

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 4TH WEEK OF AUGUST, 2022

Whitefly: On overall Punjab basis 31.70 above ETL spots have been observed during current week as compared to 34.84% in last week and 37.88% during the same corresponding period of last year. And 67.67% below ETL spots have been observed during current week as compared to 64.51% in last week and 61.92% 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	JALAL PUR P.W	86.7	32	LAYYAH	27.1
2	MULTAN	68.2	33	PAK PATTAN	26.7
3	SHUJABAD	63.6	34	HASILPUR	26.5
4	RAJAN PUR	50.0	35	SADIQ ABAD	26.0
5	D.G.KHAN	49.0	36	DUYAPUR	25.0
6	BAHAWAL PUR	47.3	37	CHICHA WATNI	25.0
7	MIAN CHANNU	46.0	38	ISA KHEL	25.0
8	KHANEWAL	44.2	39	KEHROR PACCA	24.3
9	CHISHTIAN	43.6	40	ARIF WALA	20.0
10	YAZMAN	42.9	41	TAUNSA	20.0
11	BURE WALA	42.5	42	LIAQUAT PUR	19.6
12	ALI PUR	42.5	43	OKARA	18.5
13	FORT ABBAS	42.3	44	RENALA KHURD	18.2
14	JAM PUR	42.2	45	KAROR L.E.	17.4
15	KHAN PUR	39.6	46	DEPALPUR	16.7
16	MUZUFAR GARH	39.6	47	18-HAZARI	16.7
17	KABIR WALA	38.5	48	BHAKKAR	16.7
18	JATOI	38.1	49	T.T.SINGH	16.3
19	A.P.EAST	37.5	50	MIANWALI	16.1
20	VEHARI	37.2	51	PIPLAN	15.8
21	HAROON ABAD	36.6	52	JHANG	15.0
22	KOT CHUTTA	36.5	53	SUMUNDRI	12.7
23	MINCHAN ABAD	35.4	54	DARYA KHAN	12.0
24	BAHAWAL NAGAR	34.4	55	TANDLIANWALA	11.9
25	JAHANIAN	33.3	56	SAHIWAL	10.5
26	ROJHAN	31.8	57	KALLOR KOT	10.0
27	MAILSI	31.3	58	A.P SIAL	8.3
28	KOT ADDU	31.0	59	GOJRA	8.2
29	LODHRAN	30.4	60	SHORKOT	5.3
30	R.Y.KHAN	30.0	61	PIR MAHAL	3.1
31	CHOBARA	27.3			

Jassid: On overall Punjab basis 15.06% above ETL spots has been observed as compared to 15.08% in last week and same week of last year 7.80%. And 83.76% below ETL spots have been observed during current week as compared to 83.68% in last week and 91.65% 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	VEHARI	44.2	31	R.Y.KHAN	14.0
2	LAYYAH	37.5	32	TAUNSA	14.0
3	BHAKKAR	33.3	33	ROJHAN	13.6
4	FORT ABBAS	32.7	34	KHAN PUR	12.5
5	CHICHA WATNI	27.5	35	MINCHAN ABAD	12.5
6	CHOBARA	27.3	36	ISA KHEL	12.5
7	KOT CHUTTA	27.0	37	18-HAZARI	12.5
8	PAK PATTAN	26.7	38	HASILPUR	12.2
9	KOT ADDU	26.2	39	JATOI	11.9
10	CHISHTIAN	25.5	40	SADIQ ABAD	10.0
11	KALLOR KOT	25.0	41	DUYAPUR	10.0
12	BURE WALA	22.5	42	JALAL PUR P.W	8.9
13	TANDLIANWALA	22.0	43	JAM PUR	8.9
14	BAHAWAL NAGAR	21.9	44	DEPALPUR	8.3
15	MULTAN	21.2	45	A.P SIAL	8.3
16	DARYA KHAN	20.0	46	ARIF WALA	7.5
17	KAROR L.E.	19.6	47	SHUJABAD	7.3
18	PIPLAN	18.4	48	BAHAWAL PUR	7.3
19	SUMUNDRI	18.2	49	PIR MAHAL	6.3
20	HAROON ABAD	17.1	50	KHANEWAL	5.8
21	D.G.KHAN	16.3	51	RAJAN PUR	5.6
22	GOJRA	16.3	52	A.P.EAST	5.4
23	KEHROR PACCA	16.2	53	SHORKOT	5.3
24	MIANWALI	16.1	54	T.T.SINGH	4.7
25	LIAQUAT PUR	16.1	55	RENALA KHURD	4.5
26	SAHIWAL	15.8	56	LODHRAN	4.3
27	ALI PUR	15.0	57	JAHANIAN	4.2
28	JHANG	15.0	58	MIAN CHANNU	4.0
29	OKARA	14.8	59	MUZUFAR GARH	2.1
30	MAILSI	14.6	60	KABIR WALA	1.9

Thrips: On overall Punjab basis 0.48% above ETL spots has been observed as compared to 1.20% in last week and same week of last year i.e. 2.71%. And 88.47% below ETL spots have been observed during current week as compared to 89.98% in last week and 95.18% 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	5.5	5	PIPLAN	2.6
2	MULTAN	4.5	6	KAROR L.E.	2.2
3	LAYYAH	4.2	7	R.Y.KHAN	2.0
4	MIANWALI	3.2			

Mealy Bug: On overall Punjab basis 12.80% spots (all considered above ETL) of Mealy Bug have been observed as compared to 10.91% in last week and 38.31% 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	41.8	25	MUZUFAR GARH	10.4
2	SHUJABAD	38.2	26	PAK PATTAN	10.0
3	YAZMAN	36.7	27	MIAN CHANNU	10.0
4	JALAL PUR P.W	35.6	28	MIANWALI	9.7
5	MULTAN	34.8	29	KOT CHUTTA	9.5
6	LAYYAH	31.3	30	PIR MAHAL	9.4
7	CHISHTIAN	30.9	31	CHOBARA	9.1
8	DUYAPUR	30.0	32	MINCHAN ABAD	8.3
9	FORT ABBAS	26.9	33	SADIQ ABAD	8.0
10	ISA KHEL	25.0	34	LIAQUAT PUR	7.1
11	HASILPUR	24.5	35	MAILSI	6.3
12	HAROON ABAD	24.4	36	KEHROR PACCA	5.4
13	ROJHAN	22.7	37	PIPLAN	5.3
14	RAJAN PUR	22.2	38	CHICHA WATNI	5.0
15	KHAN PUR	20.8	39	KALLOR KOT	5.0
16	JAM PUR	17.8	40	ALI PUR	5.0
17	JATOI	16.7	41	JHANG	5.0
18	GOJRA	16.3	42	A.P.EAST	3.6
19	BAHAWAL NAGAR	15.6	43	SAHIWAL	2.6
20	KAROR L.E.	15.2	44	ARIF WALA	2.5
21	D.G.KHAN	14.3	45	VEHARI	2.3
22	LODHRAN	13.0	46	JAHANIAN	2.1
23	R.Y.KHAN	12.0	47	TAUNSA	2.0
24	T.T.SINGH	11.6	48	KABIR WALA	1.9

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 1.31% below ETL spots have been observed during current week as compared to 3.13% in last week and 2.39% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Mites

No hot spot found in this week.

Dusky Cotton Bug: On overall Punjab basis 2.61% above ETL spots have been observed during current week as compared to 2.57% in last week and 0.00% during the same corresponding period of last year. And 52.42% below ETL spots have been observed during current week as compared to 45.55% in last week and 28.35% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Dusky bug

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	GOJRA	30.6	7	VEHARI	9.3
2	MULTAN	21.2	8	MAILSI	4.2
3	T.T.SINGH	20.9	9	BURE WALA	2.5
4	SHUJABAD	16.4	10	KOT ADDU	2.4
5	JALAL PUR P.W	15.6	11	BAHAWAL PUR	1.8
6	PIR MAHAL	9.4			

Armyworm: On overall Punjab basis 6.46% spots (all considered above ETL) of Armyworm have been observed as compared to 2.57% in last week and 1.96% 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	JALAL PUR P.W	48.9	18	A.P.EAST	5.4
2	SHUJABAD	41.8	19	ROJHAN	4.5
3	MULTAN	30.3	20	D.G.KHAN	4.1
4	BAHAWAL PUR	23.6	21	MIANWALI	3.2
5	YAZMAN	22.4	22	KEHROR PACCA	2.7
6	LODHRAN	13.0	23	SAHIWAL	2.6
7	ISA KHEL	12.5	24	ALI PUR	2.5
8	MUZUFAR GARH	12.5	25	CHOBARA	2.3
9	HASILPUR	12.2	26	JAM PUR	2.2
10	R.Y.KHAN	12.0	27	LAYYAH	2.1
11	FORT ABBAS	11.5	28	JAHANIAN	2.1
12	DUYAPUR	10.0	29	GOJRA	2.0
13	JATOI	9.5	30	KABIR WALA	1.9
14	CHISHTIAN	9.1	31	LIAQUAT PUR	1.8
15	KAROR L.E.	8.7	32	KOT CHUTTA	1.6
16	KHAN PUR	8.3	33	KALLOR KOT	1.4
17	KOT ADDU	7.1			

Pink Boll Worm: On overall Punjab basis 4.75% above ETL spots have been observed as compared to 3.33% in last week and 8.71% same corresponding period of the last year. And 23.22% below ETL spots have been observed as compared to 20.45% in last week and 32.75% during same corresponding period of last year.

Tehsil wise percentage of hot spots of PBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	DUYAPUR	27.5	15	D.G.KHAN	6.1
2	KEHROR PACCA	24.3	16	SADIQ ABAD	6.0
3	LODHRAN	19.6	17	A.P.EAST	5.4
4	MULTAN	16.7	18	ROJHAN	4.5
5	JALAL PUR P.W	15.6	19	BHAKKAR	4.2
6	KHANEWAL	15.4	20	R.Y.KHAN	4.0
7	JAHANIAN	14.6	21	LIAQUAT PUR	3.6
8	SHUJABAD	14.5	22	MIANWALI	3.2
9	BAHAWAL PUR	14.5	23	SAHIWAL	2.6
10	HASILPUR	12.2	24	PIPLAN	2.6
11	MAILSI	10.4	25	JATOI	2.4
12	YAZMAN	8.2	26	KHAN PUR	2.1
13	OKARA	7.4	27	KABIR WALA	1.9
14	VEHARI	7.0	28	CHISHTIAN	1.8

American Bollworm: On overall Punjab basis 0.12% above ETL spots have been observed as compared to 0.16 in last week and 0.08% during same corresponding period of last year. And 1.23% below ETL spots have been observed as compared to 0.88% in last week and 0.20% during same corresponding period of last year.

Tehsil wise percentage of hot spots of ABW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	KOT CHUTTA	3.2	2	R.Y.KHAN	2.0

Spotted Bollworm: On overall Punjab basis 0.12% above ETL spots have been observed as compared to 0.08% in last week and 0.19% during same corresponding period of last year & 0.99% below ETL spots have been observed as compared to 0.24% in last week and 1.53% during same corresponding period of last year.

Tehsil wise percentage of hot spots of SBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	BAHAWAL PUR	3.6	2	KOT CHUTTA	1.6

CLCuV: On overall Punjab basis 40.77% spots (all considered above ETL) of CLCuV have been observed as compared to 39.29% in last week and 26.59% 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	MULTAN	100.0	31	KEHROR PACCA	37.8
2	JALAL PUR P.W	100.0	32	BHAKKAR	37.5
3	VEHARI	97.7	33	GOJRA	36.7
4	SHUJABAD	94.5	34	MAILSI	35.4
5	KOT CHUTTA	68.3	35	HAROON ABAD	34.1
6	HASILPUR	67.3	36	R.Y.KHAN	34.0
7	RAJAN PUR	66.7	37	A.P.EAST	33.9
8	LAYYAH	64.6	38	MINCHAN ABAD	33.3
9	TAUNSA	58.0	39	MIAN CHANNU	32.0
10	FORT ABBAS	57.7	40	YAZMAN	30.6
11	CHOBARA	54.5	41	KOT ADDU	28.6
12	LODHRAN	54.3	42	DARYA KHAN	28.0
13	D.G.KHAN	53.1	43	JAM PUR	26.7
14	BURE WALA	50.0	44	PIPLAN	26.3
15	T.T.SINGH	48.8	45	ISA KHEL	25.0
16	MUZUFAR GARH	47.9	46	JAHANIAN	20.8
17	ALI PUR	47.5	47	PAK PATTAN	20.0
18	KHAN PUR	45.8	48	JHANG	20.0
19	KAROR L.E.	45.7	49	MIANWALI	16.1
20	ROJHAN	45.5	50	SAHIWAL	15.8
21	CHISHTIAN	45.5	51	PIR MAHAL	12.5
22	BAHAWAL PUR	43.6	52	CHICHA WATNI	12.5
23	DUYAPUR	42.5	53	A.P SIAL	5.6
24	KABIR WALA	42.3	54	ARIF WALA	5.0
25	BAHAWAL NAGAR	40.6	55	RENALA KHURD	4.5
26	JATOI	40.5	56	18-HAZARI	4.2
27	KALLOR KOT	40.0	57	OKARA	3.7
28	LIAQUAT PUR	39.3	58	SUMUNDRI	3.6
29	KHANEWAL	38.5	59	TANDLIANWALA	1.7
30	SADIQ ABAD	38.0			

FORECAST FOR THE NEXT WEEK

Meteorological data of the current week 2021-2022

Districts	2022				2021			
	Temperature °C		R.H%	Rainfall (mm)	Temperature °C		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	33.4	26.6	65.1	7.0	36.6	28.9	66.5	0.0
Khanewal	34.3	26.4	73.3	2.0	39.3	28.5	57.4	0.0
Vehari	32.3	24.9	61.8	6.0	37.86	29.43	59.29	0.0
Lodhran	34.3	23.6	80.0	2.6	39.5	26.5	57.4	0.0
Sahiwal	34.8	27.0	73.5	1.0	38.0	27.0	64.0	0.0
Pakpattan	34.4	27.5	75.0	0.0	39.0	29.0	52.0	0.0
Okara	35.2	26.8	72.4	0.0	38.0	27.0	62.0	0.0
Bahawalpur	34.4	25.7	78.5	29.0	39.4	27.4	58.4	0.0
Bahawalnagar	35.7	26.6	66.5	0.0	39.2	27.6	57.9	0.0
R.Y.Khan	31.1	25.0	80.7	66.0	39.4	26.6	52.6	0.0
D.G. Khan	29.7	25.4	80.8	6.5	41.4	28.5	52.7	0.0
M.Garh	31.2	20.9	81.0	17.0	38.8	28.0	43.7	3.0
Rajanpur	30.2	26	81.6	11.5	39.6	31	47.2	0.0
Layyah	30.6	24.2	92.00	40.0	35.5	26.7	42.0	1.2
TOT/AVG	32.97	25.47	75.87	188.7	38.76	27.90	54.92	4.2

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.	37	37	37	38	37	37	37
	Min.Temp.	38	28	28	28	28	28	29
	Humidity %	48	48	50	43	44	45	40
Sahiwal	Max.Temp.	35	37	38	38	39	38	37
	Min.Temp.	26	27	27	26	26	26	27
	Humidity %	54	44	39	38	35	39	39
Bahawalpur	Max.Temp.	35	36	36	37	38	37	37
	Min.Temp.	28	28	28	28	28	28	29
	Humidity %	53	49	46	43	40	40	40
D.G. Khan	Max.Temp.	36	36	36	36	37	38	37
	Min.Temp.	27	28	28	28	28	28	28
	Humidity %	52	53	54	54	50	44	43
Average Cotton Region	Max.Temp.	36.93						
	Min.Temp.	28						
	Humidity %	45.25						

Source: timeanddate.com

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain moderate, Sunny and humid.

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. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity 45.25%. Keeping in view above all, it is predicted that population of this pest will sustain from this 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. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity 45.25%. Keeping in view above all, it is predicted that population of this pest may 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. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity 45.25%. Keeping 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. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity 45.25%. Keeping in view above all, it is predicted that population of this pest will sustain 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. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity 45.25%. Keeping in view above all, it is predicted that population of this pest will sustain during the coming week.

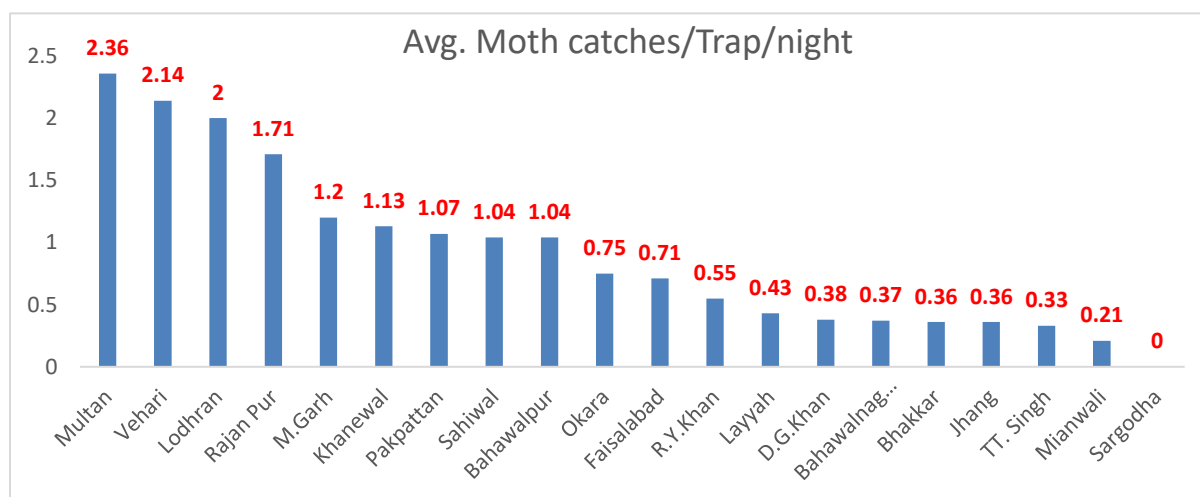
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity 45.25%. Keeping in view above all, it is predicted that population of this pest can increase 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. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity 45.25%. It is predicted that population of this pest will increase on cotton crop.

Moth Catches in Pheromone Traps during 4rth Week of August, 2022

Moth Catches in Pheromone Traps During 4rth Week of August 2022			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	99	2.36
Khanewal	8	63	1.13
Vehari	6	90	2.14
Lodhran	6	84	2.00
Sahiwal	4	29	1.04
Pakpattan	4	30	1.07
Okara	4	21	0.75
Bahawalpur	8	58	1.04
Bahawalnagar	10	26	0.37
R.Y.Khan	8	31	0.55
D.G.Khan	6	16	0.38
M.Garh	8	67	1.20
Rajan Pur	6	72	1.71
Layyah	6	18	0.43
Sargodha	0	0	0.00
Mianwali	4	6	0.21
Bhakkar	8	20	0.36
Faisalabad	6	30	0.71
TT. Singh	6	14	0.33
Jhang	4	10	0.36

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. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity

45.25%.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 August, 2022

Moth Catches on Light Traps/Trap/week During 4rth Week of August, 2022				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1.4	0.0	4.7
Khanewal	4	1.4	0.0	7.3
Vehari	3	0.3	0.0	2.6
Lodhran	3	3.4	0.0	4.0
Sahiwal	2	1.7	0.0	1.7
Pakpattan	2	1.4	0.0	1.4
Okara	3	1.6	0.0	1.6
Bahawalpur	4	1.0	1.0	4.6
Bahawalnagar	5	1.1	1.1	2.1
R.Y.Khan	4	0.7	0.6	0.7
D.G.Khan	3	0.6	0.7	0.4
M.Garh	4	0.6	0.6	1.0
Rajan Pur	3	1.0	0.6	0.9
Layyah	3	0.0	0	0.4
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. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity 45.25%.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. 32.97 °C, Min. 25.47 °C with R. humidity 75.87%) & forecast for the next week temp. Max. 36.93 °C, Min. 28.00°C with humidity 45.25%. Keeping in view above all, it is predicted that population of this pest will increase 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.

Pesticides recommended for Mealy Bug

S#	Common Name	Brand Name	Dose/Acre
1	Dimethoate 40% + Diver (Mineral oil) 97%	Denadim, Progress, Casper	200 ml + 1000 ml
2	Profenofos50%+ Diver (Mineral oil) 97%	Curacron, Blast	200ml + 1000 ml
3	Chlorpyrifos 40 EC+ Diver (Mineral oil) 97%	Lorsban, Larvae	200ml+ 1000 ml
4	Profenofos 50EC		800 ml
5	Chlorpyrifos 40 EC		1000 ml
6	Carbosulfan 20EC	Advantage	500 ml
7	Methidathion 40 EC	Supracide	400 ml
8	Methomyl 42SP	Lannate	300 gm
9	Profenofos + Lambda 61.5 EC	Border	500 ml

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.

Pesticides recommended for Army Worm

S#	Common Name	Brand Name	Dose/Acre
1	Lufenuron 5 EC	Match, Drone, Catch, Rozol, Snatch, Track, Ardent	200 ml
2	Emamectin Benzoate 1.9%EC	Proclaim, Timer, Victory, Smash, Tycon, Wel Star, Wright, Rider	250 ml
3	Tebufenazide 20%WP	Falcon, Top Gun	350 gm
4	Flubendamide 480 SC	Belt	25-50 ml
5	Methoxyfenozide 240 SC	Runner	200 ml
6	Chlorantraniliprole 20 SC	Coragen	50 ml
7	Spintoram 120 SC	Radiant	100 ml

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 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