

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 4TH WEEK OF AUGUST, 2023

Whitefly: On overall Punjab basis 17.45% above ETL spots have been observed during current week as compared to 14.99% in last week and 31.77% during the same corresponding period of last year. And 81.25% below ETL spots have been observed during current week as compared to 83.58% in last week and 67.67% 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	60.0	35	KAROR L.E.	14.3
2	RAJAN PUR	56.3	36	KEHROR PACCA	14.2
3	ROJHAN	51.8	37	LODHRAN	13.9
4	KOT CHUTTA	48.2	38	MINCHAN ABAD	13.6
5	D.G.KHAN	39.0	39	LAYYAH	13.5
6	SARGODHA	33.3	40	DARYA KHAN	13.2
7	SILANWALI	33.3	41	MANKERA	10.7
8	ALI PUR	32.9	42	PIPLAN	10.0
9	JATOI	32.5	43	KALLOR KOT	10.0
10	BAHAWAL PUR	30.8	44	KHANEWAL	9.3
11	MULTAN	26.9	45	DUYAPUR	9.2
12	MUZUFAR GARH	25.5	46	MIANWALI	8.5
13	QUIDABAD	25.0	47	VEHARI	8.1
14	QASUR	25.0	48	MAILSI	7.3
15	PATOKI	25.0	49	ISA KHEL	6.7
16	JALAL PUR P.W	24.6	50	BHAKKAR	6.5
17	SHUJABAD	22.9	51	BURE WALA	6.3
18	LIAQUAT PUR	22.8	52	JARANWALA	6.3
19	HASILPUR	22.6	53	JAHANIAN	6.2
20	A.P.EAST	21.7	54	JHANG	5.9
21	KHAN PUR	21.5	55	SHORKOT	5.8
22	R.Y.KHAN	21.0	56	T.T.SINGH	5.5
23	YAZMAN	20.9	57	PIR MAHAL	5.3
24	KOT ADDU	19.9	58	A.P SIAL	5.0
25	SADIQ ABAD	19.8	59	FAISALABAD	3.8
26	TAUNSA	18.8	60	OKARA	2.8
27	FORT ABBAS	17.9	61	SUMUNDRI	2.8
28	MIAN CHANNU	17.3	62	ARIF WALA	2.6
29	HAROOON ABAD	17.0	63	KABIR WALA	2.5
30	CHISHTIAN	17.0	64	SAHIWAL	2.2
31	KOT RADHA KISHAN	16.7	65	RENALA KHURD	1.3
32	BAHAWAL NAGAR	16.4	66	TANDLIANWALA	1.2
33	CHOBARA	15.3	67	GOJRA	1.1
34	CHICHA WATNI	15.3			

Jassid: On overall Punjab basis 4.55% above ETL spots have been observed as compared to 7.23% in last week and same week of last year 15.06% and 93.27% below ETL spots have been observed during current week as compared to 91.29% in last week and 83.76% 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	32	LIAQUAT PUR	4.1
2	PATOKI	25.0	33	LODHRAN	4.0
3	CHUNIAN	25.0	34	R.Y.KHAN	4.0

4	SARGODHA	16.7	35	RENALA KHURD	3.9
5	SILANWALI	16.7	36	SHUJABAD	3.8
6	KOT RADHA KISHAN	16.7	37	JALAL PUR P.W	3.5
7	HASILPUR	16.1	38	KEHROR PACCA	3.3
8	TAUNSA	12.5	39	SHORKOT	3.3
9	FORT ABBAS	12.5	40	MUZUFAR GARH	3.0
10	BAHAWAL PUR	12.0	41	T.T.SINGH	3.0
11	HAROON ABAD	11.6	42	PAK PATTAN	2.9
12	BAHAWAL NAGAR	10.9	43	DARYA KHAN	2.6
13	MINCHAN ABAD	10.7	44	KALLOR KOT	2.5
14	VEHARI	8.8	45	KHANEWAL	2.3
15	CHISHTIAN	8.0	46	MIANWALI	2.3
16	CHOBARA	8.0	47	JHANG	2.2
17	CHICHA WATNI	7.6	48	GOJRA	2.1
18	SAHIWAL	6.7	49	PIR MAHAL	2.1
19	ROJHAN	6.3	50	A.P SIAL	2.0
20	JAM PUR	5.5	51	ALI PUR	1.8
21	LAYYAH	5.3	52	KHAN PUR	1.7
22	A.P.EAST	5.2	53	MAILSI	1.6
23	YAZMAN	5.2	54	OKARA	1.4
24	KOT ADDU	5.1	55	ARIF WALA	1.3
25	BURE WALA	4.9	56	MULTAN	1.0
26	TANDLIANWALA	4.8	57	SADIQ ABAD	0.9
27	SUMUNDRI	4.6	58	KABIR WALA	0.8
28	D.G.KHAN	4.4	59	JAHANIAN	0.8
29	RAJAN PUR	4.4	60	KOT CHUTTA	0.7
30	KAROR L.E.	4.2	61	JATOI	0.6
31	DUYAPUR	4.2			

Thrips: On overall Punjab basis 1.08% above ETL spots have been observed as compared to 2.00% in last week and same week of last year i.e. 0.48%. And 93.84% below ETL spots have been observed during current week as compared to 93.69% in last week and 88.47% 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	KHUSHAB	11.1	13	VEHARI	2.2
2	LAYYAH	8.2	14	SHUJABAD	1.9
3	ISA KHEL	6.7	15	YAZMAN	1.7
4	KOT ADDU	5.1	16	MIANWALI	1.6
5	KAROR L.E.	4.8	17	JATOI	1.3
6	TAUNSA	4.2	18	LODHAN	1.2
7	MANKERA	3.6	19	HASILPUR	1.1
8	BHAKKAR	3.2	20	SADIQ ABAD	0.9
9	CHOBARA	2.9	21	DUYAPUR	0.8
10	KHAN PUR	2.5	22	KEHROR PACCA	0.8
11	MUZUFAR GARH	2.4	23	LIAQUAT PUR	0.8
12	R.Y.KHAN	2.4	24	MAILSI	0.8

Mealy Bug: On overall Punjab basis 7.20% spots (all considered above ETL) of Mealy Bug have been observed as compared to 5.71% in last week and 12.80% 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	28.1	27	MIAN CHANNU	5.8
2	JATOI	23.1	28	FORT ABBAS	5.4
3	ALI PUR	18.8	29	VEHARI	5.1
4	MUZUFAR GARH	17.6	30	LAYYAH	4.8
5	BAHAWAL PUR	16.2	31	CHISHTIAN	4.5

6	JAM PUR	14.5	32	TAUNSA	4.2
7	SHUJABAD	14.3	33	KHANEWAL	3.9
8	A.P.EAST	13.0	34	CHOBARA	3.6
9	KOT CHUTTA	12.4	35	MANKERA	3.6
10	JALAL PUR P.W	12.3	36	BHAKKAR	3.2
11	YAZMAN	12.2	37	MAILSI	3.2
12	KHAN PUR	11.6	38	MIANWALI	3.1
13	R.Y.KHAN	10.5	39	T.T.SINGH	3.0
14	DUYAPUR	10.1	40	A.P SIAL	3.0
15	ROJHAN	9.8	41	JHANG	3.0
16	HASILPUR	9.7	42	OKARA	2.8
17	KOT ADDU	9.6	43	BAHAWAL NAGAR	2.7
18	SADIQ ABAD	8.6	44	TANDLIANWALA	2.4
19	KABIR WALA	8.3	45	PIR MAHAL	2.1
20	D.G.KHAN	8.2	46	BURE WALA	2.1
21	HAROON ABAD	8.0	47	MINCHAN ABAD	1.9
22	KAROR L.E.	7.4	48	SAHIWAL	1.7
23	LIAQUAT PUR	7.3	49	KEHROR PACCA	1.7
24	CHICHA WATNI	6.8	50	JAHANIAN	1.5
25	LODHRAN	5.8	51	SUMUNDRI	0.9
26	MULTAN	5.8	52	SHORKOT	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 3.88% below ETL spots have been observed during current week as compared to 7.35% in last week and 1.31% 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 0.32% above ETL spots have been observed during current week as compared to 0.28% in last week and 2.61% during the same corresponding period of last year. And 41.29% below ETL spots have been observed during current week as compared to 34.89% in last week and 52.42% 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	5.1	6	YAZMAN	0.9
2	A.P.EAST	4.3	7	MAILSI	0.8
3	JALAL PUR P.W	3.5	8	VEHARI	0.7
4	SHUJABAD	2.9	9	BURE WALA	0.7
5	MULTAN	1.0			

Armyworm: On overall Punjab basis 0.72% spots (all considered above ETL) of Armyworm have been observed as compared to 0.90% in last week and 6.46% 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	9.4	12	CHISHTIAN	0.9
2	DUYAPUR	4.2	13	LIAQUAT PUR	0.8
3	SHUJABAD	3.8	14	MAILSI	0.8
4	YAZMAN	3.5	15	R.Y.KHAN	0.8
5	HAROON ABAD	2.7	16	KHANEWAL	0.8
6	JALAL PUR P.W	2.6	17	MIANWALI	0.8
7	LODHRAN	2.3	18	KOT CHUTTA	0.7
8	JAHANIAN	2.3	19	TAUNSA	0.7
9	A.P.EAST	1.7	20	JAM PUR	0.7
10	D.G.KHAN	1.3	21	KOT ADDU	0.6
11	FORT ABBAS	0.9			

Pink Boll Worm: On overall Punjab basis 6.30% above ETL spots have been observed as compared to 4.63% in last week and 4.75% same corresponding period of the last year. And 29.77% below ETL spots have been observed as compared to 27.28% in last week and 23.22% 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	JATOI	21.3	24	KHANEWAL	7.0
2	BAHAWAL PUR	20.5	25	KABIR WALA	6.7
3	ALI PUR	17.6	26	VEHARI	6.6
4	SARGODHA	16.7	27	R.Y.KHAN	6.5
5	HASILPUR	14.0	28	ARIF WALA	6.4
6	A.P.EAST	13.0	29	LAYYAH	5.8
7	BAHAWAL NAGAR	12.7	30	JAHANIAN	5.4
8	JALAL PUR P.W	12.3	31	KAROR L.E.	5.3
9	MUZUFAR GARH	11.5	32	SADIQ ABAD	5.2
10	DUYAPUR	10.9	33	D.G.KHAN	5.0
11	MULTAN	10.6	34	BURE WALA	4.9
12	YAZMAN	10.4	35	CHOBARA	4.4
13	LODHRAN	9.8	36	MAILSI	4.0
14	ROJHAN	9.8	37	MINCHAN ABAD	3.9
15	KOT ADDU	9.6	38	MIAN CHANNU	2.9
16	SHUJABAD	9.5	39	SAHIWAL	2.8
17	KEHROR PACCA	9.2	40	KHAN PUR	2.5
18	HAROON ABAD	8.9	41	KOT CHUTTA	2.2
19	FORT ABBAS	8.9	42	PIR MAHAL	2.1
20	RAJAN PUR	8.8	43	TAUNSA	2.1
21	CHISHTIAN	8.0	44	CHICHA WATNI	1.7
22	JAM PUR	7.6	45	OKARA	1.4
23	LIAQUAT PUR	7.3	46	RENALA KHURD	1.3

American Boll Worm: On overall Punjab basis 0.01% above ETL spots have been observed as compared to 0.00% in last week and 0.12% during same corresponding period of last year. And 0.64% below ETL spots have been observed as compared to 0.46% in last week and 1.23% during same corresponding period of last year.

Tehsil wise percentage of hot spots of American boll worm

S. NO.	TEHSIL	%AGE
1	BAHAWAL NAGAR	0.9

Spotted Boll Worm: On overall Punjab basis 0.01% above ETL spots have been observed as compared to 0.00% in last week and 0.12% during same corresponding period of last year & 0.48% below ETL spots have been observed as compared to 0.28% in last week and 0.99% during same corresponding period of last year.

Tehsil wise percentage of hot spots of spotted boll worm

S. NO.	TEHSIL	%AGE
1	R.Y.KHAN	0.8

CLCuV: On overall Punjab basis 3.11% spots (all considered above ETL) of CLCV have been observed as compared to 1.89% in last week and 40.77% 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	ALI PUR	21.8	17	SHUJABAD	3.8
2	MUZUFAR GARH	18.2	18	JALAL PUR P.W	2.6
3	JATOI	17.5	19	SADIQ ABAD	2.6
4	BAHAWAL PUR	12.8	20	CHOBARA	2.2
5	VEHARI	8.8	21	BURE WALA	2.1
6	A.P.EAST	8.7	22	KHANEWAL	1.6
7	SAHIWAL	7.7	23	MIANWALI	1.6
8	R.Y.KHAN	7.3	24	LAYYAH	1.4
9	MAILSI	5.6	25	LODHRAN	1.2
10	TAUNSA	5.6	26	MULTAN	1.0
11	D.G.KHAN	4.4	27	SUMUNDRI	0.9
12	KOT CHUTTA	4.4	28	ROJHAN	0.9
13	KAROR L.E.	4.2	29	HAROON ABAD	0.9
14	KABIR WALA	4.2	30	JAHANIAN	0.8
15	KHAN PUR	4.1	31	JAM PUR	0.7
16	LIAQUAT PUR	4.1			

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	38.7	29.3	70.0	6.3	33.4	26.6	65.1	7.0
Khanewal	38.0	28.0	55.9	1.1	34.3	26.4	73.3	2.0
Vehari	38.4	28.0	60.9	0.0	32.3	24.9	61.8	6.0
Lodhran	36.3	27.1	67.1	1.0	34.3	23.6	80.0	2.6
Sahiwal	36.8	27.0	72.2	0.2	34.8	27.0	73.5	1.0
Pakpattan	36.5	27.1	71.8	0.0	34.4	27.5	75.0	0.0
Okara	34.2	26.2	72.0	5.0	35.2	26.8	72.4	0.0
Bahawalpur	38.1	27.7	48.1	0.0	34.2	25.7	76.8	29.2
Bahawalnagar	38.6	27.7	58.7	0.0	35.5	26.2	67.8	32.0
R.Y.Khan	38.1	26.0	59.1	0.0	31.4	25.0	79.1	0.0
D.G. Khan	36.1	29.0	66.4	2.6	29.7	25.4	82.6	7.7
M. Garh	35.1	27.8	59.0	8.0	31.2	20.9	81.0	17.0
Rajanpur	38.9	27.9	54.8	4.0	31.0	25.7	78.4	49.0
Layyah	37.0	23.0	50.0	0.0	30.6	24.2	92.0	40.0
TOT/AVG	37.21	27.27	61.86	28	33.02	25.42	75.61	194

Weather forecast for next 7 day in cotton zone

Division	Dated	30/8	31/8	1/9	2/9	3/9	4/9	5/9
Multan	Max.Temp.	40	40	40	39	39	40	41
	Min.Temp.	28	30	30	28	28	27	28
	Humidity %	35	32	28	31	35	31	36
Sahiwal	Max.Temp.	40	41	40	39	39	39	40
	Min.Temp.	26	28	26	27	26	26	27
	Humidity %	31	30	28	25	29	30	30
Bahawalpur	Max.Temp.	38	38	38	38	37	39	40
	Min.Temp.	26	28	26	27	26	26	27
	Humidity %	31	30	28	25	29	30	30
D.G. Khan	Max.Temp.	40	41	41	40	39	41	42
	Min.Temp.	28	29	30	29	28	28	28
	Humidity %	31	29	28	32	35	30	25
Average Cotton Region	Max.Temp.	39.61						
	Min.Temp.	27.54						
	Humidity %	30.14						

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. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp. Max. 39.61°C, Min. 27.54°C with humidity 30.14%. 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. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp.

Max. 39.61°C, Min. 27.54°C with humidity 30.14%. 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. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp. Max. 39.61°C, Min. 27.54°C with humidity 30.14%. 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. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp. Max. 39.61°C, Min. 27.54°C with humidity 30.14%. 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. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp. Max. 39.61°C, Min. 27.54°C with humidity 30.14%. Keeping in view above all, it is predicted that population of this pest will sustain as such during the coming week.

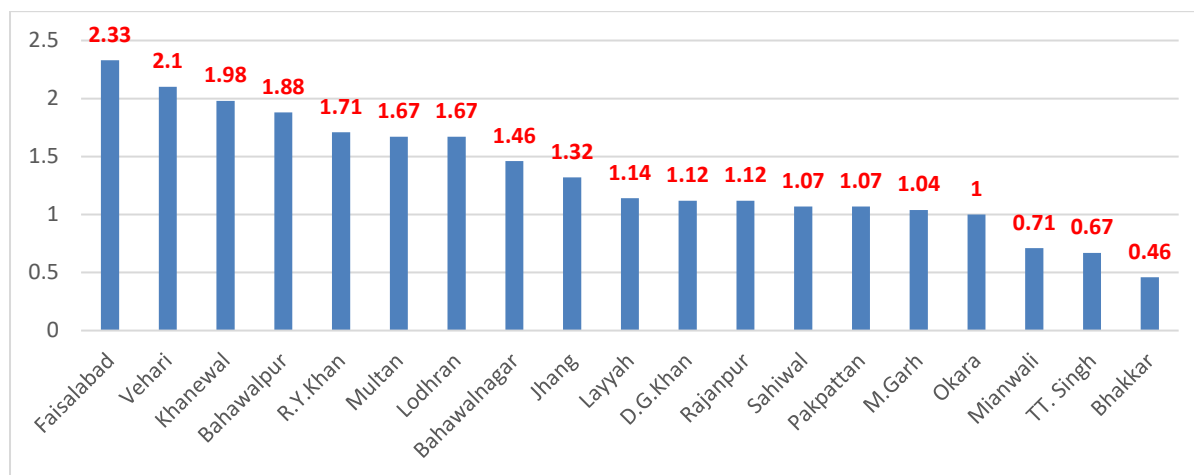
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp. Max. 39.61°C, Min. 27.54°C

with humidity 30.14%. 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. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp. Max. 39.61°C, Min. 27.54°C with humidity 30.14%. It is predicted that population of this pest will increase on cotton during the coming week.

Moth Catches in Pheromone Traps during 4th Week of August, 2023

Moth Catches in Pheromone Traps During 4th Week of August, 2023			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	70	1.67
Khanewal	8	111	1.98
Vehari	6	88	2.10
Lodhran	6	70	1.67
Sahiwal	4	30	1.07
Pakpattan	4	30	1.07
Okara	4	28	1.00
Bahawalpur	8	105	1.88
Bahawalnagar	10	102	1.46
R.Y.Khan	8	96	1.71
D.G.Khan	6	47	1.12
Rajanpur	6	47	1.12
M.Garh	8	58	1.04
Layyah	6	48	1.14
Bhakkar	8	26	0.46
Mianwali	6	30	0.71
Faisalabad	6	98	2.33
TT. Singh	6	28	0.67
Jhang	4	37	1.32
<i>Note. 3 moth catches on 3 consecutive nights in a trap is considered as ETL</i>			



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. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp. Max. 39.61°C, Min. 27.54°C with humidity 30.14%. It is predicted that population of this pest will remain sustain on cotton crop during the coming week.

Moth catches on light traps during 4th week of August, 2023

Moth Catches on Light Traps/Trap/night During 4th Week of August, 2023				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	0.7	0.0	2.6
Khanewal	4	2.1	0.0	7.0
Vehari	3	1.4	0.0	2.3
Lodhran	3	3.4	0.0	4.0
Sahiwal	2	0.3	0.0	1.3
Pakpattan	2	0.3	0.0	1.0
Okara	3	0.4	0.0	1.6
Bahawalpur	4	1.4	1.6	3.3
Bahawalnagar	5	1.1	1.0	2.1
R.Y.Khan	4	2.3	3.4	3.1
D.G.Khan	3	0.9	0.6	2.6
M.Garh	4	0.3	0.4	1.9
Rajan Pur	3	0.7	0.4	2.0
Layyah	3	0.1	0.0	0.1

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. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp. Max. 39.61°C, Min. 27.54°C with humidity 30.14%. 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. 37.21 °C, Min. 27.27 °C with R. humidity 61.86%) & forecast for the next week temp. Max. 39.61°C, Min. 27.54°C with humidity 30.14%. 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 wattar 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