

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 2ND WEEK OF AUGUST, 2023

Whitefly: On overall Punjab basis 10.36% above ETL spots have been observed during current week as compared to 9.80 % % in last week and 40.36% during the same corresponding period of last year. And 89.51% below ETL spots have been observed during current week as compared to 89.04% in last week and 58.98% 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	34.0	36	FAISALABAD	9.1
2	KOT RADHA KISHAN	33.3	37	SAHIWAL	9.1
3	SARGODHA	28.6	38	PIPLAN	9.1
4	MIAN CHANNU	25.9	39	T.T.SINGH	8.8
5	QASUR	25.0	40	MANKERA	8.7
6	PATOKI	25.0	41	TAUNSA	8.3
7	YAZMAN	24.1	42	MULTAN	8.2
8	RAJAN PUR	21.7	43	CHOBARA	8.1
9	SILANWALI	20.0	44	MIANWALI	7.9
10	KOT CHUTTA	19.5	45	LIAQUAT PUR	7.8
11	BAHAWAL NAGAR	19.0	46	BHOWANA	7.7
12	D.G.KHAN	18.0	47	SADIQ ABAD	7.5
13	JAM PUR	17.1	48	ISA KHEL	7.4
14	A.P.EAST	16.5	49	JATOI	7.4
15	HASILPUR	16.5	50	OKARA	7.0
16	CHISHTIAN	15.9	51	VEHARI	6.4
17	GOJRA	15.1	52	SAHIWAL	6.3
18	ROJHAN	14.8	53	A.P SIAL	5.8
19	CHICHA WATNI	14.5	54	KALLOR KOT	5.7
20	MINCHAN ABAD	13.9	55	QUIDABAD	5.6
21	DARYA KHAN	13.8	56	SUMUNDRI	5.0
22	KHANEWAL	13.7	57	PAK PATTAN	5.0
23	ALI PUR	13.2	58	JHANG	4.9
24	HAROON ABAD	12.7	59	SHORKOT	4.7
25	JARANWALA	12.5	60	KABIR WALA	4.5
26	KHAN PUR	12.2	61	SHUJABAD	4.4
27	MUZUFAR GARH	12.1	62	MAILSI	4.2
28	FORT ABBAS	11.9	63	JAHANIAN	3.9
29	R.Y.KHAN	10.3	64	TANDLIANWALA	3.8
30	JALAL PUR P.W	10.2	65	DUYAPUR	3.6
31	PIR MAHAL	10.0	66	KEHROR PACCA	3.1
32	KOTMOMIN	10.0	67	BURE WALA	3.0
33	KOT ADDU	9.8	68	LODHRAN	2.9
34	KAROR L.E.	9.6	69	ARIF WALA	1.6
35	LAYYAH	9.3	70	RENALA KHURD	1.6

Jassid: On overall Punjab basis 8.25% above ETL spots have been observed as compared to 11.54% in last week and same week of last year 18.66% and 91.48% below ETL spots have been observed during current week as compared to 87.15% in last week and 79.97% 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	KOT RADHA KISHAN	33.3	36	DARYA KHAN	6.9
2	SARGODHA	28.6	37	RAJAN PUR	6.7
3	BAHAWAL PUR	27.8	38	PIR MAHAL	6.7
4	HASILPUR	25.3	39	VEHARI	6.4
5	QASUR	25.0	40	SAHIWAL	6.3
6	PATOKI	25.0	41	SADIQ ABAD	6.3
7	CHUNIAN	20.0	42	LODHRAN	5.8
8	HAROON ABAD	19.7	43	A.P SIAL	5.8
9	FORT ABBAS	19.4	44	KEHROR PACCA	5.2
10	A.P.EAST	18.8	45	CHICHA WATNI	5.1
11	CHISHTIAN	18.3	46	SUMUNDRI	5.0
12	SAHIWAL	18.2	47	JAM PUR	5.0
13	SHUJABAD	14.4	48	RENALA KHURD	4.8
14	BAHAWAL NAGAR	14.3	49	SHORKOT	4.7
15	D.G.KHAN	14.3	50	PIPLAN	4.5
16	TAUNSA	14.2	51	JATOI	4.4
17	MULTAN	13.3	52	MANKERA	4.3
18	LAYYAH	12.7	53	KOT CHUTTA	4.0
19	ALI PUR	11.8	54	MIANWALI	4.0
20	KALLOR KOT	11.4	55	JHANG	3.9
21	R.Y.KHAN	11.3	56	TANDLIANWALA	3.8
22	JALAL PUR P.W	11.2	57	ISA KHEL	3.7
23	KAROR L.E.	11.1	58	DEPALPUR	3.7
24	QUIDABAD	11.1	59	FAISALABAD	3.6
25	CHOBARA	11.0	60	KABIR WALA	3.6
26	YAZMAN	10.8	61	18-HAZARI	3.3
27	MINCHAN ABAD	9.7	62	JAHANIAN	2.9
28	ARIF WALA	9.7	63	BHAKKAR	2.8
29	KOT ADDU	9.1	64	MAILSI	2.5
30	MUZUFAR GARH	8.3	65	BURE WALA	2.3
31	PAK PATTAN	8.3	66	DUYAPUR	1.8
32	LIAQUAT PUR	7.8	67	OKARA	1.8
33	KHAN PUR	7.3	68	KHANEWAL	1.7
34	ROJHAN	7.0	69	MIAN CHANNU	0.9
35	T.T.SINGH	7.0			

Thrips: On overall Punjab basis 2.86% above ETL spots have been observed as compared to 4.40% in last week and same week of last year i.e. 2.46%. And 94.85% below ETL spots have been observed during current week as compared to 93.12% in last week and 95.21% 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	SHUJABAD	14.4	19	HASILPUR	3.8
2	JALAL PUR P.W	13.3	20	KAROR L.E.	3.7
3	BAHAWAL PUR	12.4	21	ISA KHEL	3.7
4	A.P.EAST	11.8	22	CHOBARA	3.7
5	ALI PUR	10.3	23	KHAN PUR	3.7
6	MUZUFAR GARH	9.8	24	HAROON ABAD	2.8
7	KOT ADDU	9.1	25	MAILSI	1.7
8	MULTAN	7.1	26	VEHARI	1.6
9	YAZMAN	6.0	27	LODHRAN	1.4
10	FORT ABBAS	6.0	28	SADIQ ABAD	1.3
11	LAYYAH	5.9	29	CHISHTIAN	1.2
12	QUIDABAD	5.6	30	JHANG	1.0
13	R.Y.KHAN	5.2	31	JAHANIAN	1.0
14	MIANWALI	5.0	32	DUYAPUR	0.9
15	PIPLAN	4.5	33	TAUNSA	0.8

16	JATOI	4.4	34	RAJAN PUR	0.8
17	MANKERA	4.3	35	ROJHAN	0.8
18	LIAQUAT PUR	3.9			

Mealy Bug: On overall Punjab basis 3.87% spots (all considered above ETL) of Mealy Bug have been observed as compared to 3.12% in last week and 10.89% 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	A.P.EAST	15.3	25	D.G.KHAN	3.0
2	JATOI	13.2	26	KAROR L.E.	3.0
3	RAJAN PUR	12.5	27	HAROON ABAD	2.8
4	BAHAWAL PUR	11.3	28	T.T.SINGH	2.6
5	MUZUFAR GARH	10.6	29	TAUNSA	2.5
6	ALI PUR	9.6	30	CHISHTIAN	2.4
7	SAHIWAL	9.1	31	SAHIWAL	2.4
8	SHUJABAD	8.9	32	SHORKOT	2.4
9	R.Y.KHAN	8.2	33	CHOBARA	2.2
10	JALAL PUR P.W	8.2	34	LODHRAN	2.2
11	MULTAN	8.2	35	KEHROR PACCA	2.1
12	YAZMAN	7.2	36	JHANG	2.0
13	JAM PUR	6.4	37	A.P SIAL	1.9
14	CHICHA WATNI	6.0	38	KHANEWAL	1.7
15	GOJRA	5.7	39	VEHARI	1.6
16	MIAN CHANNU	5.2	40	BAHAWAL NAGAR	1.6
17	ROJHAN	4.7	41	MINCHAN ABAD	1.4
18	DUYAPUR	4.5	42	HASILPUR	1.3
19	KOT CHUTTA	4.0	43	MIANWALI	1.0
20	ISA KHEL	3.7	44	LIAQUAT PUR	1.0
21	KHAN PUR	3.7	45	TANDLIANWALA	1.0
22	KABIR WALA	3.6	46	SUMUNDRI	0.8
23	LAYYAH	3.4	47	MAILSI	0.8
24	KOT ADDU	3.0	48	BURE WALA	0.8

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 5.66% below ETL spots have been observed during current week as compared to 9.62% in last week and 2.24% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of mites

No hot spot observed this week

Dusky Cotton Bug: On overall Punjab basis 0.15% above ETL spots have been observed during current week as compared to 0.08% in last week and 1.58% during the same corresponding period of last year. And 30.54% below ETL spots have been observed during current week as compared to 29.18% in last week and 38.52% 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	HASILPUR	3.8	4	MULTAN	1.0
2	A.P.EAST	2.4	5	DUYAPUR	0.9
3	SHUJABAD	2.2			

Armyworm: On overall Punjab basis 1.22% spots (all considered above ETL) of Armyworm have been observed as compared to 0.36% in last week and 2.11% 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	9.3	12	SHUJABAD	2.2
2	SAHIWAL	9.1	13	R.Y.KHAN	2.1
3	ROJHAN	7.8	14	JAM PUR	1.4
4	JATOI	7.4	15	HARROON ABAD	1.4
5	RAJAN PUR	6.7	16	JHANG	1.0
6	HASILPUR	5.1	17	KABIR WALA	0.9
7	DUYAPUR	4.5	18	TAUNSA	0.8
8	CHISHTIAN	3.7	19	MAILSI	0.8
9	YAZMAN	3.6	20	ALI PUR	0.7
10	A.P.EAST	3.5	21	LODHRAN	0.7
11	D.G.KHAN	3.0			

Pink Boll Worm: On overall Punjab basis 2.49% above ETL spots have been observed as compared to 1.57% in last week and 2.72% same corresponding period of the last year. And 22.58% below ETL spots have been observed as compared to 16.80% in last week and 17.92% 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	11.3	22	KHAN PUR	2.4
2	HASILPUR	10.1	23	SHUJABAD	2.2
3	RAJAN PUR	10.0	24	KEHROR PACCA	2.1
4	YAZMAN	8.4	25	KOT CHUTTA	2.0
5	A.P.EAST	7.1	26	MIAN CHANNU	1.7
6	ROJHAN	6.3	27	PIR MAHAL	1.7
7	R.Y.KHAN	6.2	28	VEHARI	1.6
8	ALI PUR	5.9	29	KOT ADDU	1.5
9	JAM PUR	5.7	30	D.G.KHAN	1.5
10	MUZUFAR GARH	5.3	31	BURE WALA	1.5
11	MULTAN	5.1	32	KAROR L.E.	1.5
12	JALAL PUR P.W	5.1	33	CHOBARA	1.5
13	HARROON ABAD	4.2	34	LAYYAH	1.5
14	CHISHTIAN	3.7	35	LODHRAN	1.4
15	DARYA KHAN	3.4	36	MIANWALI	1.0
16	ARIF WALA	3.2	37	LIAQUAT PUR	1.0
17	FORT ABBAS	3.0	38	KABIR WALA	0.9
18	JATOI	2.9	39	CHICHA WATNI	0.9
19	DUYAPUR	2.7	40	TAUNSA	0.8
20	KHANEWAL	2.6	41	MAILSI	0.8
21	SADIQ ABAD	2.5			

American Boll Worm: On overall Punjab basis 0.03% above ETL spots have been observed as compared to 0.00% in last week and 0.09% during same corresponding period of last year. And 0.60% below ETL spots have been observed as compared to 0.38% in last week and 0.97% during same corresponding period of last year.

Tehsil wise percentage of hot spots of American boll worm

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	BAHAWAL NAGAR	1.6	2	HASILPUR	1.2

Spotted Boll Worm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.02% in last week and 0.04% during same corresponding period of last year & 0.54% below ETL spots have been observed as compared to 0.23% in last week and 1.01% during same corresponding period of last year.

Tehsil wise percentage of hot spots of spotted boll worm

No hot spot observed this week

CLCuV: On overall Punjab basis 1.07% spots (all considered above ETL) of CLCV have been observed as compared to 0.63% in last week and 41.19% 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	BAHAWAL PUR	10.3	11	VEHARI	2.4
2	A.P.EAST	8.2	12	JALAL PUR P.W	2.0
3	SHUJABAD	4.4	13	LIAQUAT PUR	2.0
4	MULTAN	4.1	14	CHOBARA	1.5
5	MUZUFAR GARH	3.8	15	KOT CHUTTA	1.3
6	JATOI	3.7	16	LAYYAH	1.0
7	KABIR WALA	3.6	17	KHANEWAL	0.9
8	R.Y.KHAN	3.1	18	TAUNSA	0.8
9	JAM PUR	2.9	19	LODHRAN	0.7
10	HASILPUR	2.5			

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	37.0	28.0	62.5	0.0	36.7	26.9	71.6	0.0
Khanewal	38.6	29.9	53.8	0.0	37.3	28.7	67.0	0.0
Vehari	37.1	28.4	59.4	0.0	35.7	28.1	64.8	0.0
Lodhran	37.3	27.0	71.3	0.0	36.6	25.4	73.0	1.1
Sahiwal	37.6	28.9	71.6	0.0	37.5	28.2	70.2	0.0
Pakpattan	37.1	29.1	72.6	0.0	38.1	28.1	74.1	0.0
Okara	37.3	29.3	73.2	0.0	36.8	27.1	72.5	0.0
Bahawalpur	38.6	27.6	61.4	0.0	38.5	27.7	63.5	0.6
Bahawalnagar	38.3	28.0	65.2	0.0	35.6	27.0	74.0	36.0
R.Y.Khan	38.1	27.5	54.9	0.0	32.0	26.1	78.0	0.0
D.G. Khan	37.0	30.2	60.0	0.0	37.0	30.1	49.6	0.0
M. Garh	37.3	28.0	42.0	0.0	39.8	24.6	70.0	0.0
Rajanpur	39.7	28.0	59.0	0.0	37.3	29.5	69.7	0.0
Layyah	43.0	30.0	60.0	0.0	49.0	27.0	92.0	10.0
TOT/AVG	38.14	28.57	61.91	0	37.71	27.48	70.72	48

Weather forecast for next 7 day in cotton zone

Division	Dated	16/8	17/8	18/8	19/8	20/8	21/8	22/8
Multan	Max.Temp.	39	40	41	41	43	43	42
	Min.Temp.	31	31	31	30	30	32	30
	Humidity %	40	34	32	27	24	25	28
Sahiwal	Max.Temp.	38	40	41	41	41	42	41
	Min.Temp.	27	28	28	29	28	30	30
	Humidity %	42	37	32	30	32	28	31
Bahawalpur	Max.Temp.	38	39	39	40	40	42	41
	Min.Temp.	29	30	29	28	29	40	29
	Humidity %	45	40	36	31	31	29	30
D.G. Khan	Max.Temp.	40	41	42	42	43	44	43
	Min.Temp.	31	31	30	30	31	31	30
	Humidity %	38	31	26	27	23	23	24
Average Cotton Region	Max.Temp.	40.96						
	Min.Temp.	30.11						
	Humidity %	31.29						

Source: 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. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C with humidity 31.29%. 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. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C with humidity 31.29%. 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. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C with humidity 31.29%. In view above all, it is predicted that population of this pest will sustain 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. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C with humidity 31.29%. 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. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C with humidity 31.29%. Keeping in view above all, it is predicted that population of this pest will sustain as such during the coming week.

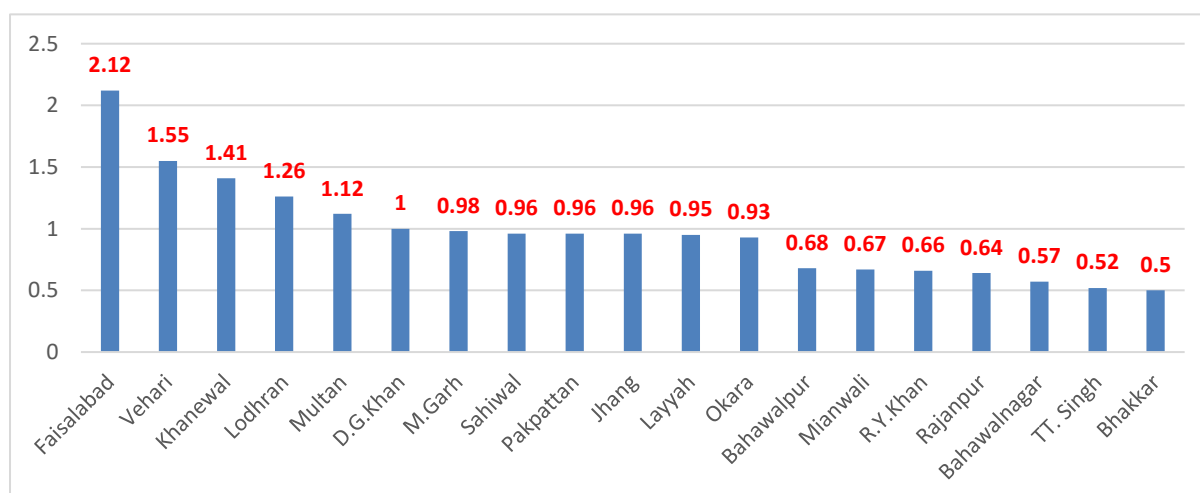
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C with humidity 31.29%. 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. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C with humidity 31.29%. 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 August, 2023

Moth Catches in Pheromone Traps During 2nd Week of August, 2023			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	47	1.12
Khanewal	8	79	1.41
Vehari	6	65	1.55
Lodhran	6	53	1.26
Sahiwal	4	27	0.96
Pakpattan	4	27	0.96
Okara	4	26	0.93
Bahawalpur	8	38	0.68
Bahawalnagar	10	40	0.57
R.Y.Khan	8	37	0.66
D.G.Khan	6	42	1.00
Rajanpur	6	27	0.64
M.Garh	8	55	0.98
Layyah	6	40	0.95
Bhakkar	8	28	0.50
Mianwali	6	28	0.67
Faisalabad	6	89	2.12
TT. Singh	6	22	0.52
Jhang	4	27	0.96

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. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C with humidity 31.29%.

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 August, 2023

Moth Catches on Light Traps/Trap/night During 2nd Week of August, 2023				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1.3	0.0	2.7
Khanewal	4	0.7	0.0	7.1
Vehari	3	0.7	0.0	1.4
Lodhran	3	4.4	0.0	4.6
Sahiwal	2	0.4	0.0	1.1
Pakpattan	2	0.4	0.0	1.0
Okara	3	0.6	0.0	1.4
Bahawalpur	4	2.0	1.3	2.6
Bahawalnagar	5	1.0	0.9	2.0
R.Y.Khan	4	2.3	1.7	1.6
D.G.Khan	3	0.4	0.1	1.9
M.Garh	4	0.0	0.1	2.1
Rajan Pur	3	1.4	1.0	4.4
Layyah	3	0.1	0.0	0.6
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. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C with humidity 31.29%. 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. 38.14 °C, Min. 28.57 °C with R. humidity 61.91%) & forecast for the next week temp. Max. 40.96 °C, Min. 30.11°C

with humidity 31.29%. 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 watar 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