

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

Whitefly: On overall Punjab basis 23.14% above ETL spots have been observed during current week as compared to 17.89% in last week and 29.70% during the same corresponding period of last year. And 76.52% below ETL spots have been observed during current week as compared to 81.88% in last week and 69.57% 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	BAHAWAL PUR	80.0	32	LODHRAN	18.8
2	KOT CHUTTA	55.8	33	KAROR L.E.	17.7
3	A.P.EAST	54.7	34	CHOBARA	17.0
4	JAM PUR	50.0	35	DUYAPUR	16.7
5	YAZMAN	47.1	36	BURE WALA	13.3
6	HASILPUR	46.9	37	VEHARI	11.9
7	R.Y.KHAN	44.8	38	KABIR WALA	9.2
8	LIAQUAT PUR	43.1	39	ISA KHEL	9.1
9	D.G.KHAN	43.0	40	MIANWALI	9.0
10	SADIQ ABAD	42.0	41	JAHANIAN	8.7
11	KHAN PUR	41.7	42	PIPLAN	8.0
12	FORT ABBAS	41.1	43	MANKERA	7.4
13	ROJHAN	40.6	44	QUIDABAD	7.1
14	HAROON ABAD	39.3	45	PAK PATTAN	6.7
15	RAJAN PUR	38.7	46	KHANEWAL	6.3
16	CHISHTIAN	35.1	47	SILANWALI	6.3
17	BAHAWAL NAGAR	34.0	48	CHICHA WATNI	5.6
18	SHUJABAD	31.3	49	MIAN CHANNU	5.5
19	MUZUFAR GARH	29.4	50	SAHIWAL	4.9
20	ALI PUR	29.4	51	BHAKKAR	4.5
21	JATOI	29.4	52	OKARA	4.3
22	MINCHAN ABAD	26.0	53	DARYA KHAN	4.2
23	JALAL PUR P.W	25.9	54	SHORKOT	4.1
24	QASUR	25.0	55	KALLOR KOT	3.8
25	TAUNSA	23.6	56	A.P SIAL	3.6
26	MAILSI	23.4	57	RENALA KHURD	3.0
27	MULTAN	22.5	58	JHANG	2.3
28	KOT ADDU	21.9	59	PIR MAHAL	1.6
29	KEHROR PACCA	20.5	60	ARIF WALA	1.4
30	CHUNIAN	20.0	61	T.T.SINGH	1.0
31	LAYYAH	19.5			

Jassid: On overall Punjab basis 2.20% above ETL spots have been observed as compared to 3.04% in last week and same week of last year 11.77% and 96.59% below ETL spots have been observed during current week as compared to 96.05% in last week and 86.31% 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	QASUR	25.0	25	HASILPUR	3.1
2	SAHIWAL	25.0	26	RENALA KHURD	3.0
3	KOT RADHA KISHAN	25.0	27	KEHROR PACCA	2.7
4	CHUNIAN	20.0	28	BHAKKAR	2.3
5	KOTMOMIN	14.3	29	TAUNSA	2.1
6	BAHAWAL PUR	12.9	30	SHORKOT	2.1

7	CHISHTIAN	10.8	31	MIANWALI	2.0
8	SAHIWAL	7.3	32	KALLOR KOT	1.9
9	PAK PATTAN	6.7	33	LODHRAN	1.8
10	FORT ABBAS	6.3	34	MAILSI	1.8
11	CHICHA WATNI	5.6	35	PIR MAHAL	1.6
12	HARON ABAD	5.4	36	D.G.KHAN	1.5
13	VEHARI	5.1	37	LAYYAH	1.2
14	T.T.SINGH	5.0	38	DUYAPUR	1.0
15	DEPALPUR	5.0	39	A.P.EAST	0.9
16	BAHAWAL NAGAR	4.7	40	SHUJABAD	0.9
17	OKARA	4.3	41	CHOBARA	0.9
18	ARIF WALA	4.3	42	R.Y.KHAN	0.9
19	MINCHAN ABAD	4.2	43	KABIR WALA	0.8
20	BURE WALA	4.2	44	JAM PUR	0.8
21	PIPLAN	4.0	45	ALI PUR	0.6
22	YAZMAN	3.9	46	KOT ADDU	0.6
23	SUMUNDRI	3.3	47	KAROR L.E.	0.6
24	TANDLIANWALA	3.3			

Thrips: On overall Punjab basis 0.12% above ETL spots have been observed as compared to 0.29% in last week and same week of last year i.e. 0.19%. And 91.35% below ETL spots have been observed during current week as compared to 93.66% in last week and 85.28% 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	YAZMAN	2.0	4	MIANWALI	1.0
2	KAROR L.E.	1.2	5	TAUNSA	0.7
3	BAHAWAL PUR	1.2	6	LAYYAH	0.6

Mealy Bug: On overall Punjab basis 13.78% spots (all considered above ETL) of Mealy Bug have been observed as compared to 9.70% in last week and 12.69% 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	BAHAWAL PUR	37.6	28	MAILSI	13.5
2	SADIQ ABAD	34.8	29	LODHRAN	12.7
3	R.Y.KHAN	33.6	30	KABIR WALA	11.7
4	KOT CHUTTA	32.6	31	KEHROR PACCA	9.8
5	KHAN PUR	30.8	32	ISA KHEL	9.1
6	LIAQUAT PUR	30.2	33	CHOBARA	8.0
7	YAZMAN	29.4	34	KAROR L.E.	7.9
8	D.G.KHAN	28.9	35	MIAN CHANNU	7.8
9	HASILPUR	28.1	36	KOT ADDU	7.5
10	CHISHTIAN	24.3	37	KHANEWAL	5.6
11	RAJAN PUR	24.2	38	VEHARI	5.1
12	BAHAWAL NAGAR	23.6	39	MIANWALI	5.0
13	A.P.EAST	23.6	40	T.T.SINGH	5.0
14	HARON ABAD	22.3	41	BURE WALA	5.0
15	SHUJABAD	22.3	42	CHICHA WATNI	4.9
16	FORT ABBAS	21.4	43	OKARA	4.3
17	JAM PUR	17.4	44	PAK PATTAN	3.3
18	TAUNSA	17.4	45	PIR MAHAL	3.3
19	ROJHAN	16.4	46	SAHIWAL	2.4
20	ALI PUR	16.3	47	A.P.SIAL	2.4
21	JATOI	16.3	48	JHANG	2.3
22	MINCHAN ABAD	15.6	49	SHORKOT	2.1
23	MULTAN	15.3	50	JAHANIAN	1.9
24	JALAL PUR P.W	15.2	51	GOJRA	1.9

25	LAYYAH	14.8	52	SUMUNDRI	0.8
26	MUZUFAR GARH	14.4	53	TANDLIANWALA	0.8
27	DUYAPUR	13.7			

Mites: On overall Punjab basis 0.00% above ETL spots has 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 4.93% below ETL spots have been observed during current week as compared to 4.96% in last week and 2.18% during the same corresponding period of last year.

Dusky Cotton Bug: On overall Punjab basis 1.75% above ETL spots have been observed during current week as compared to 0.84% in last week and 3.44% during the same corresponding period of last year. And 52.09% below ETL spots have been observed during current week as compared to 50.17% in last week and 57.99% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of dusky cotton bug

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	BAHAWAL PUR	29.4	9	MULTAN	3.6
2	YAZMAN	25.5	10	JALAL PUR P.W	1.8
3	HASILPUR	23.4	11	VEHARI	1.7
4	CHISHTIAN	6.3	12	BURE WALA	1.7
5	HAROOON ABAD	6.3	13	LODHRAN	1.2
6	SHUJABAD	6.3	14	JAHANIAN	1.0
7	FORT ABBAS	5.4	15	MAILSI	0.9
8	A.P.EAST	4.7	16	KHANEWAL	0.8

Armyworm: On overall Punjab basis 1.27% spots (all considered above ETL) of Armyworm have been observed as compared to 1.26% in last week and 6.50% 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	BAHAWAL PUR	32.9	9	HASILPUR	3.1
2	YAZMAN	8.8	10	HAROOON ABAD	1.8
3	A.P.EAST	8.5	11	SHUJABAD	0.9
4	D.G.KHAN	5.9	12	JALAL PUR P.W	0.9
5	R.Y.KHAN	4.3	13	ROJHAN	0.8
6	LODHRAN	3.6	14	TAUNSA	0.7
7	SADIQ ABAD	3.6	15	KOT ADDU	0.6
8	LIAQUAT PUR	3.4			

Pink Boll Worm: On overall Punjab basis 10.45% above ETL spots have been observed as compared to 7.53% in last week and 14.03% same corresponding period of the last year. And 39.55% below ETL spots have been observed as compared to 35.54% in last week and 32.95% 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	BAHAWAL PUR	52.9	26	KEHROR PACCA	8.9
2	HASILPUR	34.4	27	ARIF WALA	8.7
3	YAZMAN	25.5	28	KAROR L.E.	8.5
4	A.P.EAST	25.5	29	JAM PUR	8.3
5	BAHAWAL NAGAR	23.6	30	MULTAN	8.1
6	HAROOON ABAD	21.4	31	RAJAN PUR	8.1
7	FORT ABBAS	21.4	32	CHOBARA	8.0
8	SADIQ ABAD	20.5	33	ROJHAN	7.8
9	R.Y.KHAN	19.8	34	LAYYAH	7.7
10	LIAQUAT PUR	19.8	35	CHICHA WATNI	7.6
11	KHAN PUR	19.2	36	RENALA KHURD	6.1
12	SHUJABAD	18.8	37	SAHIWAL	5.7
13	CHISHTIAN	18.0	38	MIAN CHANNU	5.5
14	JALAL PUR P.W	17.9	39	PAK PATTAN	5.0
15	MINCHAN ABAD	16.7	40	DEPALPUR	5.0
16	JATOI	15.6	41	JAHANIAN	4.8
17	BURE WALA	14.2	42	D.G.KHAN	4.4
18	MAILSI	12.6	43	OKARA	4.3
19	DUYAPUR	11.8	44	PIPLAN	4.0
20	ALI PUR	11.3	45	KABIR WALA	3.3
21	KHANEWAL	11.1	46	T.T.SINGH	3.0
22	KOT ADDU	10.6	47	TAUNSA	2.1
23	MUZUFAR GARH	10.0	48	MIANWALI	2.0
24	LODHRAN	9.7	49	KOT CHUTTA	1.4
25	VEHARI	9.3	50	TANDLIANWALA	0.8

American Boll Worm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.00% in last week and 0.08% during same corresponding period of last year. And 0.60% below ETL spots have been observed as compared to 0.69% in last week and 1.64% during same corresponding period of last year.

Spotted Boll Worm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.00% in last week and 0.15% during same corresponding period of last year & 0.50% below ETL spots have been observed as compared to 0.51% in last week and 0.88% during same corresponding period of last year.

CLCuV: On overall Punjab basis 4.15% spots (all considered above ETL) of CLCV have been observed as compared to 2.91% in last week and 40.29% during the same corresponding period of the last year.

Tehsil wise percentage of hot spots of CLCuV

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	SAHIWAL	25.0	20	PIPLAN	4.0
2	VEHARI	16.9	21	KALLOR KOT	3.8
3	KABIR WALA	16.7	22	MANKERA	3.7
4	ALI PUR	13.8	23	KAROR L.E.	3.7
5	MUZUFAR GARH	13.1	24	QUIDABAD	3.6
6	R.Y.KHAN	12.9	25	KHANEWAL	3.2
7	MAILSI	12.6	26	JAHANIAN	2.9
8	JATOI	12.5	27	SHUJABAD	2.7
9	SADIQ ABAD	11.6	28	LIAQUAT PUR	2.6
10	BAHAWAL PUR	10.6	29	BHAKKAR	2.3
11	D.G.KHAN	9.6	30	YAZMAN	2.0
12	KEHROR PACCA	8.9	31	LODHRAN	1.8
13	TAUNSA	7.6	32	MULTAN	1.8

14	BURE WALA	7.5	33	MIAN CHANNU	1.6
15	CHOBARA	7.1	34	LAYYAH	1.2
16	KOT ADDU	5.6	35	JHANG	1.2
17	KOT CHUTTA	5.1	36	SHORKOT	1.0
18	MIANWALI	5.0	37	T.T.SINGH	1.0
19	DARYA KHAN	4.2			

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	41.3	28.7	67.7	0.0	38.9	25.9	69.2	0.6
Khanewal	39.3	27.0	43.3	0.0	36.6	27.4	72.4	0.8
Vehari	39.1	28.0	49.0	0.0	38.7	26.0	66.4	0.0
Lodhran	39.2	28.1	64.3	0.0	37.4	24.5	77.4	0.0
Sahiwal	38.3	24.2	70.2	0.0	35.9	25.5	74.3	44.0
Pakpattan	38.5	24.0	71.6	0.0	35.4	26.2	72.6	6.0
Okara	38.8	24.1	70.6	0.0	35.6	27.1	73.2	20.2
Bahawalpur	40.7	27.9	54.9	0.0	37.8	26.8	71.1	0.0
Bahawalnagar	39.0	26.4	47.1	0.0	38.3	25.9	76.3	8.0
R.Y.Khan	42.1	26.4	56.4	0.0	38.1	25.8	59.4	0.0
D.G. Khan	39.1	31.4	56.3	0.0	37.1	28.3	62.1	0.0
M. Garh	40.5	29.0	51.0	0.0	34.2	25.4	72.0	2.0
Rajanpur	40.6	28.4	55.4	0.0	34.6	22.7	70.2	0.0
Layyah	39.0	20.0	40.0	0.0	32.0	25.0	80.0	2.0
TOT/AVG	39.68	26.69	56.99	0	36.47	25.89	71.19	84

Weather forecast for next 7 day in cotton zone

Division	Dated	18/09	19/09	20/09	21/09	22/09	23/09	24/09
Multan	Max.Temp.	35	35	38	39	39	39	38
	Min.Temp.	22	22	23	22	3	28	29
	Humidity %	47	51	39	33	36	38	40
Sahiwal	Max.Temp.	34	31	36	38	36	35	37
	Min.Temp.	25	26	26	26	26	25	24
	Humidity %	49	61	46	37	47	52	54
Bahawalpur	Max.Temp.	36	32	36	38	39	39	39
	Min.Temp.	22	23	22	28	23	28	28
	Humidity %	46	60	46	39	35	36	32
D.G. Khan	Max.Temp.	36	35	39	40	39	41	40
	Min.Temp.	22	23	26	23	28	28	29
	Humidity %	43	48	36	34	36	33	33
Average Cotton Region	Max.Temp.	27						
	Min.Temp.	24.29						
	Humidity %	42.39						

Source: timeanddate.com

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain partly cloudy & rainy.

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. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity 42.39%. Keeping in view above all, it is predicted that population of this pest will decrease due to rainfall 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. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity 42.39%. Keeping in view above all, it is predicted that population of this pest will sustain 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. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity 42.39%. In view above all, it is predicted that population of this pest will decrease 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. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity 42.39%. Keeping in view above all, it is

predicted that population of this pest will increase 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. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity 42.39%. Keeping in view above all, it is predicted that population of this pest will sustain as such during the coming week.

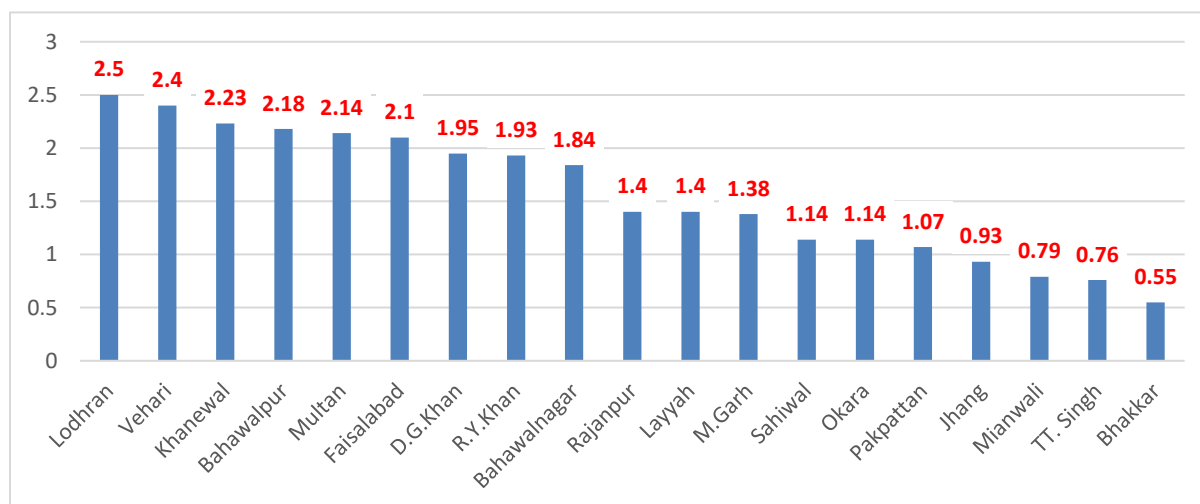
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity 42.39%. 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. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity 42.39%. It is predicted that population of this pest will increase on cotton during the coming week.

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

Moth Catches in Pheromone Traps During 2nd Week of September, 2023			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	90	2.14
Khanewal	8	125	2.23
Vehari	6	101	2.40
Lodhran	6	105	2.50
Sahiwal	4	32	1.14
Pakpattan	4	30	1.07
Okara	4	32	1.14
Bahawalpur	8	122	2.18
Bahawalnagar	10	129	1.84
R.Y.Khan	8	108	1.93
D.G.Khan	6	82	1.95
Rajanpur	6	59	1.40
M.Garh	8	77	1.38
Layyah	6	59	1.40
Bhakkar	8	31	0.55
Mianwali	6	33	0.79
Faisalabad	6	88	2.10
TT. Singh	6	32	0.76
Jhang	4	26	0.93

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. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity

42.39%.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 September, 2023

Moth Catches on Light Traps/Trap/night During 2nd Week of September, 2023				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1.0	0.0	3.4
Khanewal	4	2.3	0.0	5.7
Vehari	3	0.7	0.6	3.0
Lodhran	3	3.7	0.0	5.6
Sahiwal	2	0.3	0.0	1.0
Pakpattan	2	0.3	0.0	0.6
Okara	3	0.4	0.0	1.1
Bahawalpur	4	1.4	1.9	2.6
Bahawalnagar	5	1.4	0.9	2.1
R.Y.Khan	4	1.6	1.4	1.7
D.G.Khan	3	1.1	0.6	3.3
M.Garh	4	0.4	0.3	2.9
Rajan Pur	3	0.4	0.4	2.0
Layyah	3	0.1	0.0	0.3
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. The current weather conditions on overall Punjab basis (temp. Max. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity 42.39%.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. 39.68 °C, Min. 26.69°C with R. humidity 56.99%) & forecast for the next week temp. Max. 27.00°C, Min. 24.29°C with humidity 42.39%.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, kanghi 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 nd 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