

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 1ST WEEK OF AUGUST, 2022

Whitefly: On overall Punjab basis 31.36 above ETL spots have been observed during current week as compared to 24.55% in last week and 20.50% during the same corresponding period of last year. And 67.62% below ETL spots have been observed during current week as compared to 74.28% in last week and 79.50% 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	66.0	33	ARIF WALA	28.0
2	VEHARI	62.7	34	KOT ADDU	26.9
3	KOT CHUTTA	55.9	35	CHICHA WATNI	26.5
4	ALI PUR	54.0	36	A.P.EAST	25.0
5	RAJAN PUR	51.3	37	KHAN PUR	25.0
6	JAM PUR	50.9	38	LIAQUAT PUR	23.4
7	MUZUFAR GARH	49.0	39	GOJRA	22.9
8	MIAN CHANNU	48.0	40	PAK PATTAN	22.6
9	ROJHAN	48.0	41	CHOBARA	20.8
10	JAHANIAN	47.4	42	DEPALPUR	20.0
11	BAHAWAL NAGAR	45.7	43	ISA KHEL	20.0
12	MULTAN	43.8	44	KALLOR KOT	20.0
13	BURE WALA	43.8	45	18-HAZARI	18.8
14	FORT ABBAS	42.0	46	MIANWALI	18.8
15	KHANEWAL	40.7	47	KEHROR PACCA	17.5
16	JATOI	40.7	48	SUMUNDRI	17.2
17	BAHAWAL PUR	40.6	49	DUYAPUR	16.7
18	D.G.KHAN	40.4	50	PIPLAN	16.7
19	KABIR WALA	39.2	51	RENALA KHURD	16.0
20	MAILSI	38.5	52	OKARA	15.4
21	MINCHAN ABAD	37.5	53	LODHRAN	15.3
22	CHISHTIAN	35.7	54	TANDLIANWALA	15.0
23	YAZMAN	34.5	55	T.T.SINGH	14.7
24	HAROON ABAD	33.3	56	MANKERA	13.3
25	TAUNSA	33.3	57	SAHIWAL	13.2
26	DARYA KHAN	30.0	58	KAROR L.E.	12.5
27	SHUJABAD	29.4	59	JHANG	11.1
28	HASILPUR	29.0	60	LAYYAH	10.7
29	R.Y.KHAN	28.6	61	A.P.SIAL	10.3
30	PIR MAHAL	28.6	62	JARANWALA	10.0
31	FAISALABAD	28.6	63	SHORKOT	8.1
32	SADIQ ABAD	28.3	64	BHAKKAR	6.3

Jassid: On overall Punjab basis 22.67% above ETL spots has been observed as compared to 19.69% in last week and same week of last year 15.57%. And 76.16% below ETL spots have been observed during current week as compared to 77.79% in last week and 84.31% 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	SHUJABAD	52.9	33	DEPALPUR	20.0
2	DARYA KHAN	50.0	34	ISA KHEL	20.0
3	ALI PUR	48.0	35	KHAN PUR	19.2
4	MANKERA	40.0	36	KAROR L.E.	18.8
5	MULTAN	39.7	37	LODHRAN	18.6
6	CHISHTIAN	39.3	38	JAHANIAN	18.4
7	VEHARI	39.2	39	SAHIWAL	18.4
8	JALAL PUR P.W	36.0	40	A.P.EAST	17.9
9	GOJRA	34.3	41	LAYYAH	17.9
10	FORT ABBAS	34.0	42	MUZUFAR GARH	17.6
11	TAUNSA	33.3	43	KEHROR PACCA	17.5
12	T.T.SINGH	32.4	44	MAILSI	17.3
13	BHAKKAR	31.3	45	KALLOR KOT	16.7
14	KOT ADDU	30.8	46	DUYAPUR	16.7
15	SADIQ ABAD	30.4	47	PIPLAN	16.7
16	R.Y.KHAN	28.6	48	MIAN CHANNU	16.0
17	BURE WALA	28.1	49	SUMUNDRI	15.6
18	LIAQUAT PUR	27.7	50	OKARA	15.4
19	HASILPUR	27.4	51	TANDLIANWALA	15.0
20	BAHAWAL NAGAR	26.1	52	ARIF WALA	14.0
21	PAK PATTAN	25.8	53	RENALA KHURD	12.0
22	CHOBARA	25.0	54	SHORKOT	10.8
23	MIANWALI	25.0	55	JAM PUR	10.5
24	CHICHA WATNI	23.5	56	KOT CHUTTA	10.3
25	YAZMAN	22.4	57	JARANWALA	10.0
26	JATOI	22.2	58	MINCHAN ABAD	7.5
27	BAHAWAL PUR	21.9	59	FAISALABAD	7.1
28	18-HAZARI	21.9	60	A.P.SIAL	6.9
29	PIR MAHAL	21.4	61	HAROON ABAD	6.3
30	D.G.KHAN	21.1	62	JHANG	5.6
31	RAJAN PUR	20.5	63	ROJHAN	4.0
32	KHANEWAL	20.4	64	KABIR WALA	2.0

Thrips: On overall Punjab basis 2.77% above ETL spots has been observed as compared to 2.48% in last week and same week of last year i.e. 12.75%. And 95.25% below ETL spots have been observed during current week as compared to 93.52% in last week and 85.90% 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	ALI PUR	20.0	13	JAM PUR	5.3
2	R.Y.KHAN	14.3	14	YAZMAN	5.2
3	MULTAN	11.0	15	KAROR L.E.	4.2
4	RAJAN PUR	10.3	16	ROJHAN	4.0
5	BAHAWAL PUR	9.4	17	SHUJABAD	3.9
6	JATOI	7.4	18	MUZUFAR GARH	3.9
7	PIPLAN	6.7	19	KOT ADDU	3.8
8	SADIQ ABAD	6.5	20	KHAN PUR	3.8
9	BAHAWAL NAGAR	6.5	21	KALLOR KOT	3.3
10	LIAQUAT PUR	6.4	22	FORT ABBAS	2.0
11	MIANWALI	6.3	23	A.P.EAST	1.8
12	18-HAZARI	6.3	24	LAYYAH	1.8

Mealy Bug: On overall Punjab basis 7.74% spots (all considered above ETL) of Mealy Bug have been observed as compared to 5.61% in last week and 20.37% 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	JALAL PUR P.W	28.0	24	LAYYAH	7.1
2	KOT CHUTTA	26.5	25	BAHAWAL NAGAR	6.5
3	SHUJABAD	23.5	26	MIANWALI	6.3
4	BAHAWAL PUR	23.4	27	CHOBARA	6.3
5	CHISHTIAN	23.2	28	ALI PUR	6.0
6	ISA KHEL	20.0	29	VEHARI	5.9
7	DUYAPUR	18.5	30	KABIR WALA	5.9
8	FORT ABBAS	18.0	31	JAM PUR	5.3
9	HAROON ABAD	16.7	32	JAHANIAN	5.3
10	R.Y.KHAN	12.5	33	KEHROR PACCA	5.0
11	ROJHAN	12.0	34	HASILPUR	4.8
12	T.T.SINGH	11.8	35	TAUNSA	4.2
13	CHICHA WATNI	11.8	36	MIAN CHANNU	4.0
14	MULTAN	11.0	37	KOT ADDU	3.8
15	PIR MAHAL	10.7	38	MAILSI	3.8
16	KAROR L.E.	10.4	39	OKARA	3.8
17	YAZMAN	10.3	40	KHANEWAL	3.7
18	18-HAZARI	9.4	41	LODHRAN	3.4
19	JATOI	9.3	42	PIPLAN	3.3
20	D.G.KHAN	8.8	43	SAHIWAL	2.6
21	GOJRA	8.6	44	MINCHAN ABAD	2.5
22	MUZUFAR GARH	7.8	45	SADIQ ABAD	2.2
23	RAJAN PUR	7.7	46	LIAQUAT PUR	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 0.32% during the same corresponding period of last year. And 1.42% below ETL spots have been observed during current week as compared to 0.87% in last week and 3.87% 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 1.24% above ETL spots have been observed during current week as compared to 0.49% in last week and 0.00% during the same corresponding period of last year. And 33.99% below ETL spots have been observed during current week as compared to 26.77% in last week and 13.49% 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	MULTAN	17.8	5	LODHRAN	3.4
2	T.T.SINGH	14.7	6	JALAL PUR P.W	2.0
3	GOJRA	14.3	7	VEHARI	2.0
4	SHUJABAD	11.8	8	BAHAWAL PUR	1.6

Armyworm: On overall Punjab basis 1.57% spots (all considered above ETL) of Armyworm have been observed as compared to 0.60% in last week and 1.51% 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	MULTAN	12.3	11	BAHAWAL PUR	3.1
2	D.G.KHAN	7.0	12	KAROR L.E.	2.1
3	BHAKKAR	6.3	13	TAUNSA	2.1
4	SHUJABAD	5.9	14	VEHARI	2.0
5	MUZUFAR GARH	5.9	15	JATOI	1.9
6	R.Y.KHAN	5.4	16	KHANEWAL	1.9
7	MINCHAN ABAD	5.0	17	LAYYAH	1.8
8	FORT ABBAS	4.0	18	YAZMAN	1.7
9	ROJHAN	4.0	19	HASILPUR	1.6
10	ALI PUR	4.0	20	KALLOR KOT	1.3

Pink Boll Worm: On overall Punjab basis 0.17% above ETL spots have been observed as compared to 0.11% in last week and 1.55% same corresponding period of the last year. And 11.43% below ETL spots have been observed as compared to 5.46% in last week and 17.93% during same corresponding period of last year.

Tehsil wise percentage of hot spots of PBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	ROJHAN	12.0	10	JAHANIAN	2.6
2	HASILPUR	6.5	11	RAJAN PUR	2.6
3	DUYAPUR	5.6	12	KEHROR PACCA	2.5
4	D.G.KHAN	5.3	13	ALI PUR	2.0
5	KOT CHUTTA	4.4	14	JALAL PUR P.W	2.0
6	SHUJABAD	3.9	15	KABIR WALA	2.0
7	JAM PUR	3.5	16	JATOI	1.9
8	LODHRAN	3.4	17	KHANEWAL	1.9
9	BAHAWAL PUR	3.1			

American Boll Worm: On overall Punjab basis 0.04% above ETL spots have been observed as compared to 0.00 in last week and 0.00% during same corresponding period of last year. And 0.51% below ETL spots have been observed as compared to 0.26% in last week and 0.29% during same corresponding period of last year.

Tehsil wise percentage of hot spots of ABW

S. NO.	TEHSIL	%AGE
1	KOT CHUTTA	1.5

Spotted Boll Worm: On overall Punjab basis 0.18% above ETL spots have been observed as compared to 0.04% in last week and 0.19% during same corresponding period of last year & 0.33% below ETL spots have been observed as compared to 0.15% in last week and 0.81% during same corresponding period of last year.

Tehsil wise percentage of hot spots of SBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	KOT CHUTTA	5.9	2	BAHAWAL PUR	1.6

CLCuV: On overall Punjab basis 35.85% spots (all considered above ETL) of CLCV have been observed as compared to 31.66% in last week and 14.30% 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	89.0	31	KEHROR PACCA	32.5
2	VEHARI	84.3	32	LODHRAN	32.2
3	JALAL PUR P.W	84.0	33	MIAN CHANNU	32.0
4	SHUJABAD	78.4	34	GOJRA	31.4
5	RAJAN PUR	69.2	35	KABIR WALA	31.4
6	MUZUFAR GARH	62.7	36	MIANWALI	28.1
7	ALI PUR	62.0	37	KHANEWAL	27.8
8	ROJHAN	60.0	38	A.P.EAST	26.8
9	SADIQ ABAD	58.7	39	YAZMAN	25.9
10	BURE WALA	53.1	40	PIR MAHAL	25.0
11	LIAQUAT PUR	51.1	41	HAROON ABAD	25.0
12	T.T.SINGH	47.1	42	PIPLAN	23.3
13	HASILPUR	46.8	43	BHAKKAR	22.9
14	R.Y.KHAN	46.4	44	MANKERA	20.0
15	CHOBARA	45.8	45	ISA KHEL	20.0
16	KOT CHUTTA	44.1	46	PAK PATTAN	19.4
17	D.G.KHAN	43.9	47	JAM PUR	19.3
18	KHAN PUR	42.3	48	MINCHAN ABAD	17.5
19	KAROR L.E.	41.7	49	A.P SIAL	17.2
20	KOT ADDU	40.4	50	18-HAZARI	15.6
21	FORT ABBAS	40.0	51	FAISALABAD	14.3
22	TAUNSA	39.6	52	KALLOR KOT	10.0
23	JAHANIAN	39.5	53	DARYA KHAN	10.0
24	JATOI	38.9	54	CHICHA WATNI	8.8
25	BAHAWAL PUR	37.5	55	SHORKOT	5.4
26	LAYYAH	37.5	56	OKARA	3.8
27	CHISHTIAN	33.9	57	SAHIWAL	2.6
28	DUYAPUR	33.3	58	ARIF WALA	2.0
29	MAILSI	32.7	59	SUMUNDRI	1.6
30	BAHAWAL NAGAR	32.6			

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	35.3	25.4	65.2	0.5	36.2	29.9	66.0	6.5
Khanewal	34.8	27.4	69.1	1.9	37.1	28.9	68.6	4.0
Vehari	35.1	28.0	69.9	0.7	36.7	29.6	65.2	15.0
Lodhran	30.0	22.6	80.4	12.1	39.2	29.9	68.0	7.0
Sahiwal	34.9	26.0	81.0	0.0	38.0	27.0	71.0	4.0
Pakpattan	34.5	26.3	82.0	9.5	37.0	28.0	72.0	5.0
Okara	35.2	26.8	82.6	0.0	35.0	26.0	71.0	3.5
Bahawalpur	37.5	27.0	72.1	4.0	38.5	28.4	63.4	17.0
Bahawalnagar	7.5	5.4	14.4	0.8	39.2	27.7	60.4	0.0
R.Y.Khan	36.9	27.7	58.6	0.0	36.7	27.0	53.1	0.0
D.G. Khan	31.71	28.43	70.43	0.71	37.29	27.43	60.50	0.00
Muzaffar Garh	32.70	21.40	78.00	15.00	38.17	29.83	38.25	3.00
Rajanpur	39	29.6	63.60	0.00	41.72	30.6	45.83	0.00
Layyah	48.00	25.00	87.00	12.00	42.22	29.78	63.22	16.90
TOT/AVG	33.79	24.79	69.59	4.09	38.07	28.57	61.90	5.85

Weather forecast for next 7 day in cotton zone

Division	Dated	10/8	11/8	12/8	13/8	14/8	15/8	16/8
Multan	Max.Temp.	40	39	36	40	31	35	31
	Min.Temp.	30	31	29	30	29	30	28
	Humidity %	41	46	48	39	47	57	72
Sahiwal	Max.Temp.	38	34	35	38	36	34	32
	Min.Temp.	29	28	27	28	28	27	27
	Humidity %	49	70	53	49	56	61	68
B.Pur	Max.Temp.	39	39	36	37	36	34	35
	Min.Temp.	31	32	30	30	30	30	28
	Humidity %	44	44	47	48	60	54	55
D.G. Khan	Max.Temp.	40	40	34	38	36	36	33
	Min.Temp.	31	32	29	30	30	29	28
	Humidity %	38	38	58	42	51	55	81
Average Cotton Region	Max.Temp.	36.14						
	Min.Temp.	29.32						
	Humidity %	52.54						

Source: timeanddate.com

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain moderate, Cloudy & Rainy also.

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. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C with humidity 52.54%. Keeping in view above all, it is predicted that population of this pest can increase 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. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C with humidity 52.54%.Keeping in view above all, it is predicted that population of this pest may 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. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C with humidity 52.54%.Keeping 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. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C with humidity 52.54%.Keeping in view above all, it is predicted that population of this pest will increase 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. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C with humidity 52.54%.Keeping in view above all, it is predicted that population of this pest will sustain during the coming week.

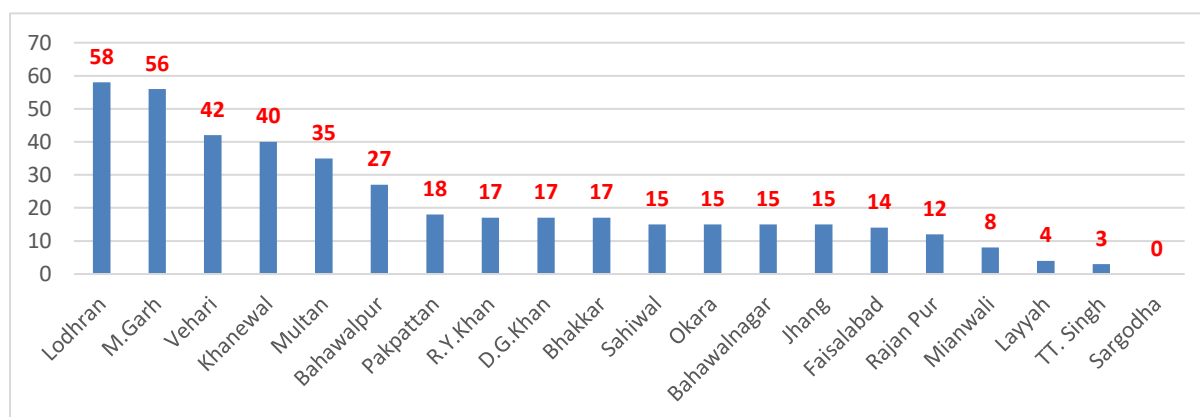
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C with humidity 52.54%.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. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C with humidity 52.54%.It is predicted that population of this pest will increase on cotton crop.

Moth Catches in Pheromone Traps during 1st Week of August, 2022

Moth Catches in Pheromone Traps During 1st Week of August 2022			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	35	0.83
Khanewal	8	40	0.71
Vehari	6	42	1.00
Lodhran	6	58	1.38
Sahiwal	4	15	0.54
Pakpattan	4	18	0.64
Okara	4	15	0.54
Bahawalpur	8	27	0.48
Bahawalnagar	10	15	0.21
R.Y.Khan	8	17	0.30
D.G.Khan	6	17	0.40
M.Garh	8	56	1.00
Rajan Pur	6	12	0.29
Layyah	6	4	0.10
Sargodha	0	0	0.00
Mianwali	4	8	0.29
Bhakkar	8	17	0.30
Faisalabad	6	14	0.33
TT. Singh	6	3	0.07
Jhang	4	15	0.54

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. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C with humidity

52.54%.It is predicted that population of this pest will sustain on cotton crop during the coming week.

Moth catches on light traps during 1st week of August, 2022

Moth Catches on Light Traps/Trap/week During 1st Week of August, 2022				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	2.7	0.0	1.1
Khanewal	4	1.9	0.0	5.6
Vehari	3	0.6	0.0	1.3
Lodhran	3	3.7	0.0	4.0
Sahiwal	2	1.3	0.0	1.3
Pakpattan	2	1.0	0.0	1.0
Okara	3	1.2	0.0	1.2
Bahawalpur	4	1.9	1.2	3.1
Bahawalnagar	5	1.0	1.0	2.4
R.Y.Khan	4	0.4	0.7	1.0
D.G.Khan	3	0.3	0.4	1.1
M.Garh	4	0.4	0.4	1.0
Rajan Pur	3	2.7	2.0	4.6
Layyah	3	0.0	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. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C with humidity 52.54%.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. 33.79 °C, Min. 24.79 °C with R. humidity 69.59%) & forecast for the next week temp. Max. 36.14 °C, Min. 29.32°C

with humidity 52.54%. 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 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.

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.

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
			Rattan jot
			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 2nd 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