 31.0 | 37 | OKARA | 14.3 |
| 9 | D.G.KHAN | 29.2 | 38 | KHAN PUR | 14.0 |
| 10 | TAUNSA | 29.2 | 39 | JATOI | 14.0 |
| 11 | BURE WALA | 29.0 | 40 | SAHIWAL | 13.9 |
| 12 | DARYA KHAN | 28.6 | 41 | BAHAWAL PUR | 13.5 |
| 13 | KABIR WALA | 27.0 | 42 | DEPALPUR | 12.5 |
| 14 | CHISHTIAN | 26.3 | 43 | CHOBARA | 12.5 |
| 15 | FORT ABBAS | 26.2 | 44 | 18-HAZARI | 12.5 |
| 16 | PAK PATTAN | 24.0 | 45 | KEHROR PACCA | 11.6 |
| 17 | KAROR L.E. | 20.8 | 46 | KALLOR KOT | 11.1 |
| 18 | MINCHAN ABAD | 20.0 | 47 | HASILPUR | 10.9 |
| 19 | KOT ADDU | 19.6 | 48 | LIAQUAT PUR | 10.4 |
| 20 | MUZUFAR GARH | 18.0 | 49 | GOJRA | 10.0 |
| 21 | KHANEWAL | 17.5 | 50 | DUYAPUR | 8.9 |
| 22 | HAROON ABAD | 17.4 | 51 | SADIQ ABAD | 8.7 |
| 23 | BAHAWAL NAGAR | 17.0 | 52 | T.T.SINGH | 7.7 |
| 24 | MIAN CHANNU | 16.7 | 53 | SHUJABAD | 7.0 |
| 25 | ISA KHEL | 16.7 | 54 | YAZMAN | 6.4 |
| 26 | BHAKKAR | 16.7 | 55 | ALI PUR | 6.0 |
| 27 | JAM PUR | 69.6 | 56 | MULTAN | 5.0 |
| 28 | CHICHA WATNI | 55.0 | 57 | LODHRAN | 2.4 |
| 29 | MANKERA | 16.7 | 58 | R.Y.KHAN | 2.1 |

Jassid: On overall Punjab basis 20.48% above ETL spots has been observed as compared to 22.54% in last week and same week of last year 17.90%. And 78.44% below ETL spots have been observed during current week as compared to 76.35% in last week and 78.03% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Jassid

| S. NO. | TEHSIL | %AGE | S.NO. | TEHSIL | %AGE |
|--------|----------|------|-------|------------|------|
| 1 | JATOI | 52.0 | 32 | KABIR WALA | 16.2 |
| 2 | SHUJABAD | 39.5 | 33 | LAYYAH | 15.4 |
| 3 | MULTAN | 35.0 | 34 | JAHANIAN | 15.2 |

| | | | | | |
|----|---------------|------|----|---------------|------|
| 4 | A.P.EAST | 33.3 | 35 | RENALA KHURD | 15.0 |
| 5 | CHOBARA | 33.3 | 36 | PIR MAHAL | 15.0 |
| 6 | ALI PUR | 32.0 | 37 | PIPLAN | 15.0 |
| 7 | JALAL PUR P.W | 30.2 | 38 | MAILSI | 14.7 |
| 8 | CHISHTIAN | 29.8 | 39 | D.G.KHAN | 14.6 |
| 9 | R.Y.KHAN | 29.8 | 40 | JHANG | 14.3 |
| 10 | BAHAWAL PUR | 28.8 | 41 | A.P SIAL | 14.3 |
| 11 | DARYA KHAN | 28.6 | 42 | KOT CHUTTA | 14.0 |
| 12 | YAZMAN | 27.7 | 43 | KEHROR PACCA | 14.0 |
| 13 | KAROR L.E. | 27.1 | 44 | HASILPUR | 13.0 |
| 14 | SADIQ ABAD | 26.1 | 45 | HAROON ABAD | 13.0 |
| 15 | SUMUNDRI | 25.0 | 46 | BAHAWAL NAGAR | 12.8 |
| 16 | PAK PATTAN | 24.0 | 47 | DEPALPUR | 12.5 |
| 17 | KHAN PUR | 24.0 | 48 | 18-HAZARI | 12.5 |
| 18 | TAUNSA | 22.9 | 49 | MUZUFAR GARH | 12.0 |
| 19 | DUYAPUR | 22.2 | 50 | MIANWALI | 12.0 |
| 20 | SAHIWAL | 22.2 | 51 | T.T.SINGH | 11.5 |
| 21 | KALLOR KOT | 22.2 | 52 | ROJHAN | 11.4 |
| 22 | KOT ADDU | 21.6 | 53 | MIAN CHANNU | 11.1 |
| 23 | LODHRAN | 21.4 | 54 | SHORKOT | 10.0 |
| 24 | MINCHAN ABAD | 20.0 | 55 | TANDLIANWALA | 10.0 |
| 25 | BURE WALA | 19.4 | 56 | ARIF WALA | 9.5 |
| 26 | FORT ABBAS | 19.0 | 57 | OKARA | 9.5 |
| 27 | LIAQUAT PUR | 18.8 | 58 | KHANEWAL | 7.5 |
| 28 | VEHARI | 17.2 | 59 | JAM PUR | 6.5 |
| 29 | ISA KHEL | 16.7 | 60 | CHICHA WATNI | 5.0 |
| 30 | BHAKKAR | 16.7 | 61 | GOJRA | 5.0 |
| 31 | MANKERA | 16.7 | | | |

Thrips: On overall Punjab basis 13.43% above ETL spots has been observed as compared to 8.78% in last week and same week of last year i.e. 8.70%. And 84.41% below ETL spots have been observed during current week as compared to 89.04% in last week and 87.19% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Thrips

| S. NO. | TEHSIL | %AGE | S.NO. | TEHSIL | %AGE |
|--------|---------------|------|-------|---------------|------|
| 1 | DUYAPUR | 40.0 | 24 | DARYA KHAN | 14.3 |
| 2 | VEHARI | 31.0 | 25 | BURE WALA | 12.9 |
| 3 | MAILSI | 29.4 | 26 | YAZMAN | 12.8 |
| 4 | JATOI | 26.0 | 27 | BAHAWAL NAGAR | 12.8 |
| 5 | BAHAWAL PUR | 25.0 | 28 | KAROR L.E. | 12.5 |
| 6 | ALI PUR | 24.0 | 29 | 18-HAZARI | 12.5 |
| 7 | LODHRAN | 21.4 | 30 | MIAN CHANNU | 11.1 |
| 8 | CHISHTIAN | 21.1 | 31 | KALLOR KOT | 11.1 |
| 9 | SHUJABAD | 20.9 | 32 | HASILPUR | 10.9 |
| 10 | JALAL PUR P.W | 20.9 | 33 | HAROON ABAD | 10.9 |
| 11 | RAJAN PUR | 20.8 | 34 | SADIQ ABAD | 10.9 |
| 12 | ROJHAN | 20.0 | 35 | KABIR WALA | 10.8 |
| 13 | LAYYAH | 19.2 | 36 | TAUNSA | 10.4 |
| 14 | KEHROR PACCA | 18.6 | 37 | KOT CHUTTA | 10.0 |
| 15 | R.Y.KHAN | 17.0 | 38 | MUZUFAR GARH | 10.0 |
| 16 | MULTAN | 16.7 | 39 | D.G.KHAN | 8.3 |
| 17 | FORT ABBAS | 16.7 | 40 | KHAN PUR | 8.0 |
| 18 | MANKERA | 16.7 | 41 | KHANEWAL | 7.5 |
| 19 | KOT ADDU | 15.7 | 42 | JHANG | 7.1 |
| 20 | MINCHAN ABAD | 15.6 | 43 | LIAQUAT PUR | 6.3 |
| 21 | JAM PUR | 15.2 | 44 | JAHANIAN | 6.1 |
| 22 | A.P.EAST | 14.8 | 45 | CHICHA WATNI | 5.0 |
| 23 | A.P SIAL | 14.3 | 46 | PIPLAN | 5.0 |

Mealy Bug: On overall Punjab basis 12.96% spots (all considered above ETL) of Mealy Bug have been observed as compared to 7.36% in last week and 5.59% spots during the same corresponding period of the last year.

Tehsil wise percentage of hot spots of Mealy bug

| S. NO. | TEHSIL | %AGE | S.NO. | TEHSIL | %AGE |
|--------|---------------|------|-------|---------------|------|
| 1 | RAJAN PUR | 50.0 | 24 | ALI PUR | 10.0 |
| 2 | JAM PUR | 43.5 | 25 | JATOI | 10.0 |
| 3 | SHUJABAD | 41.9 | 26 | PIR MAHAL | 10.0 |
| 4 | DUYAPUR | 37.8 | 27 | JAHANIAN | 9.1 |
| 5 | BAHAWAL PUR | 30.8 | 28 | BAHAWAL NAGAR | 8.5 |
| 6 | MAILSI | 29.4 | 29 | LIAQUAT PUR | 8.3 |
| 7 | MULTAN | 26.7 | 30 | T.T.SINGH | 7.7 |
| 8 | FORT ABBAS | 26.2 | 31 | KHANEWAL | 7.5 |
| 9 | CHISHTIAN | 22.8 | 32 | A.P.EAST | 7.4 |
| 10 | YAZMAN | 19.1 | 33 | JHANG | 7.1 |
| 11 | R.Y.KHAN | 19.1 | 34 | MINCHAN ABAD | 6.7 |
| 12 | LODHRAN | 19.0 | 35 | HASILPUR | 6.5 |
| 13 | KABIR WALA | 18.9 | 36 | BURE WALA | 6.5 |
| 14 | JALAL PUR P.W | 18.6 | 37 | D.G.KHAN | 6.3 |
| 15 | ROJHAN | 17.1 | 38 | MUZUFAR GARH | 6.0 |
| 16 | KHAN PUR | 16.0 | 39 | MIAN CHANNU | 5.6 |
| 17 | SADIQ ABAD | 15.2 | 40 | SAHIWAL | 5.6 |
| 18 | CHICHA WATNI | 12.5 | 41 | GOJRA | 5.0 |
| 19 | 18-HAZARI | 12.5 | 42 | OKARA | 4.8 |
| 20 | KOT CHUTTA | 12.0 | 43 | HAROON ABAD | 4.3 |
| 21 | KEHROR PACCA | 11.6 | 44 | TAUNSA | 4.2 |
| 22 | VEHARI | 10.3 | 45 | KAROR L.E. | 4.2 |
| 23 | RENALA KHURD | 10.0 | 46 | CHOBARA | 2.1 |

Mites: On overall Punjab basis 0.00% above ETL spots have been observed during current week as compared to 0.00% in last week and 0.00% during the same corresponding period of last year. And 2.87% below ETL spots have been observed during current week as compared to 2.23% in last week and 4.66% during the same corresponding period of last year.

Dusky Cotton Bug: On overall Punjab basis 0.05% above ETL spots have been observed during current week as compared to 0.25% in last week and 0.04% during the same corresponding period of last year. And 11.27% below ETL spots have been observed during current week as compared to 9.14% in last week and 13.59 % during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Dusky cotton Bug

| S. NO. | TEHSIL | %AGE |
|--------|--------------|------|
| 1 | MUZUFAR GARH | 2.0 |

Armyworm: On overall Punjab basis 0.47% spots (all considered above ETL) of Armyworm have been observed as compared to 0.56% in last week and 1.63% spots during the same corresponding period of the last year.

Tehsil wise percentage of hot spots of Army worm

| S. NO. | TEHSIL | %AGE | S.NO. | TEHSIL | %AGE |
|--------|-------------|------|-------|----------|------|
| 1 | T.T.SINGH | 15.4 | 5 | KHANEWAL | 2.5 |
| 2 | MIAN CHANNU | 5.6 | 6 | DUYAPUR | 2.2 |
| 3 | OKARA | 4.8 | 7 | R.Y.KHAN | 2.1 |
| 4 | JAHANIAN | 3.0 | | | |

Pink Boll Worm: On overall Punjab basis 1.08% above ETL spots have been observed as compared to 1.27% in last week and 0.31% same corresponding period of the last year. And 15.88% below ETL spots have been observed as compared to 15.69% in last week and 9.94% during same corresponding period of last year.

Tehsil wise percentage of hot spots of PBW

| S. NO. | TEHSIL | %AGE | S.NO. | TEHSIL | %AGE |
|--------|--------------|------|-------|--------------|------|
| 1 | VEHARI | 10.3 | 7 | SADIQ ABAD | 4.3 |
| 2 | CHICHA WATNI | 7.5 | 8 | ALI PUR | 4.0 |
| 3 | MAILSI | 5.9 | 9 | KHANEWAL | 2.5 |
| 4 | MULTAN | 5.0 | 10 | R.Y.KHAN | 2.1 |
| 5 | SHUJABAD | 4.7 | 11 | LIAQUAT PUR | 2.1 |
| 6 | KEHROR PACCA | 4.7 | 12 | MUZUFAR GARH | 2.0 |

American Bollworm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.05 in last week and 0.00% during same corresponding period of last year. And 0.28% below ETL spots have been observed as compared to 0.86% in last week and 0.47% during same corresponding period of last year.

Spotted Bollworm: On overall Punjab basis 0.19% above ETL spots have been observed as compared to 0.00% in last week and 0.08% during same corresponding period of last year & 0.28% below ETL spots have been observed as compared to 0.36% in last week and 0.43% during same corresponding period of last year.

Tehsil wise percentage of hot spots of SBW

| S. NO. | TEHSIL | %AGE | S.NO. | TEHSIL | %AGE |
|--------|----------|------|-------|----------|------|
| 1 | R.Y.KHAN | 6.4 | 2 | KOT ADDU | 2.0 |

CLCuV: On overall Punjab basis 9.82% spots (all considered above ETL) of CLCV have been observed as compared to 5.08% in last week and 2.64% during the same corresponding period of the last year.

Tehsil wise percentage of hot spots CLCuV

| S. NO. | TEHSIL | %AGE | S.NO. | TEHSIL | %AGE |
|--------|--------------|------|-------|---------------|------|
| 1 | VEHARI | 48.3 | 22 | GOJRA | 10.0 |
| 2 | T.T.SINGH | 34.6 | 23 | PIR MAHAL | 10.0 |
| 3 | MAILSI | 32.4 | 24 | LODHRAN | 9.5 |
| 4 | CHICHA WATNI | 27.5 | 25 | DUYAPUR | 8.9 |
| 5 | MUZUFAR GARH | 26.0 | 26 | MULTAN | 8.3 |
| 6 | TAUNSA | 22.9 | 27 | RAJAN PUR | 8.3 |
| 7 | BURE WALA | 22.6 | 28 | ALI PUR | 8.0 |
| 8 | KOT ADDU | 19.6 | 29 | R.Y.KHAN | 6.4 |
| 9 | KABIR WALA | 18.9 | 30 | D.G.KHAN | 6.3 |
| 10 | CHOBARA | 18.8 | 31 | SAHIWAL | 5.6 |
| 11 | KAROR L.E. | 18.8 | 32 | JALAL PUR P.W | 4.7 |
| 12 | JATOI | 18.0 | 33 | SADIQ ABAD | 4.3 |
| 13 | HASILPUR | 17.4 | 34 | MIANWALI | 4.0 |
| 14 | LAYYAH | 17.3 | 35 | ROJHAN | 2.9 |
| 15 | BHAKKAR | 16.7 | 36 | SHUJABAD | 2.3 |
| 16 | KEHROR PACCA | 16.3 | 37 | JAM PUR | 2.2 |
| 17 | PAK PATTAN | 16.0 | 38 | LIAQUAT PUR | 2.1 |
| 18 | KHANEWAL | 12.5 | 39 | KHAN PUR | 2.0 |
| 19 | JAHANIAN | 12.1 | 40 | KOT CHUTTA | 2.0 |
| 20 | MIAN CHANNU | 11.1 | 41 | BAHAWAL PUR | 1.9 |
| 21 | A.P.EAST | 11.1 | 42 | GOJRA | 10.0 |

FORECAST FOR THE NEXT WEEK

Meteorological data of the current week 2020-2021

| Districts | 2021 | | | | 2020 | | | |
|----------------|--------------|--------------|--------------|---------------|----------------|--------------|--------------|---------------|
| | Temperature | | R.H% | Rainfall (mm) | Temperature °C | | RH% | Rainfall (mm) |
| | Max. | Min. | | | Max. | Min. | | |
| MULTAN | 39.50 | 31.00 | 70.13 | 0.00 | 35.60 | 28.40 | 81.00 | 63.60 |
| KHANEWAL | 39.25 | 29.88 | 61.88 | 0.00 | 36.29 | 29.00 | 61.29 | 15.00 |
| VEHARI | 38.00 | 30.57 | 62.71 | 0.00 | 36.71 | 29.86 | 73.36 | 91.00 |
| LODHRAN | 40.4 | 29.7 | 70.1 | 0.00 | 37 | 28.2857 | 73.5 | 63.00 |
| Sahiwal | 36.00 | 29.00 | 73.00 | 0.00 | 35.26 | 26.21 | 72.64 | 34.00 |
| Pakpattan | 37.00 | 30.00 | 71.00 | 0.00 | 33.40 | 26.60 | 60.00 | 41.00 |
| Okara | 35.00 | 28.00 | 71.00 | 0.00 | 33.92 | 29.28 | 73.00 | 60.00 |
| Bahawalpur | 39.71 | 29.52 | 58.60 | Traces | 38.05 | 28.57 | 64.65 | 33.00 |
| Bahawalnagar | 37.92 | 28.42 | 60.42 | 0.00 | 37.25 | 26.33 | 71.00 | 32.00 |
| R.Y.Khan | 38.90 | 29.60 | 50.40 | 0.00 | 38.90 | 27.60 | 48.10 | 13.00 |
| D.G. Khan | 41.43 | 30.29 | 59.64 | 0.00 | 41.86 | 30.43 | 55.71 | 0.00 |
| Muzaffar Garh | 42.00 | 31.33 | 37.00 | 0.00 | 36.50 | 26.50 | 65.88 | 2.00 |
| Rajanpur | 40.1 | 30.8 | 44.20 | 0.00 | 40.80 | 30.8 | 49.00 | 4.00 |
| Layyah | 45.71 | 30.86 | 57.14 | 24.00 | 39.14 | 28.71 | 42.00 | 0.00 |
| TOT/AVG | 39.35 | 29.93 | 60.52 | 24.00 | 37.19 | 28.33 | 63.65 | 451.60 |

Weather forecast for next 7 day in cotton zone

| Division | Dated | 30/7 | 31/7 | 1/8 | 2/8 | 3/8 | 4/8 | 5/8 |
|------------------------------|-------------------|--------------|------|-----|-----|-----|-----|-----|
| Multan | Max.Temp. | 37 | 35 | 38 | 36 | 41 | 37 | 37 |
| | Min.Temp. | 29 | 28 | 30 | 28 | 29 | 28 | 29 |
| | Humidity % | 50 | 56 | 48 | 51 | 43 | 27 | 25 |
| Sahiwal | Max.Temp. | 35 | 35 | 34 | 34 | 38 | 36 | 35 |
| | Min.Temp. | 29 | 27 | 28 | 28 | 27 | 29 | 30 |
| | Humidity % | 63 | 56 | 57 | 61 | 51 | 32 | 29 |
| Bahawalpur | Max.Temp. | 37 | 36 | 39 | 36 | 39 | 36 | 36 |
| | Min.Temp. | 30 | 30 | 31 | 30 | 29 | 27 | 28 |
| | Humidity % | 49 | 54 | 44 | 50 | 45 | 29 | 28 |
| D.G. Khan | Max.Temp. | 40 | 36 | 40 | 39 | 42 | 38 | 37 |
| | Min.Temp. | 31 | 30 | 31 | 32 | 31 | 30 | 29 |
| | Humidity % | 42 | 52 | 41 | 42 | 37 | 23 | 24 |
| Average Cotton Region | Max.Temp. | 37.11 | | | | | | |
| | Min.Temp. | 29.21 | | | | | | |
| | Humidity % | 43.18 | | | | | | |

Source: timeanddate.com

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain windy, Cloudy & rainy also.

Forecast of Sucking Pests:

Whitefly: This pest flourishes best in hot dry climate with optimum temperature 35-42 °C with relative humidity below 50%. Maximum lethal temperature for this pest is 45-51 °C. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view the climatic conditions, **it is predicted that population of this pest will increase rapidly during the coming week.**

Jassid: This pest flourishes best in hot and humid climate with optimum temperature 35-40 °C with relative humidity above 70%. Maximum lethal temperature for this pest is 45-51 °C. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view the prevailing conditions, **it is predicted that population of this pest will increase during the coming week.**

Thrips: This pest flourishes best in hot dry climate with optimum temperature 35-40 °C with relative humidity below 60%. Maximum lethal temperature for this pest is 45-51 °C. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view climatic conditions, **it is predicted that population of this pest will increase during the coming week.**

Mealy Bug This pest flourishes best in moderate climate with optimum temperature 35-40 °C with relative humidity above 60-80%. Maximum lethal temperature for this pest is 45-51 °C. The current weather conditions on overall Punjab basis (temp. Max.

39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view, **it is predicted that population of this pest can increase on cotton crop.**

Mites: This pest flourishes best in dry climate with optimum temperature 28-40 °C with relative humidity above 40-50 The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view, it is predicted that population of this pest will sustain during the coming week.

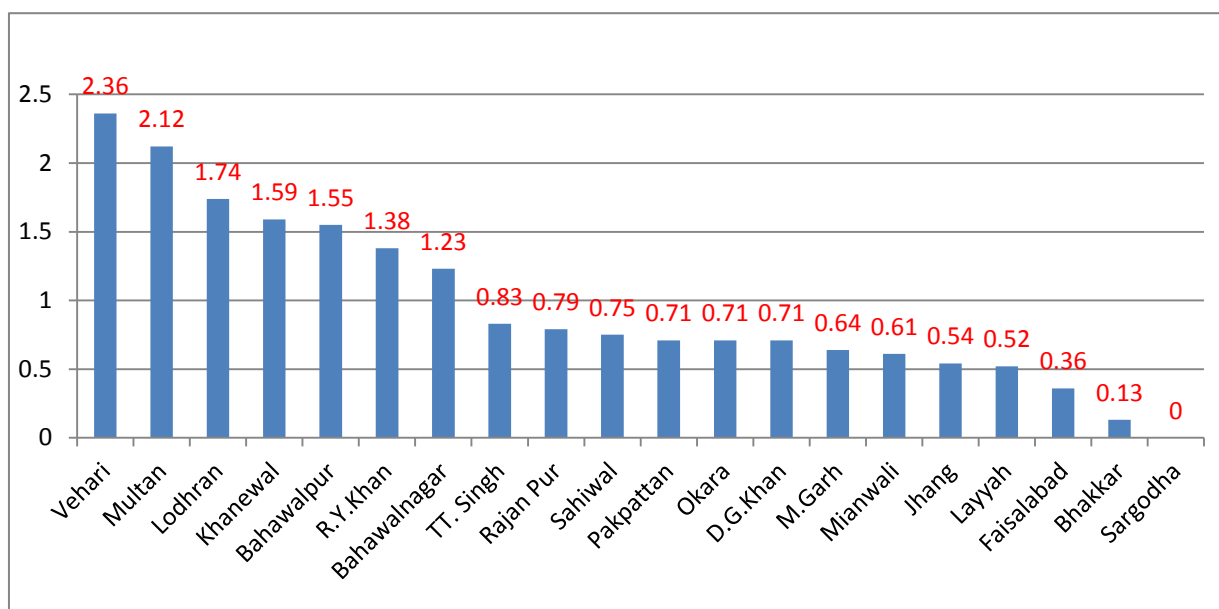
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view, it is predicted that population of this pest may sustain during coming week.

Pink Bollworm: This pest flourishes best at moderate climate with optimum temperature 32-40 °C with relative humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. **It is predicted that population of this pest will increase rapidly on cotton during the coming week & mostly will be observed in flowers.**

Moth Catches in Pheromone Traps during 4rth Week of July, 2021

| Moth Catches in Pheromone Traps During 4rth Week of July 2021 | | | |
|---|-----------------|------------------------|-----------------------------|
| District | Traps Installed | Moth catches/Trap/week | Av. Moth catches/Trap/night |
| Multan | 6 | 89 | 2.12 |
| Khanewal | 8 | 89 | 1.59 |
| Vehari | 6 | 99 | 2.36 |
| Lodhran | 6 | 73 | 1.74 |
| Sahiwal | 4 | 21 | 0.75 |
| Pakpattan | 4 | 20 | 0.71 |
| Okara | 4 | 20 | 0.71 |
| Bahawalpur | 8 | 87 | 1.55 |
| Bahawalnagar | 10 | 86 | 1.23 |
| R.Y.Khan | 8 | 77 | 1.38 |
| D.G.Khan | 6 | 30 | 0.71 |
| M.Garh | 8 | 36 | 0.64 |
| Rajan Pur | 6 | 33 | 0.79 |
| Layyah | 6 | 22 | 0.52 |
| Sargodha | 0 | 00 | 0.00 |
| Mianwali | 4 | 17 | 0.61 |
| Bhakkar | 8 | 07 | 0.13 |
| Faisalabad | 6 | 15 | 0.36 |
| TT. Singh | 6 | 35 | 0.83 |
| Jhang | 4 | 15 | 0.54 |

Note. 3 moth catches on 3 consecutive nights in a trap is considered as ETL



American Bollworm: This pest flourishes best at dry & moderate climate with optimum temperature 32-40 °C with relative humidity above 50-70%. humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. It is predicted that population of this pest will sustain on cotton crop during the coming week.

Moth catches on light traps during 4rth week of July, 2021

| Moth Catches on Light Traps/Trap/week During 4rth Week of July, 2021 | | | | |
|---|------------------------|--------------|--------------|-----------------|
| District | Traps Installed | A.B.W | S.B.W | Armyworm |
| Multan | 3 | 5 | 0 | 14 |
| Khanewal | 4 | 10 | 0 | 32 |
| Vehari | 3 | 0 | 0 | 16 |
| Lodhran | 3 | 21 | 0 | 23 |
| Sahiwal | 2 | 2 | 0 | 2 |
| Pakpattan | 2 | 2 | 0 | 2 |
| Okara | 3 | 3 | 0 | 4 |
| Bahawalpur | 4 | 9 | 2 | 9 |
| Bahawalnagar | 5 | 14 | 6 | 24 |
| R.Y.Khan | 4 | 8 | 8 | 13 |
| D.G.Khan | 3 | 2 | 2 | 5 |
| M.Garh | 4 | 5 | 5 | 4 |
| Rajan Pur | 3 | 1 | 1 | 2 |
| Layyah | 3 | 0 | 0 | 3 |

Spotted Bollworm: This pest flourishes best at mild & humid climate with optimum temperature 30-40 °C with relative humidity above 60-100%. Maximum lethal temperature for this pest is 45-53 °C. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Due to cultivation of more BT varieties, it is predicted that population of this pest will remain as such on cotton crop in the coming week.

Armyworm: This pest flourishes best in mild & humid climate with optimum temperature 30-40 °C with relative humidity below 70-100%. Maximum lethal

temperature for this pest is 45-53 °C. It is predicted that population of this pest will sustain on cotton crop during the coming week. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view above all, it is predicted that population of this pest will sustain during the coming week.

CLCuV: The incidence of this disease is expected to increase on cotton crop to the next week.

RECOMMENDATIONS

WHITEFLY MANAGEMENT

1. Conduct regular pest scouting of Whitefly.
2. Control the pest without delay when population reaches ETL i.e. nymphs or adults or both 5 per leaf.
3. Control weeds in and outside the field especially near water channels and fallow lands.

Alternate host plants of whitefly

| Crops | Vegetables | Orchards | Weeds/ Ornamentals | Trees |
|-----------|-------------|-------------------------|-----------------------|---------|
| Sunflower | Okra | Citrus | Gardenia | Shisham |
| Tobacco | Brinjal | Litchi | Mako | Shareen |
| | Cucurbits | Pomegranate | Maina | |
| | Tomato | Ber (<i>Zizyphus</i>) | Karund | |
| | Cabbage | Guava | Lehli | |
| | Cauliflower | Mulberry | | |
| | Peas | Papaya | | |
| | Potato | | | |
| | Onion | | | |
| | Spinach | | | |

JASSID MANAGEMENT

1. Eradicate weeds.
2. Conduct Pest Scouting at least twice a week.

3. Use *Chrysoperla* Cards @ 80-90 cards per acre having 20-25 eggs on each card which are available at AARI Faisalabad, Sahiwal, Okara and Vehari. (Repeat this process after every two weeks).

THRIPS MANAGEMENT

1. Conduct Pest Scouting regularly at least twice a week.
2. Avoid intercropping of cotton crop with vegetables.
3. Control weeds in and outside the field.

MEALY BUG MANAGEMENT

1. Visit the fields daily to detect the infestation for effective management of mealy bug well in time.
2. Keep field and water courses etc. free from weeds especially Itsit & Hazaardani.
3. To avoid its shifting from one place to another, keep the horticultural nurseries free from its infestation. Spray such infested nurseries before shifting the plants.
4. Uproot and keep the infested plants gently in plastic bags and bury in the soil outside the field.
5. Avoid water stress to the plants.
6. Avoid repeated visits of workers from infested fields to healthy fields.

Alternate host plants of cotton mealy bug

| Crops | Vegetables | Ornamentals | Weeds | Orchards |
|--------------|-------------------|--------------------|--------------|-----------------|
| Sunflower | Okra | China Rose | Hazar Dani | Citrus |
| Tobacco | Brinjal | Huddle | Amarantus | Mulberry |
| Jantar | Tomato | Cotton Rose | Bhakra | Ficus |
| Sesame | Chillies | Gulchain | Mako | Ber |
| | Pumpkin | Lantana | Sueda | |
| | | Din Ka Raja | Itsit | |
| | | Rat Ki Rani | Karund | |
| | | Anthorium | Aksen | |
| | | Gul-e-Daudi | Bathu | |
| | | Gainda | Puth Kanda | |
| | | | Kanghi | |

MANAGEMENT OF DUSKY COTTON BUG

1. Eradicate weeds.
2. Conduct Pest Scouting at least twice a week.
3. Remove alternate host plants

MANAGEMENT OF ARMY WORM

1. Keep the fields clean from weeds especially Its it which is a preferred host of armyworm.
2. Avoid sowing of Jantar near cotton fields.
3. Regular pest scouting at least twice a week.
4. Hand picking and destruction of egg masses at initial stage as initially its attack starts in patches and is clearly visible.

CLCuV MANAGEMENT

1. Keep Cotton fields free from all kinds of weeds.
2. Eradicate other alternate host plants of CLCuV and dispose them off carefully.
3. Thinning out and destruction of Virus affected plants.
4. Remove CLCuV effected plants in less than 60 DAS (Days after sowing) crop.
5. Hoeing after each irrigation or rain at wattar condition till canopies permit.
6. Apply post emergence Glyphosate for both broad and narrow leaved weeds and Glyphosate for grassy weeds with shield and use Flat Fan Nozzle, if needed.
7. Irrigate the fields when needed keeping in view weather conditions e.g. temperature, rainfall, soil water holding capacity and plant need.
8. Balanced use of Fertilizer i.e. N.P.K.
9. Keep transmission vector (whitefly) at the low ebb

Alternate host plants of CLCuV

| Crops | Vegetables | Ornamentals | Weeds |
|-----------|------------|-------------|--------------|
| Sunflower | Okra | Gurhal | Leh |
| Melon | Brinjal | Chambeli | Lehli |
| Tobacco | Chillies | | Mako |
| | Tomato | | Maina |
| | Potato | | Karund/Bathu |
| | Cucumber | | Gardenia |
| | | | Hazardani |
| | | | Rattanjot |
| | | | Sun Kukra |

Economic threshold levels of cotton pests

| Insect pests | Economic threshold levels |
|--------------------|---|
| Jassid | 1 Adult and Nymph per leaf |
| Whitefly | 5 Adults or Nymphs or both per Leaf |
| Thrips | 8-10 Adults or Nymphs per Leaf |
| Mealy bug | 0 (on appearance) |
| Mites | On damage appearance |
| Spotted Boll worm | 3 Larvae/ 25 plants. |
| Pink Boll worm | 5 Larvae /100 bolls. |
| American boll worm | 5 brown eggs or 3 small larvae or both 5 per 25 plants on non Bt varieties. 2 larvae of 2nd instar per 25 plants on Bt varieties. |
| Army worm | 0 (On appearance) |
| Aphid | Spray on visible damage on top terminals. |
| Dusky Cotton bug | 10 per leaf/bud |