

## PEST SITUATION ON COTTON CROP IN PUNJAB DURING 2nd WEEK OF JUNE, 2023

**Whitefly:** On overall Punjab basis 0.31% above ETL spots have been observed during current week as compared to 0.04% % in last week and 8.18% during the same corresponding period of last year. And 66.38% below ETL spots have been observed during current week as compared to 53.55% in last week and 78.05% during the same corresponding period of last year. Moreover, above ETL infestation is 7.87 % less than last year 2022.

### Tehsil wise percentage of hot spots of whitefly

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	VEHARI	6.9	4	MAILSI	2.5
2	BURE WALA	6.9	5	MULTAN	2.2
3	BHAKKAR	4.8	6	JHANG	2.2

**Jassid:** On overall Punjab basis 4.00% above ETL spots have been observed as compared to 2.47% in last week and same week of last year 9.07%. And 68.69% below ETL spots ha 71.97% 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	SHUJABAD	22.0	22	KOT CHUTTA	5.4
2	MIAN CHANNU	21.2	23	KEHROR PACCA	5.0
3	sahiwal	16.7	24	BHAKKAR	4.8
4	BAHAWAL PUR	14.3	25	HASILPUR	4.4
5	BURE WALA	13.8	26	JAM PUR	4.2
6	MULTAN	13.0	27	R.Y.KHAN	3.8
7	CHICHA WATNI	12.5	28	KALLOR KOT	2.9
8	OKARA	11.1	29	A.P.EAST	2.6
9	ROJHAN	10.4	30	KHANEWAL	2.5
10	VEHARI	10.3	31	YAZMAN	2.3
11	JALAL PUR P.W	9.8	32	JHANG	2.2
12	PAK PATTAN	8.3	33	D.G.KHAN	2.1
13	ARIF WALA	8.0	34	MUZUFAR GARH	2.1
14	MAILSI	7.5	35	JATOI	2.1
15	RENALA KHURD	7.1	36	LAYYAH	2.1
16	RAJAN PUR	7.1	37	CHOBARA	2.1
17	SAHIWAL	6.5	38	KAROR L.E.	2.1
18	CHISHTIAN	6.3	39	SHORKOT	1.9
19	LIAQUAT PUR	6.3	40	JARANWALA	1.3
20	ALI PUR	6.1	41	TANDLIANWALA	1.3
21	GOJRA	5.5	42	KOT CHUTTA	5.4

**Thrips:** On overall Punjab basis 0.92% above ETL spots have been observed as compared to 0.42% in last week and same week of last year i.e. 2.91%. And

80.19% below ETL spots have been observed during current week as compared to 70.76% in last week and 83.59% 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	SAHIWAL	16.7	11	JALAL PUR P.W	2.4
2	MIAN CHANNU	9.1	12	MULTAN	2.2
3	SHUJABAD	7.3	13	JAM PUR	2.1
4	ROJHAN	4.2	14	MUZUFAR GARH	2.1
5	RAJAN PUR	3.6	15	SHORKOT	1.9
6	BURE WALA	3.4	16	KOT CHUTTA	1.8
7	VEHARI	3.4	17	SUMUNDRI	1.3
8	KEHROR PACCA	2.5	18	JARANWALA	1.3
9	KABIR WALA	2.5	19	TANDLIANWALA	1.3
10	MIANWALI	2.5			

**Mealy Bug:** On overall Punjab basis 0.04% spots (all considered above ETL) of Mealy Bug have been observed as compared to 0.00% in last week and 0.63% spots during the same corresponding period of the last year.

### **Tehsil wise percentage of hot spots of Mealy bug**

S. NO.	TEHSIL	%AGE
1	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 0.42% below ETL spots have been observed during current week as compared to 0.00% in last week and 4.25% during the same corresponding period of last year.

### **Tehsil wise percentage of hot spots of Mites**

No Hot Spot Found This Week

**Dusky Cotton Bug:** On overall Punjab basis 0.00% above ETL spots have been observed during current week as compared to 0.00% in last week and 0.04% during the same corresponding period of last year. And 9.69% below ETL spots have been observed during current week as compared to 7.41% in last week and 21.90% during the same corresponding period of last year.

### **Tehsil wise percentage of hot spots of Dusky cotton Bug**

No hot spot find yet.

**Aphid:** On overall Punjab basis 0.0% above ETL spots has been observed during current week as compared to 0.0% in last week and 0.00% during the same corresponding period of last year. And 2.0% below ETL spots have been observed during current week as compared to 3.0% in last week and 4.0% during the same corresponding period of last year.

#### **Tehsil wise percentage of hot spots of Aphid**

No Hot Spot Found This Week

**Armyworm:** On overall Punjab basis 0.19% spots (all considered above ETL) of Armyworm have been observed as compared to 0.15% in last week and 1.48% 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	OKARA	5.6	4	BAHAWAL PUR	1.8
2	PAK PATTAN	4.2	5	TANDLIANWALA	1.3
3	SAHIWAL	3.2			

**Pink Boll Worm:** On overall Punjab basis 0.31% above ETL spots have been observed as compared to 0.11% in last week and 0.00% same corresponding period of the last year. And 6.81% below ETL spots have been observed as compared to 4.18% in last week and 3.13% during same corresponding period of last year.

#### **Tehsil wise percentage of hot spots of pink boll worm**

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	JALAL PUR P.W	4.9	4	CHISHTIAN	3.1
2	JAM PUR	4.2	5	SHUJABAD	2.4
3	BAHAWAL PUR	3.6	6	ALI PUR	2.0

**American Boll Worm:** On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.00% in last week and 0.31% during same corresponding period of last year. And 0.88% below ETL spots have been observed as compared to 0.84% in last week and 3.08% during same corresponding period of last year.

#### **Tehsil wise percentage of hot spots of American Boll Worm**

No hot spot find yet.

**Spotted Boll Worm:** On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.00% in last week and 0.04% during same corresponding period of last year & 0.04% below ETL spots have been observed as compared to 0.00% in last week and 0.13% during same corresponding period of last year.

### Tehsil wise percentage of hot spots of Spotted Boll Worm

No hot spot find yet.

**CLCuV:** On overall Punjab basis 0.00% spots (all considered above ETL) of CLCV have been observed as compared to 0.00% in last week and 0.58% during the same corresponding period of the last year.

### Tehsil wise percentage of hot spots of CLCuV

No Hot Spot Found This Week

### FORECAST FOR THE NEXT WEEK

### Meteorological data of the current week 2022-2023

Districts	2023				2022			
	Temperature °C		R.H%	Rainfall (mm)	Temperature °C		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	37.6	26.3	59.3	0.0	44.0	29.7	63.2	0.0
Khanewal	40.1	28.6	46.5	3.1	43.3	29.6	57.6	0.0
Vehari	41.6	30.0	42.2	0.0	42.0	29.9	55.1	0.0
Lodhran	39.7	26.4	69.2	1.4	44.2	29.2	65.4	0.0
Sahiwal	39.0	27.0	41.0	0.0	43.2	27.4	38.0	0.0
Pakpattan	38.5	26.8	40.0	0.0	43.0	26.8	37.6	0.0
Okara	39.8	27.6	41.3	0.0	42.9	25.7	36.4	0.0
Bahawalpur	37.9	25.9	52.6	8MM	44.0	27.4	33.3	0.0
Bahawalnagar	36.1	23.6	55.8	27.0	44.7	29.6	29.9	3.1
R.Y.Khan	41.0	28.3	46.9	0.0	43.1	26.0	50.3	0.0
D.G. Khan	40.33	30.00	31.17	0.00	42.05	25.50	30.00	0.00
M. Garh	41.37	28.80	68.00	3.00	45.70	24.60	32.20	0.00
Rajanpur	40.83	29.67	47.00	30.00	46.70	28.75	39.55	0.00
Layyah	42.00	24.00	40.00	0.00	48.00	25.00	34.00	0.00
<b>TOT/AVG</b>	<b>39.70</b>	<b>27.35</b>	<b>48.64</b>	<b>65</b>	<b>44.06</b>	<b>27.51</b>	<b>43.04</b>	<b>3</b>

### Weather forecast for next 7 day in cotton zone

Division	Dated	15/6	16/6	17/6	18/6	19/6	20/6	21/6
Multan	Max.Temp.	40	39	41	43	44	45	45
	Min.Temp.	29	30	30	31	34	34	33
	Humidity %	31	37	30	27	27	24	27
Sahiwal	Max.Temp.	30	38	40	42	42	44	44
	Min.Temp.	30	27	29	29	30	31	34
	Humidity %	35	36	31	27	31	25	26
Bahawalpur	Max.Temp.	39	38	39	41	42	44	43
	Min.Temp.	28	29	29	31	32	33	31
	Humidity %	35	36	35	30	25	27	27
D.G. Khan	Max.Temp.	40	39	42	43	44	46	45
	Min.Temp.	29	30	30	31	33	34	33
	Humidity %	32	35	30	27	26	24	25
Average Cotton Region	Max.Temp.	41.5						
	Min.Temp.	30.86						
	Humidity %	29.57						

**Source:** [timeanddate.com](http://timeanddate.com)

### **Summary of weather forecast**

Overall weather for seven days in cotton zone during next week will remain hot, sunny & shiny.

### **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. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. Keeping in view above all, it is predicted that population of this pest will increase 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. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. Keeping in view above all, 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. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. in view above all, 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. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. Keeping in view above all, it is predicted that population of this pest will sustain as such on cotton crop during the coming week.

**Mites:** This pest flourishes best in dry climate with optimum temperature 28-40 °C with relative humidity above 40-50%. Maximum lethal temperature for this pest is 45 °C. The current weather conditions on overall Punjab basis (temp. Max. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. Keeping in view above all, it is predicted that population of this pest will sustain as such 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. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. In view above all, it is predicted that population of this pest may sustain during the coming week.

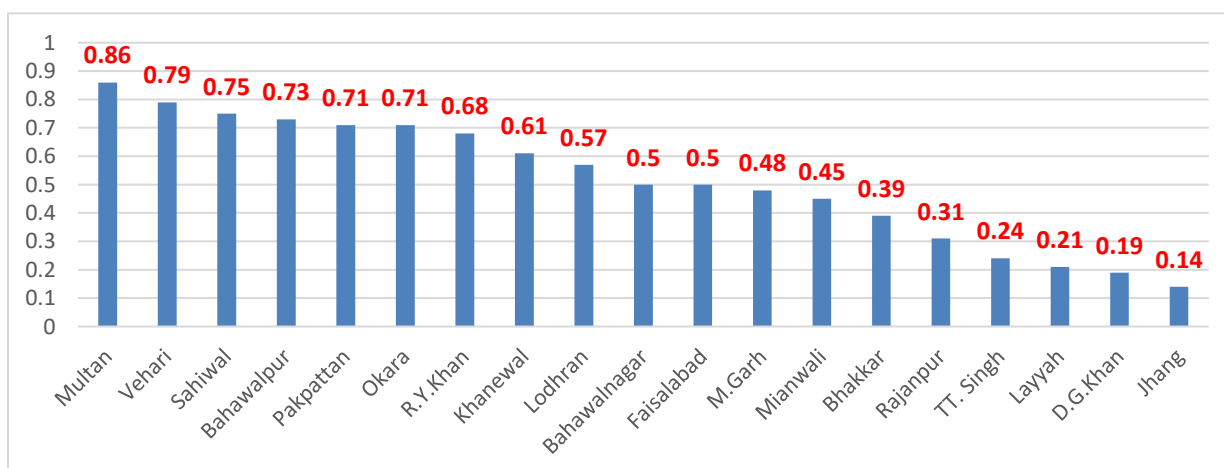
**Aphid:** This pest flourishes best in moderate climate with optimum temperature 25-35 °C with relative humidity above 60-80%. The current weather conditions on overall Punjab basis (temp. Max. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. Keeping in view above all, it is predicted that population of this pest may sustain during the 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. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. It is predicted that population of this pest will sustain on cotton during the coming week.

### Moth Catches in Pheromone Traps during 2nd Week of June, 2023

Moth Catches in Pheromone Traps During 2nd Week of June, 2023			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	36	0.86
Khanewal	8	34	0.61
Vehari	6	33	0.79
Lodhran	6	24	0.57
Sahiwal	4	21	0.75
Pakpattan	4	20	0.71
Okara	4	20	0.71
Bahawalpur	8	41	0.73
Bahawalnagar	10	35	0.50
R.Y.Khan	8	38	0.68
D.G.Khan	6	8	0.19
Rajanpur	6	13	0.31
M.Garh	8	27	0.48
Layyah	6	9	0.21
Bhakkar	8	22	0.39
Mianwali	6	19	0.45
Faisalabad	6	21	0.50
TT. Singh	6	10	0.24
Jhang	4	4	0.14

*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%. Maximum lethal temperature for this pest is 45-53 °C . The current weather conditions on overall Punjab basis (temp. Max. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. It is predicted that population of this pest will remain sustain on cotton crop during the coming week.

### Moth catches on light traps during 2nd week of June, 2023

Moth Catches on Light Traps/Trap/night During 2nd Week of June, 2023				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1.0	0.0	4.0
Khanewal	4	1.7	0.0	5.3
Vehari	3	0.1	0.0	0.7
Lodhran	3	1.0	0.0	1.4
Sahiwal	2	0.4	0.0	2.4
Pakpattan	2	0.3	0.0	2.1
Okara	3	0.3	0.0	3.0
Bahawalpur	4	1.0	0.3	1.4
Bahawalnagar	5	1.4	0.9	1.9
R.Y.Khan	4	0.9	0.7	0.4
D.G.Khan	3	0.7	0.1	0.6
M.Garh	4	0.1	0.4	1.7
Rajan Pur	3	0.4	0.4	2.0
Layyah	3	0.0	0.0	1.1
Note. 3 moth catches of a pest on 3 consecutive nights in a trap is considered as ETL				

**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 The current weather conditions on overall Punjab basis (temp. Max. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. 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%. The current weather conditions on overall Punjab basis (temp. Max. 39.70 °C, Min. 27.35 °C with R. humidity 48.64%) & forecast for the next week temp. Max. 41.5 °C, Min. 30.86°C with humidity 29.57%. 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 sustain as such on cotton crop during 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, kangji booti, aksin etc.
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. Avoid water stress to the plants.
5. Avoid repeated visits of workers from infested fields to healthy fields.
6. Apply the localized chemical spray on infected along with its 2 meter surrounding area.

### 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. Keep the special observation/ pest scouting when the boll opening starts.
2. Use of soft contact poison on the above ETL.

### MANAGEMENT OF ARMY WORM

1. Keep the fields clean from weeds especially Its it which is a preferred host of armyworm.
2. Observe the field on regular basis and under close observation to assess its attack and treat the patch at earliest if necessary.
3. Avoid sowing of Jantar near cotton fields.
4. Regular pest scouting at least twice a week.
5. Hand picking and destruction of egg masses at initial stage as initially its attack starts in patches and is clearly visible.

### CLCuV MANAGEMENT

1. Use CLCuV tolerant varieties for sowing.
2. Keep Cotton fields free from all kinds of weeds.
3. Eradicate other alternate host plants of CLCuV and dispose them off carefully.

4. Thinning out and destruction of Virus affected plants.
5. Remove CLCuV affected plants in less than 60 DAS (Days after sowing) crop.
6. Hoeing after each irrigation or rain at watter condition till canopies permit.
7. 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.
8. Irrigate the fields when needed keeping in view weather conditions e.g. temperature, rainfall, soil water holding capacity and plant need.
9. Balanced use of Fertilizer i.e. N.P.K. along with foliar growth promoters if necessary.
10. Keep transmission vector (whitefly) at the low ebb

### Alternate host plants of CLCuV vector (whitefly)

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 or 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 2 <sup>nd</sup> 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