

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 2nd WEEK OF SEPTEMBER, 2021

Whitefly: On overall Punjab basis 43.81% above ETL spots have been observed during current week as compared to 40.83% % in last week and 37.10% during the same corresponding period of last year. And 55.94% below ETL spots have been observed during current week as compared to 58.77% in last week and 61.66% 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	98.0	31	KEHROR PACCA	34.0
2	JALAL PUR P.W	92.5	32	DARYA KHAN	33.3
3	JAM PUR	90.5	33	BURE WALA	30.8
4	HASILPUR	85.7	34	FORT ABBAS	30.0
5	ROJHAN	79.2	35	CHISHTIAN	30.0
6	MULTAN	76.3	36	ISA KHEL	27.3
7	JATOI	76.0	37	KAROR L.E.	25.0
8	SHUJABAD	64.3	38	BHAKKAR	25.0
9	KOT CHUTTA	59.8	39	JAHANIAN	23.1
10	TAUNSA	54.2	40	KALLOR KOT	23.1
11	A.P.EAST	53.8	41	KHANEWAL	22.7
12	ALI PUR	53.6	42	BAHAWAL NAGAR	22.5
13	DUYAPUR	52.0	43	SHORKOT	22.2
14	D.G.KHAN	52.0	44	MIANWALI	22.2
15	YAZMAN	50.0	45	PIPLAN	21.7
16	BAHAWAL PUR	49.2	46	HAROON ABAD	17.5
17	R.Y.KHAN	48.0	47	ARIF WALA	17.4
18	KHAN PUR	44.0	48	OKARA	16.7
19	MAILSI	43.8	49	RENALA KHURD	16.7
20	MIAN CHANNU	42.9	50	T.T.SINGH	15.9
21	LODHRAN	42.6	51	SAHIWAL	15.2
22	MUZUFAR GARH	42.0	52	CHOBARA	15.0
23	SADIQ ABAD	41.7	53	18-HAZARI	13.3
24	LAYYAH	39.6	54	JHANG	13.0
25	VEHARI	39.5	55	MANKERA	12.5
26	KABIR WALA	38.5	56	A.P SIAL	12.0
27	LIAQUAT PUR	38.3	57	MINCHAN ABAD	11.9
28	CHICHA WATNI	37.5	58	GOJRA	11.1
29	KOT ADDU	35.8	59	DEPALPUR	10.0
30	PAK PATTAN	35.3	60	PIR MAHAL	5.7

Jassid: On overall Punjab basis 5.96%above ETL spots has been observed as compared to 5.48% in last week and same week of last year 11.48%. And 93.59%below ETL spots have been observed during current week as compared to 94.16% in last week and 84.01% 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	CHICHA WATNI	37.5	22	MIANWALI	11.1
2	SAHIWAL	30.3	23	DEPALPUR	10.0
3	SHORKOT	27.8	24	JHANG	8.7
4	LAYYAH	27.1	25	KABIR WALA	7.7
5	18-HAZARI	26.7	26	MINCHAN ABAD	7.1
6	A.P SIAL	24.0	27	ALI PUR	7.1
7	T.T.SINGH	22.7	28	KHAN PUR	6.0

8	SUMUNDRI	20.0	29	JATOI	6.0
9	ARIF WALA	17.4	30	PAK PATTAN	5.9
10	OKARA	16.7	31	PIR MAHAL	5.7
11	DARYA KHAN	16.7	32	VEHARI	5.3
12	KALLOR KOT	15.4	33	CHOBARA	5.0
13	HAROON ABAD	15.0	34	BURE WALA	3.8
14	GOJRA	14.8	35	MAILSI	3.1
15	PIPLAN	13.0	36	SHUJABAD	2.4
16	KAROR L.E.	12.5	37	LIAQUAT PUR	2.1
17	TANDLIANWALA	12.5	38	SADIQ ABAD	2.1
18	BHAKKAR	12.5	39	KEHROR PACCA	2.0
19	MANKERA	12.5	40	FORT ABBAS	2.0
20	CHISHTIAN	12.0	41	MULTAN	1.7
21	RENALA KHURD	11.1	42	BAHAWAL PUR	1.6

Thrips: On overall Punjab basis 0.58% above ETL spots has been observed as compared to 1.05% in last week and same week of last year i.e.2.76%. And 94.82% below ETL spots have been observed during current week as compared to 97.62% in last week and 88.48% during the same corresponding period of last year.

Table 3 Tehsil wise percentage of hot spots of Thrips

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	LAYYAH	14.6	4	JHANG	4.3
2	18-HAZARI	6.7	5	MUZUFAR GARH	4.0
3	KAROR L.E.	6.3			

Mealy Bug: On overall Punjab basis 42.58% spots (all considered above ETL) of Mealy Bug have been observed as compared to 42.97% in last week and 24.38% 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	100.0	31	FORT ABBAS	36.0
2	HASILPUR	90.5	32	T.T.SINGH	34.1
3	MULTAN	86.4	33	OKARA	33.3
4	RAJAN PUR	77.6	34	GOJRA	33.3
5	SHUJABAD	71.4	35	LODHRAN	32.8
6	MIAN CHANNU	69.0	36	BAHAWAL NAGAR	30.0
7	JAM PUR	67.4	37	KAROR L.E.	27.1
8	DUYAPUR	66.0	38	KOT CHUTTA	21.6
9	BURE WALA	65.4	39	LAYYAH	18.8
10	CHICHA WATNI	65.0	40	SAHIWAL	18.2
11	KABIR WALA	64.1	41	PAK PATTAN	17.6
12	A.P.EAST	61.5	42	CHOBARA	15.0
13	YAZMAN	60.4	43	PIPLAN	13.0
14	MAILSI	59.4	44	HAROON ABAD	12.5
15	TAUNSA	54.2	45	BHAKKAR	12.5
16	BAHAWAL PUR	54.1	46	KOT ADDU	11.3
17	JAHANIAN	53.8	47	RENALA KHURD	11.1
18	KHAN PUR	50.0	48	DEPALPUR	10.0
19	D.G.KHAN	50.0	49	TANDLIANWALA	9.4
20	ROJHAN	50.0	50	ISA KHEL	9.1
21	ALI PUR	46.4	51	JHANG	8.7
22	R.Y.KHAN	46.0	52	PIR MAHAL	8.6
23	MUZUFAR GARH	46.0	53	KALLOR KOT	7.7
24	JATOI	46.0	54	MIANWALI	7.4
25	KHANEWAL	45.5	55	18-HAZARI	6.7
26	KEHROR PACCA	44.0	56	SUMUNDRI	6.7
27	VEHARI	42.1	57	SHORKOT	5.6
28	LIAQUAT PUR	40.4	58	MINCHAN ABAD	4.8

29	CHISHTIAN	40.0	59	ARIF WALA	4.3
30	SADIQ ABAD	39.6			

Mites: No prevalence of above ETL has been observed. However, 3.04% below ETL spots have been observed during current week as compared to 4.39% in last week and 1.67% during the same corresponding period of last year.

Dusky Cotton Bug: On overall Punjab basis 0.53% above ETL spots have been observed during current week as compared to 0.36% in last week and 0.55% during the same corresponding period of last year. And 38.35% below ETL spots have been observed during current week as compared to 33.17% in last week and 29.80% 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	7.1	4	KEHROR PACCA	4.0
2	MULTAN	6.8	5	BAHAWAL PUR	1.6
3	KOT ADDU	5.7			

Armyworm: On overall Punjab basis 2.88% spots (all considered above ETL) of Armyworm have been observed as compared to 2.66% in last week and 4.94% 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	RENALA KHURD	16.7	16	JALAL PUR P.W	5.0
2	18-HAZARI	13.3	17	KHANEWAL	4.5
3	BHAKKAR	12.5	18	JHANG	4.3
4	MULTAN	11.9	19	PIPLAN	4.3
5	OKARA	11.1	20	DUYAPUR	4.0
6	BAHAWAL PUR	9.8	21	KEHROR PACCA	4.0
7	A.P.EAST	9.6	22	R.Y.KHAN	4.0
8	KOT ADDU	9.4	23	A.P SIAL	4.0
9	MAILSI	9.4	24	BURE WALA	3.8
10	LODHRAN	8.2	25	VEHARI	2.6
11	KALLOR KOT	7.7	26	JAHANIAN	2.6
12	MIANWALI	7.4	27	KABIR WALA	2.6
13	HASILPUR	7.1	28	CHICHA WATNI	2.5
14	ALI PUR	7.1	29	SHUJABAD	2.4
15	JATOI	6.0	30	TAUNSA	2.1

Pink Boll Worm: On overall Punjab basis 13.81% above ETL spots have been observed as compared to 12.78% in last week and 8.10% same corresponding period of the last year. And 40.28% below ETL spots have been observed as compared to 38.09% in last week and 26.45% during same corresponding period of last year.

Tehsil wise percentage of hot spots of PBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
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1	JALAL PUR P.W	30.0	26	LIAQUAT PUR	17.0
2	CHICHA WATNI	30.0	27	OKARA	16.7
3	PAK PATTAN	29.4	28	KHANEWAL	15.9
4	MIAN CHANNU	28.6	29	BURE WALA	15.4
5	SAHIWAL	27.3	30	LAYYAH	12.5
6	SADIQ ABAD	27.1	31	HASILPUR	11.9
7	DUYAPUR	26.0	32	KOT ADDU	11.3
8	R.Y.KHAN	26.0	33	RENALA KHURD	11.1
9	KEHROR PACCA	24.0	34	KAROR L.E.	10.4
10	GOJRA	22.2	35	ROJHAN	10.4
11	MAILSI	21.9	36	D.G.KHAN	10.0
12	SHUJABAD	21.4	37	TAUNSA	8.3
13	JAHANIAN	20.5	38	KALLOR KOT	7.7
14	T.T.SINGH	20.5	39	HAROOON ABAD	7.5
15	FORT ABBAS	20.0	40	18-HAZARI	6.7
16	CHISHTIAN	20.0	41	RAJAN PUR	6.1
17	LODHRAN	19.7	42	KOT CHUTTA	5.9
18	A.P.EAST	19.2	43	SHORKOT	5.6
19	VEHARI	18.4	44	PIPLAN	4.3
20	BAHAWAL PUR	18.0	45	JATOI	4.0
21	KHAN PUR	18.0	46	MULTAN	3.9
22	KABIR WALA	17.9	47	MIANWALI	3.7
23	BAHAWAL NAGAR	17.5	48	ALI PUR	3.6
24	CHOBARA	17.5	49	JAM PUR	3.2
25	PIR MAHAL	17.1	50	MINCHAN ABAD	2.4

American Bollworm: On overall Punjab basis 0.08% above ETL spots have been observed as compared to 0.12 in last week and 0.04% during same corresponding period of last year. And 0.58% below ETL spots have been observed as compared to 0.36% in last week and 0.55% during same corresponding period of last year.

Tehsil wise percentage of hot spots of ABW

S. NO.	TEHSIL	%AGE
1	KOT CHUTTA	2.0

Spotted Bollworm: On overall Punjab basis 0.58% above ETL spots have been observed as compared to 1.09% in last week and 0.04% during same corresponding period of last year & 1.93% below ETL spots have been observed as compared to 2.22% in last week and 0.51% during same corresponding period of last year.

Tehsil wise percentage of hot spots of SBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	JAM PUR	10.5	3	R.Y.KHAN	2.0
2	D.G.KHAN	6.0			

CLCuV: On overall Punjab basis 28.07% spots (all considered above ETL) of CLCuV have been observed as compared to 26.84% in last week and 20.39% during the same corresponding period of the last year.

Tehsil wise percentage of hot spots CLCuV

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
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1	KOT ADDU	100.0	29	PIPLAN	21.7
2	BURE WALA	92.3	30	A.P.EAST	21.2
3	ALI PUR	89.3	31	GOJRA	18.5
4	VEHARI	81.6	32	ISA KHEL	18.2
5	MUZUFAR GARH	68.0	33	PAK PATTAN	17.6
6	KABIR WALA	66.7	34	BAHAWAL PUR	16.4
7	MULTAN	57.6	35	SADIQ ABAD	14.6
8	MAILSI	56.3	36	18-HAZARI	13.3
9	D.G.KHAN	54.0	37	ARIF WALA	13.0
10	TAUNSA	52.1	38	JHANG	13.0
11	MIAN CHANNU	50.0	39	BHAKKAR	12.5
12	JATOI	48.0	40	KHAN PUR	12.0
13	CHICHA WATNI	45.0	41	JAM PUR	11.6
14	KOT CHUTTA	41.2	42	LODHRAN	11.5
15	SHUJABAD	40.5	43	PIR MAHAL	11.4
16	T.T.SINGH	38.6	44	SHORKOT	11.1
17	R.Y.KHAN	38.0	45	DUYAPUR	10.0
18	MANKERA	37.5	46	FORT ABBAS	10.0
19	KEHROR PACCA	34.0	47	CHISHTIAN	8.0
20	LAYYAH	33.3	48	A.P SIAL	8.0
21	DARYA KHAN	33.3	49	KALLOR KOT	7.7
22	KAROR L.E.	31.3	50	BAHAWAL NAGAR	7.5
23	CHOBARA	30.0	51	SAHIWAL	6.1
24	MIANWALI	29.6	52	RENALA KHURD	5.6
25	JAHANIAN	28.2	53	HAROON ABAD	5.0
26	KHANEWAL	27.3	54	MINCHAN ABAD	4.8
27	LIAQUAT PUR	23.4	55	ROJHAN	4.2
28	JALAL PUR P.W	22.5	56	RAJAN PUR	1.0

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	35.71	28.86	65.00	0.00	37.25	27.75	73.69	0.00
KHANEWAL	36.63	26.88	69.75	5.00	38.57	27.71	62.71	0.00
VEHARI	37.33	28.67	71.75	0.00	36.86	27.57	70.00	0.00
LODHRAN	31.5	21.5	78.5	15.00	36.70	26.70	69.30	0.00
Sahiwal	35.00	25.00	77.00	13.00	34.00	26.00	78.00	0.00
Pakpattan	36.00	26.00	74.00	5.00	36.33	27.17	57.67	0.00
Okara	35.00	26.00	78.00	15.00	38.50	24.50	75.00	0.00
Bahawalpur	38.14	27.13	68.21	2.00	37.40	27.31	63.57	0.00
Bahawalnagar	37.88	27.17	57.54	7.00	36.81	25.12	61.00	0.00
R.Y.Khan	39.71	28.57	54.14	0.00	31.71	25.29	44.14	0.00
D.G. Khan	37.85	26.42	50.64	4.00	40.85	28.85	54.57	0.00
Muzaffar Garh	33.67	25.83	57.50	3.00	33.00	27.00	67.13	2.00
Rajanpur	38.2	29.11	51.94	0.00	40.41	29.7	54.25	0.00
Layyah	33.40	25.40	51.80	0.00	33.67	23.00	47.20	0.00
TOT/AVG	36.14	26.61	64.70	69.00	36.58	26.69	62.73	2.00

Weather forecast for next 7 day in cotton zone

Division	Dated	14/9	15/9	16/9	17/9	18/9	19/9	20/9
Multan	Max.Temp.	39	40	40	40	39	37	38
	Min.Temp.	27	27	28	28	27	30	29
	Humidity %	32	27	31	33	38	37	34
Sahiwal	Max.Temp.	37	38	37	38	37	37	37
	Min.Temp.	25	26	26	25	27	27	28
	Humidity %	43	38	41	37	45	37	47
Bahawalpur	Max.Temp.	38	39	39	39	36	38	37
	Min.Temp.	28	26	27	27	27	28	28
	Humidity %	37	35	32	34	46	34	32
D.G. Khan	Max.Temp.	40	41	41	40	40	38	38
	Min.Temp.	28	28	29	28	28	30	28
	Humidity %	32	31	30	32	36	36	32
Average Cotton Region	Max.Temp.	38.5						
	Min.Temp.	27.5						
	Humidity %	35.68						

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. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp. Max. 38.05 °C, Min. 27.5°C with humidity 35.68%. Keeping in view the climatic conditions, **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%. The current weather conditions on overall Punjab basis (temp. Max. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp. Max. 38.05 °C, Min. 27.5°C with humidity 35.68%. Keeping in view the prevailing conditions, **it is predicted that population of this pest will decrease 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. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp. Max. 38.05 °C, Min. 27.5°C with humidity 35.68%. Keeping in view the climatic conditions, **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. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp.

Max. 38.05 °C, Min. 27.5°C with humidity 35.68%. 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. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp. Max. 38.05 °C, Min. 27.5°C with humidity 35.68%. Keeping in view, **it is predicted that population of this pest will sustain during the coming week.**

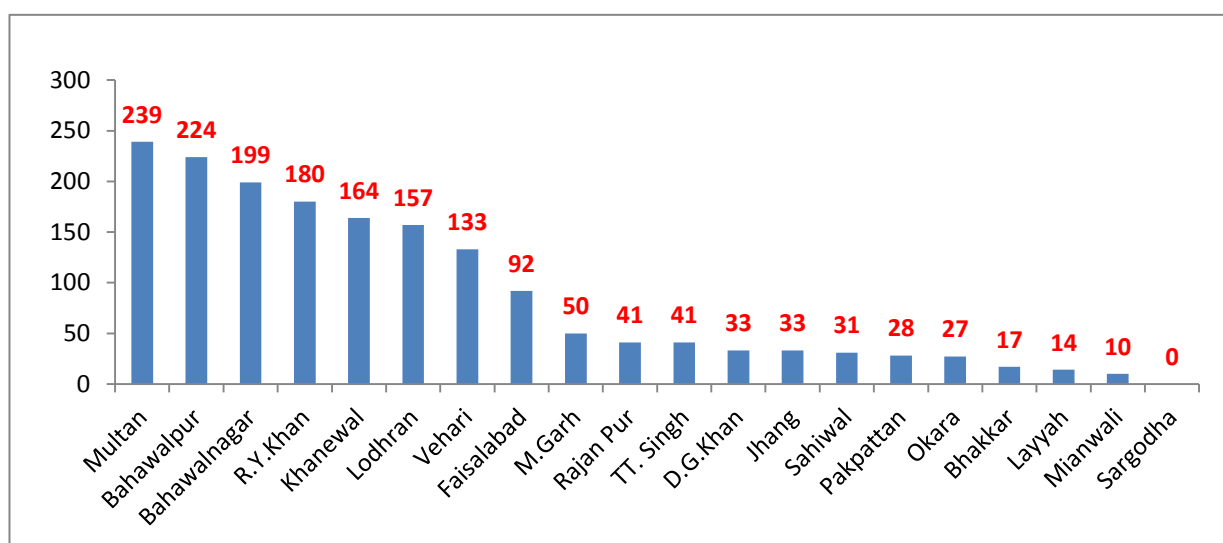
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40°C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp. Max. 38.05 °C, Min. 27.5°C with humidity 35.68%. Keeping in view, **it is predicted that population of this pest may 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. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp. Max. 38.05 °C, Min. 27.5°C with humidity 35.68%. **It is predicted that population of this pest will increase rapidly on cotton during the coming week.**

Moth Catches in Pheromone Traps during 2nd Week of September, 2021

Moth Catches in Pheromone Traps During 2 nd Week of September 2021			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	239	5.69
Khanewal	8	164	2.93
Vehari	6	133	3.17
Lodhran	6	157	3.74
Sahiwal	4	31	1.11
Pakpattan	4	28	1.00
Okara	4	27	0.96
Bahawalpur	8	224	4.00
Bahawalnagar	10	199	2.84
R.Y.Khan	8	180	3.21
D.G.Khan	6	33	0.79
M.Garh	8	50	0.89
Rajan Pur	6	41	0.98
Layyah	6	14	0.33
Sargodha	0	0	0
Mianwali	4	10	0.36
Bhakkar	8	17	0.30
Faisalabad	6	92	2.19
TT. Singh	6	41	0.98
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. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp. Max. 38.05 °C, Min. 27.5°C with humidity 35.68%. **It is predicted that population of this pest will sustain on cotton crop during the coming week.**

Moth catches on light traps during 2nd week of September, 2021

Moth Catches on Light Traps/Trap/week During 2nd Week of September, 2021				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	11	0	25
Khanewal	4	19	0	59
Vehari	3	0	0	14
Lodhran	3	4	0	22
Sahiwal	2	1	0	1
Pakpattan	2	1	0	1
Okara	3	2	0	2
Bahawalpur	4	5	3	22
Bahawalnagar	5	7	6	11
R.Y.Khan	4	3	4	8
D.G.Khan	3	2	4	5
M.Garh	4	4	5	5
Rajan Pur	3	0	0	0
Layyah	3	0	0	2
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.%.humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp. Max.

38.05 °C, Min. 27.5°C with humidity 35.68%. 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 % humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 36.14 °C, Min. 26.61 °C with R. humidity 64.70%) & forecast for the next week temp. Max. 38.05 °C, Min. 27.5°C with humidity 35.68%. 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.
4. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Spirotetramate	125 ml
2	Pyriproxifen 10.8 EC	500 ml
3	Buprofezin	600 gm
4	Flonicamid 50 WG	60-80 gm
5	Diafenthuron	200 ml

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/card
4. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Flunicamid 50 WG	60 gm
2	Fipronil+Imidacloprid	60 gm
3	Nitenpiram 10 AS	200 ml
4	Dinotefuron 20 SG	100 gm
5	Dimethoate 40 EC	330-400 ml
6	Thiacloprid 480 SC	200 ml

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.
4. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Fipronil+Imidacloprid	60 gm
2	Chlorfenpyr	125 ml
3	Acephate 97% DF	250-300 gm

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	Mulbery
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 Pink Bollworm:

1. Use Sex Pheromone Traps for monitoring of PBW
2. Eradicate rosette flowers.
3. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Spintoram 120 SC	80 ml
2	Chlorantraniliprole	50ml
3	Triazophos	1000ml
4	Bifenthrin	250ml
5	Gammacyhalothrin	100ml
6	Lambdacyhalothrin	333ml

MANAGEMENT OF DUSKY COTTON BUG

1. Eradicate weeds.
2. Conduct Pest Scouting at least twice a week.
3. Remove alternate host plants

4. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Fipronil 5% SC	480 ml
2	Acetamaprid	125 gm
3	Chlorpyrifos	800-1000ml

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.
5. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Leufenuron	200ml
2	Flubendamide	50ml

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 and 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