

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 1st WEEK OF AUGUST, 2021

Whitefly: On overall Punjab basis 20.50 above ETL spots have been observed during current week as compared to 18.32% in last week and 30.31% during the same corresponding period of last year. And 79.50% below ETL spots have been observed during current week as compared to 81.59% in last week and 67.72% 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	RAJAN PUR	62.8	30	18-HAZARI	18.2
2	JAM PUR	47.5	31	DARYA KHAN	18.2
3	ROJHAN	45.0	32	BAHAWAL PUR	16.9
4	BHAKKAR	42.9	33	KOT ADDU	16.7
5	MAILSI	39.4	34	MUZUFAR GARH	16.0
6	CHICHA WATNI	37.5	35	MIANWALI	16.0
7	KOT CHUTTA	34.5	36	MINCHAN ABAD	15.9
8	D.G.KHAN	33.9	37	JAHANIAN	15.8
9	TAUNSA	33.3	38	CHOBARA	15.5
10	VEHARI	31.3	39	KEHROR PACCA	15.0
11	CHISHTIAN	30.0	40	PIPLAN	15.0
12	FORT ABBAS	29.8	41	LAYYAH	12.7
13	MIAN CHANNU	29.3	42	JATOI	12.2
14	ARIF WALA	28.6	43	KAROR L.E.	12.1
15	BURE WALA	26.9	44	RENALA KHURD	12.0
16	BAHAWAL NAGAR	26.9	45	OKARA	11.1
17	FAISALABAD	25.0	46	MANKERA	11.1
18	KALLOR KOT	25.0	47	SHUJABAD	10.0
19	KHAN PUR	24.0	48	YAZMAN	9.6
20	KABIR WALA	23.8	49	MULTAN	8.2
21	KHANEWAL	22.5	50	SADIQ ABAD	8.0
22	PAK PATTAN	22.2	51	GOJRA	6.9
23	JALAL PUR P.W	22.0	52	R.Y.KHAN	6.3
24	ALI PUR	20.8	53	LIAQUAT PUR	6.3
25	SAHIWAL	20.0	54	T.T.SINGH	6.1
26	DEPALPUR	20.0	55	HASILPUR	4.0
27	ISA KHEL	20.0	56	PIR MAHAL	3.1
28	HAROOON ABAD	19.1	57	DUYAPUR	2.4
29	LODHRAN	19.0			

Jassid: On overall Punjab basis 15.57% above ETL spots has been observed as compared to 20.48% in last week and same week of last year 16.67%. And 84.31% below ETL spots have been observed during current week as compared to 78.44% in last week and 78.65% 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	A.P.EAST	36.7	33	PIPLAN	15.0
2	A.P SIAL	33.3	34	HAROON ABAD	14.9
3	KALLOR KOT	33.3	35	ARIF WALA	14.3
4	SHUJABAD	30.0	36	BHAKKAR	14.3
5	JHANG	29.4	37	MUZUFAR GARH	14.0
6	ALI PUR	29.2	38	JAM PUR	13.1
7	CHISHTIAN	26.7	39	KABIR WALA	11.9
8	SHORKOT	26.7	40	YAZMAN	11.5
9	PAK PATTAN	25.9	41	MINCHAN ABAD	11.4
10	CHOBARA	25.9	42	MANKERA	11.1
11	FAISALABAD	25.0	43	TANDLIANWALA	10.8
12	KAROR L.E.	24.2	44	JATOI	10.2
13	D.G.KHAN	23.2	45	KHANEWAL	10.0
14	SAHIWAL	22.5	46	DEPALPUR	10.0
15	BAHAWAL PUR	22.0	47	HASILPUR	10.0
16	KHAN PUR	22.0	48	ROJHAN	10.0
17	SADIQ ABAD	22.0	49	SUMUNDRI	10.0
18	JALAL PUR P.W	22.0	50	LODHRAN	9.5
19	BAHAWAL NAGAR	21.2	51	RENALA KHURD	8.0
20	ISA KHEL	20.0	52	OKARA	7.4
21	LAYYAH	19.0	53	KOT CHUTTA	7.1
22	LIAQUAT PUR	18.8	54	VEHARI	6.3
23	MULTAN	18.4	55	TAUNSA	6.3
24	18-HAZARI	18.2	56	MAILSI	6.1
25	DARYA KHAN	18.2	57	T.T.SINGH	6.1
26	FORT ABBAS	17.0	58	MIAN CHANNU	4.9
27	R.Y.KHAN	16.7	59	DUYAPUR	4.9
28	KOT ADDU	16.7	60	RAJAN PUR	3.8
29	MIANWALI	16.0	61	GOJRA	3.4
30	JAHANIAN	15.8	62	PIR MAHAL	3.1
31	BURE WALA	15.4	63	KEHROR PACCA	2.5
32	CHICHA WATNI	2.5			

Thrips: On overall Punjab basis 12.75% above ETL spots has been observed as compared to 13.43% in last week and same week of last year i.e.13.00%. And 85.90% below ETL spots have been observed during current week as compared to 84.41% in last week and 84.85% 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	52.1	25	HASILPUR	12.0
2	MAILSI	39.4	26	BURE WALA	11.5
3	MULTAN	34.7	27	MANKERA	11.1
4	JALAL PUR P.W	34.1	28	D.G.KHAN	10.7
5	SHUJABAD	32.5	29	HAROON ABAD	10.6
6	A.P.EAST	30.0	30	KOT ADDU	10.4
7	BAHAWAL PUR	25.4	31	JAM PUR	10.1
8	YAZMAN	25.0	32	18-HAZARI	9.1
9	VEHARI	18.8	33	DARYA KHAN	9.1
10	JATOI	18.4	34	JAHANIAN	7.9
11	KHAN PUR	18.0	35	RAJAN PUR	7.7
12	FORT ABBAS	17.0	36	KHANEWAL	7.5
13	LIAQUAT PUR	16.7	37	PAK PATTAN	7.4
14	KALLOR KOT	16.7	38	DUYAPUR	7.3
15	SADIQ ABAD	16.0	39	LAYYAH	6.3
16	MUZUFAR GARH	16.0	40	KOT CHUTTA	6.0

17	BAHAWAL NAGAR	15.4	41	JHANG	5.9
18	R.Y.KHAN	14.6	42	PIPLAN	5.0
19	LODHRAN	14.3	43	MIAN CHANNU	4.9
20	CHISHTIAN	13.3	44	MINCHAN ABAD	4.5
21	KEHROR PACCA	12.5	45	MIANWALI	4.0
22	TAUNSA	12.5	46	PIR MAHAL	3.1
23	ROJHAN	12.5	47	KABIR WALA	2.4
24	KAROR L.E.	12.1	48	CHOBARA	1.7

Mealy Bug: On overall Punjab basis 20.37% spots (all considered above ETL) of Mealy Bug have been observed as compared to 12.96% in last week and 9.86% 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	57.7	27	ROJHAN	15.0
2	MULTAN	53.1	28	KOT ADDU	14.6
3	SHUJABAD	50.0	29	HASILPUR	14.0
4	JAM PUR	46.5	30	OKARA	11.1
5	MIAN CHANNU	43.9	31	D.G.KHAN	10.7
6	DUYAPUR	43.9	32	HAROON ABAD	10.6
7	KABIR WALA	40.5	33	KAROR L.E.	10.6
8	FORT ABBAS	38.3	34	TAUNSA	10.4
9	JAHANIAN	36.8	35	JATOI	10.2
10	KEHROR PACCA	35.0	36	VEHARI	9.4
11	CHISHTIAN	35.0	37	PIR MAHAL	9.4
12	JALAL PUR P.W	34.1	38	18-HAZARI	9.1
13	R.Y.KHAN	29.2	39	KOT CHUTTA	8.3
14	KHANEWAL	27.5	40	MUZUFAR GARH	8.0
15	LODHRAN	26.2	41	PAK PATTAN	7.4
16	BAHAWAL PUR	25.4	42	CHOBARA	6.9
17	MAILSI	24.2	43	SHORKOT	6.7
18	A.P.EAST	23.3	44	T.T.SINGH	6.1
19	BURE WALA	23.1	45	SAHIWAL	5.0
20	YAZMAN	23.1	46	RENALA KHURD	4.0
21	KHAN PUR	22.0	47	MIANWALI	4.0
22	SADIQ ABAD	22.0	48	GOJRA	3.4
23	BAHAWAL NAGAR	21.2	49	TANDLIANWALA	2.7
24	ARIF WALA	19.0	50	MINCHAN ABAD	2.3
25	LIAQUAT PUR	18.8	51	LAYYAH	1.6
26	CHICHA WATNI	15.0			

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 3.87% below ETL spots have been observed during current week as compared to 2.87% in last week and 4.91% during the same corresponding period of last year.

Dusky Cotton Bug: On overall Punjab basis 0.12% above ETL spots have been observed during current week as compared to 0.05% in last week and 0.04% during the same corresponding period of last year. And 13.49% below ETL spots have been

observed during current week as compared to 11.27% in last week and 14.85% 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	SHUJABAD	2.5	3	MUZUFAR GARH	2.0
2	MULTAN	2.0			

Armyworm: On overall Punjab basis 1.51% spots (all considered above ETL) of Armyworm have been observed as compared to 0.47% in last week and 2.12% 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	12.2	10	BAHAWAL PUR	3.4
2	MAILSI	9.1	11	VEHARI	3.1
3	A.P.EAST	8.3	12	DUYAPUR	2.4
4	JAHANIAN	7.9	13	KABIR WALA	2.4
5	SHUJABAD	7.5	14	R.Y.KHAN	2.1
6	KHANEWAL	5.0	15	LIAQUAT PUR	2.1
7	LODHRAN	4.8	16	MUZUFAR GARH	2.0
8	TAUNSA	4.2	17	KAROR L.E.	1.5
9	JATOI	4.1			

Pink Boll Worm: On overall Punjab basis 1.55% above ETL spots have been observed as compared to 1.08% in last week and 0.87% same corresponding period of the last year. And 17.93% below ETL spots have been observed as compared to 15.88% in last week and 11.00% during same corresponding period of last year.

Tehsil wise percentage of hot spots of PBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	MIAN CHANNU	12.2	10	R.Y.KHAN	4.2
2	ARIF WALA	9.5	11	RENALA KHURD	4.0
3	VEHARI	9.4	12	PAK PATTAN	3.7
4	ALI PUR	8.3	13	OKARA	3.7
5	BURE WALA	7.7	14	A.P.EAST	3.3
6	SAHIWAL	7.5	15	MAILSI	3.0
7	SADIQ ABAD	6.0	16	JAHANIAN	2.6
8	SHUJABAD	5.0	17	CHICHA WATNI	2.5
9	KEHROR PACCA	5.0	18	BAHAWAL PUR	1.7

American Bollworm: On overall Punjab basis 0.00% 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 0.29% below ETL spots have been observed as compared to 0.28% in last week and 0.49% during same corresponding period of last year.

Spotted Bollworm: On overall Punjab basis 0.08% above ETL spots have been observed as compared to 0.19% in last week and 0.00% during same corresponding period of last year & 0.81% below ETL spots have been observed as compared to 0.28% in last week and 0.49% during same corresponding period of last year.

Tehsil wise percentage of hot spots of SBW

S. NO.	TEHSIL	%AGE
1	KOT CHUTTA	2.4

CLCuV: On overall Punjab basis 14.30% spots (all considered above ETL) of CLCuV have been observed as compared to 9.82% in last week and 5.14% 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	JATOI	57.1	24	HASILPUR	14.0
2	MUZUFAR GARH	56.0	25	SADIQ ABAD	12.0
3	VEHARI	50.0	26	JHANG	11.8
4	BURE WALA	42.3	27	DUYAPUR	9.8
5	MAILSI	36.4	28	LODHRAN	9.5
6	T.T.SINGH	36.4	29	ARIF WALA	9.5
7	KABIR WALA	33.3	30	D.G.KHAN	8.9
8	KOT ADDU	33.3	31	R.Y.KHAN	8.3
9	ALI PUR	31.3	32	MIANWALI	8.0
10	KHANEWAL	25.0	33	SHUJABAD	7.5
11	KEHROR PACCA	25.0	34	PAK PATTAN	7.4
12	CHICHA WATNI	25.0	35	CHISHTIAN	6.7
13	MULTAN	24.5	36	SHORKOT	6.7
14	CHOBARA	24.1	37	JAM PUR	6.1
15	GOJRA	24.1	38	SAHIWAL	5.0
16	TAUNSA	22.9	39	LIAQUAT PUR	4.2
17	LAYYAH	19.0	40	RENALA KHURD	4.0
18	PIR MAHAL	18.8	41	KHAN PUR	4.0
19	JAHANIAN	18.4	42	RAJAN PUR	3.8
20	KAROR L.E.	18.2	43	KOT CHUTTA	3.6
21	A.P.EAST	15.0	44	ROJHAN	2.5
22	JALAL PUR P.W	14.6	45	FORT ABBAS	2.1
23	MIAN CHANNU	14.6			

FORECAST FOR THE NEXT WEEK**Meteorological data of the current week 2020-2021**

Districts	2021				2020			
	Temperature		R.H%	Rainfall (mm)	Temperature °C		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
MULTAN	36.22	29.89	66.00	6.50	38.00	31.10	79.15	0.00
KHANEWAL	37.14	28.86	68.57	4.00	38.78	30.56	73.44	0.00
VEHARI	36.71	29.57	65.21	15.00	39.21	31.29	72.71	0.00
LODHRAN	39.22	29.89	68.00	7.00	39.50	30.20	72.40	0.00
SAHIWAL	38.00	27.00	71.00	4.00	39.96	29.60	60.00	0.00
PAKPATTAN	37.00	28.00	72.00	5.00	39.89	27.67	55.89	0.00
OKARA	35.00	26.00	71.00	3.50	44.00	30.48	63.00	0.00
B.PUR	38.43	28.49	62.72	17.00	40.41	30.62	54.61	0.00
B.NAGAR	39.20	27.70	60.40	0.00	33.30	23.30	45.70	0.00
R.Y.KHAN	37.66	26.77	53.22	0.00	40.44	29.33	62.78	0.00
D.G. KHAN	37.29	27.43	60.50	0.00	41.86	30.43	55.71	0.00
M.GARH	38.17	29.83	38.25	3.00	39.50	30.00	61.63	2.00
RAJANPUR	41.06	30.67	44.40	0.00	42.60	31	51.00	0.00
LAYYAH	42.22	29.78	63.22	16.90	43.45	30.21	52.54	0.00
TOT/AVG	38.09	28.56	61.75	81.90	40.06	29.70	61.47	2.00

Weather forecast for next 7 day in cotton zone

Division	Dated	7/8	8/8	9/8	10/8	11/8	12/8	13/8
Multan	Max.Temp.	40	39	42	41	43	37	36
	Min.Temp.	32	31	31	30	31	27	27
	Humidity %	35	38	32	34	31	35	24
Sahiwal	Max.Temp.	38	38	41	40	41	38	36
	Min.Temp.	28	28	29	30	31	29	29
	Humidity %	45	40	33	37	35	22	34
Bahawalpur	Max.Temp.	39	39	41	41	41	37	36
	Min.Temp.	31	31	32	30	30	26	26
	Humidity %	38	36	34	33	32	23	35
D.G. Khan	Max.Temp.	42	41	43	43	44	37	37
	Min.Temp.	32	33	32	33	31	27	27
	Humidity %	35	34	29	30	29	23	23
Average Cotton Region	Max.Temp.	39.68						
	Min.Temp.	29.79						
	Humidity %	32.46						

Source: timeanddate.com**Summary of weather forecast**

Overall weather for seven days in cotton zone during next week will remain hot, dry & shiny 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. 38.09 °C, Min. 28.56 °C with R. humidity 61.75%) & forecast for the next week temp. Max. 39.68 °C, Min. 29.79°C with humidity 32.46%. Keeping in view the climatic conditions, **it is predicted that population of this pest will increase rapidly 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. 38.09 °C, Min. 28.56 °C with R. humidity 61.75%) & forecast for the next week temp. Max. 39.68 °C, Min. 29.79°C with humidity 32.46%. Keeping in view the prevailing conditions, **it is predicted that population of this pest will 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. 38.09 °C, Min. 28.56 °C with R. humidity 61.75%) & forecast for the next week temp. Max. 39.68 °C, Min. 29.79°C with humidity 32.46%. Keeping in view the climatic conditions, **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.

38.09 °C, Min. 28.56 °C with R. humidity 61.75%) & forecast for the next week temp. Max. 39.68 °C, Min. 29.79°C with humidity 32.46%. Keeping in view, **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. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view, **it is predicted that population of this pest will sustain during the coming week.**

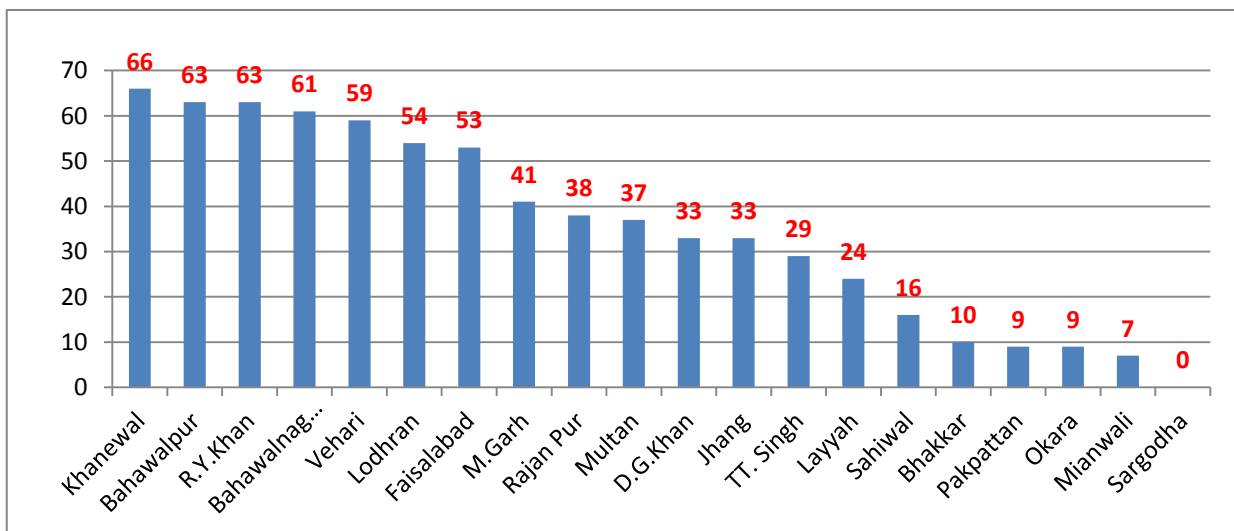
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view, **it is predicted that population of this pest may sustain 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. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. **It is predicted that population of this pest will increase rapidly on cotton during the coming week .**

Moth Catches in Pheromone Traps during 1st Week of August, 2021

Moth Catches in Pheromone Traps During 1 st Week of August 2021			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	37	0.88
Khanewal	8	66	1.18
Vehari	6	59	1.40
Lodhran	6	54	1.29
Sahiwal	4	16	0.57
Pakpattan	4	9	0.32
Okara	4	9	0.32
Bahawalpur	8	63	1.13
Bahawalnagar	10	61	0.87
R.Y.Khan	8	63	1.13
D.G.Khan	6	33	0.79
M.Garh	8	41	0.73
Rajan Pur	6	38	0.90
Layyah	6	24	0.57
Sargodha	0	0	0.00
Mianwali	4	7	0.25
Bhakkar	8	10	0.18
Faisalabad	6	53	1.26
TT. Singh	6	29	0.69
Jhang	4	33	1.18

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%. humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. **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, 2021

Moth Catches on Light Traps/Trap/week During 1st Week of August, 2021				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	5	0	19
Khanewal	4	13	0	37
Vehari	3	1	0	22
Lodhran	3	12	0	17
Sahiwal	2	2	0	2
Pakpattan	2	2	0	2
Okara	3	3	0	3
Bahawalpur	4	8	2	10
Bahawalnagar	5	7	7	16
R.Y.Khan	4	5	8	11
D.G.Khan	3	3	2	4
M.Garh	4	8	6	6
Rajan Pur	3	1	1	2
Layyah	3	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 humidity above 60-100%. Maximum lethal temperature for this pest is 45-53 °C. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. 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%. Maximum lethal temperature for this pest is 45-53 °C. It is predicted that population of this pest will sustain on cotton crop during the coming week. The current weather conditions on overall Punjab basis (temp. Max. 39.35 °C, Min. 29.93 °C with R. humidity 60.52%) & forecast for the next week temp. Max. 37.11 °C, Min. 29.21°C with humidity 43.18%. Keeping in view, **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.

- 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

- Eradicate weeds.
- Conduct Pest Scouting at least twice a week.
- Remove alternate host plants

MANAGEMENT OF ARMY WORM

- Keep the fields clean from weeds especially Its it which is a preferred host of armyworm.
- Avoid sowing of Jantar near cotton fields.
- Regular pest scouting at least twice a week.
- Hand picking and destruction of egg masses at initial stage as initially its attack starts in patches and is clearly visible.

CLCuV MANAGEMENT

- Keep Cotton fields free from all kinds of weeds.
- Eradicate other alternate host plants of CLCuV and dispose them off carefully.
- 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 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

