

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 3rd WEEK OF SEPTEMBER, 2022

Whitefly: On overall Punjab basis 16.73 above ETL spots have been observed during current week as compared to 29.70% in last week and 49.13% during the same corresponding period of last year. And 81.95% below ETL spots have been observed during current week as compared to 69.57% in last week and 50.79% 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	TAUNSA	44.2	27	MANKERA	16.7
2	KOT CHUTTA	43.8	28	SHUJABAD	16.4
3	FORT ABBAS	36.4	29	RAJAN PUR	15.6
4	BAHAWAL PUR	35.4	30	MULTAN	14.5
5	A.P.EAST	34.5	31	ROJHAN	13.6
6	D.G.KHAN	32.7	32	DARYA KHAN	13.0
7	SADIQ ABAD	28.0	33	JAHANIAN	12.5
8	ALI PUR	28.0	34	CHOBARA	12.5
9	JALAL PUR P.W	26.7	35	MIANWALI	12.5
10	HAROON ABAD	26.7	36	PIPLAN	12.5
11	CHISHTIAN	26.1	37	ISA KHEL	12.5
12	MIAN CHANNU	25.0	38	LODHRAN	11.9
13	MINCHAN ABAD	25.0	39	SHORKOT	11.8
14	R.Y.KHAN	25.0	40	ARIF WALA	11.5
15	KHAN PUR	25.0	41	KALLOR KOT	11.1
16	LIAQUAT PUR	25.0	42	LAYYAH	10.0
17	BAHAWAL NAGAR	22.5	43	CHICHA WATNI	7.5
18	YAZMAN	22.4	44	A.P SIAL	6.7
19	JHANG	20.0	45	KHANEWAL	6.3
20	MUZUFAR GARH	19.6	46	18-HAZARI	6.3
21	HASILPUR	19.2	47	OKARA	5.0
22	JATOI	18.8	48	KABIR WALA	4.4
23	KAROR L.E.	18.8	49	MAILSI	4.3
24	KOT ADDU	18.0	50	BURE WALA	2.6
25	KEHROR PACCA	17.9	51	VEHARI	2.4
26	JAM PUR	17.9	52	DUYAPUR	2.3

Jassid: On overall Punjab basis 7.83% above ETL spots has been observed as compared to 11.77% in last week and same week of last year 5.21%. And 89.74% below ETL spots have been observed during current week as compared to 86.31% in last week and 92.44% 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	25.0	24	GOJRA	10.5
2	PAK PATTAN	23.8	25	JHANG	10.0
3	TAUNSA	23.3	26	KOT ADDU	10.0
4	KAROR L.E.	22.9	27	CHOBARA	10.0
5	DARYA KHAN	21.7	28	OKARA	10.0
6	FORT ABBAS	20.5	29	RENALA KHURD	9.1

7	ALI PUR	20.0	30	SHORKOT	8.8
8	RAJAN PUR	17.2	31	MUZUFAR GARH	8.7
9	MANKERA	16.7	32	TANDLIANWALA	8.3
10	ARIF WALA	15.4	33	SUMUNDRI	8.0
11	BHAKKAR	15.4	34	BURE WALA	7.7
12	T.T.SINGH	15.0	35	A.P SIAL	6.7
13	ROJHAN	13.6	36	KHAN PUR	6.3
14	HAROON ABAD	13.3	37	PIPLAN	6.3
15	CHISHTIAN	13.0	38	SHUJABAD	5.5
16	KEHROR PACCA	12.8	39	VEHARI	4.8
17	MINCHAN ABAD	12.5	40	LIAQUAT PUR	4.2
18	BAHAWAL NAGAR	12.5	41	MIANWALI	4.2
19	ISA KHEL	12.5	42	SADIQ ABAD	4.0
20	18-HAZARI	12.5	43	PIR MAHAL	4.0
21	LAYYAH	11.7	44	D.G.KHAN	3.6
22	R.Y.KHAN	10.7	45	LODHRAN	2.4
23	SAHIWAL	10.5			

Thrips: On overall Punjab basis 0.00% above ETL spots has been observed as compared to 0.19% in last week and same week of last year i.e. 0.48%. And 73.44% below ETL spots have been observed during current week as compared to 85.28% in last week and 88.53% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Thrips

No hot spot found in this week.

Mealy Bug: On overall Punjab basis 9.46% spots (all considered above ETL) of Mealy Bug have been observed as compared to 12.69% in last week and 46.10% 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	37.8	22	JHANG	10.0
2	SHUJABAD	34.5	23	PAK PATTAN	9.5
3	BAHAWAL PUR	31.3	24	DUYAPUR	9.3
4	ALI PUR	30.0	25	MUZUFAR GARH	8.7
5	FORT ABBAS	27.3	26	HASILPUR	7.7
6	A.P.EAST	21.8	27	CHICHA WATNI	7.5
7	JATOI	20.8	28	LODHRAN	7.1
8	HAROON ABAD	20.0	29	JAM PUR	7.1
9	CHISHTIAN	17.4	30	RAJAN PUR	6.3
10	YAZMAN	15.5	31	KHAN PUR	6.3
11	KOT CHUTTA	15.1	32	PIPLAN	6.3
12	BAHAWAL NAGAR	15.0	33	R.Y.KHAN	5.4
13	D.G.KHAN	14.5	34	CHOBARA	5.0
14	MULTAN	13.0	35	ROJHAN	4.5
15	MINCHAN ABAD	12.5	36	MIANWALI	4.2
16	TAUNSA	11.6	37	SADIQ ABAD	4.0
17	KAROR L.E.	10.4	38	SHORKOT	2.9
18	MIAN CHANNU	10.4	39	GOJRA	2.6
19	KEHROR PACCA	10.3	40	KABIR WALA	2.2
20	T.T.SINGH	10.0	41	LIAQUAT PUR	2.1
21	LAYYAH	10.0	42	KOT ADDU	2.0

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 1.56% below ETL spots have been observed during current week as compared to 2.18% in last week and 2.95% 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 4.95% above ETL spots have been observed during current week as compared to 3.44% in last week and 0.00% during the same corresponding period of last year. And 59.11% below ETL spots have been observed during current week as compared to 57.99% in last week and 46.14% 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	HASILPUR	42.3	12	MANKERA	5.6
2	BAHAWAL PUR	31.3	13	GOJRA	5.3
3	MULTAN	29.0	14	MUZUFAR GARH	4.3
4	T.T.SINGH	25.0	15	MIAN CHANNU	4.2
5	SHUJABAD	21.8	16	MIANWALI	4.2
6	JALAL PUR P.W	20.0	17	KHANEWAL	4.2
7	PIR MAHAL	20.0	18	CHOBARA	2.5
8	A.P.EAST	14.5	19	LODHRAN	2.4
9	PIPLAN	12.5	20	KABIR WALA	2.2
10	ISA KHEL	12.5	21	ALI PUR	2.0
11	KEHROR PACCA	7.7			

Armyworm: On overall Punjab basis 4.59% spots (all considered above ETL) of Armyworm have been observed as compared to 6.50% in last week and 2.18% 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	R.Y.KHAN	21.4	16	LODHRAN	7.1
2	BAHAWAL PUR	20.8	17	KAROR L.E.	6.3
3	KHAN PUR	16.7	18	SHUJABAD	5.5
4	FORT ABBAS	15.9	19	T.T.SINGH	5.0
5	KEHROR PACCA	15.4	20	LAYYAH	5.0
6	ISA KHEL	12.5	21	KABIR WALA	4.4
7	JATOI	12.5	22	MUZUFAR GARH	4.3
8	SADIQ ABAD	12.0	23	KOT CHUTTA	4.1
9	JALAL PUR P.W	11.1	24	PIR MAHAL	4.0
10	LIAQUAT PUR	10.4	25	A.P.EAST	3.6
11	PIPLAN	9.4	26	D.G.KHAN	3.6
12	TAUNSA	9.3	27	YAZMAN	3.4
13	MIANWALI	8.3	28	DUYAPUR	2.3
14	HASILPUR	7.7	29	KOT ADDU	2.0
15	MULTAN	7.2	30	RAJAN PUR	1.6

Pink Boll Worm: On overall Punjab basis 19.09% above ETL spots have been observed as compared to 14.03% in last week and 17.74% same corresponding period of the last year. And 34.58% below ETL spots have been observed as compared to 32.95% in last week and 40.97% 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	44.2	28	CHICHA WATNI	15.0
2	KHAN PUR	43.8	29	FORT ABBAS	13.6
3	SHUJABAD	43.6	30	LAYYAH	13.3
4	KEHROR PACCA	43.6	31	D.G.KHAN	12.7
5	MULTAN	43.5	32	ISA KHEL	12.5
6	LIAQUAT PUR	39.6	33	PIPLAN	12.5
7	R.Y.KHAN	39.3	34	MIANWALI	12.5
8	HASILPUR	38.5	35	BAHAWAL NAGAR	12.5
9	BAHAWAL PUR	37.5	36	KOT ADDU	12.0
10	KHANEWAL	31.3	37	VEHARI	11.9
11	JAHANIAN	31.3	38	TAUNSA	11.6
12	JALAL PUR P.W	31.1	39	SAHIWAL	10.5
13	KABIR WALA	31.1	40	MIAN CHANNU	10.4
14	LODHRAN	31.0	41	BURE WALA	10.3
15	JAM PUR	28.6	42	T.T.SINGH	10.0
16	SADIQ ABAD	28.0	43	HARROON ABAD	10.0
17	JATOI	27.1	44	MAILSI	8.7
18	ALI PUR	26.0	45	KAROR L.E.	8.3
19	YAZMAN	25.9	46	PIR MAHAL	8.0
20	ROJHAN	22.7	47	MINCHAN ABAD	6.3
21	A.P.EAST	21.8	48	OKARA	5.0
22	CHISHTIAN	21.7	49	PAK PATTAN	4.8
23	MUZUFAR GARH	19.6	50	DARYA KHAN	4.3
24	BHAKKAR	19.2	51	ARIF WALA	3.8
25	CHOBARA	17.5	52	KALLOR KOT	3.7
26	MANKERA	16.7	53	KOT CHUTTA	2.7
27	RAJAN PUR	15.6			

American Bollworm: On overall Punjab basis 0.08% above ETL spots have been observed as compared to 0.08 in last week and 0.08% during same corresponding period of last year. And 1.84% below ETL spots have been observed as compared to 1.64% in last week and 0.65% during same corresponding period of last year.

Tehsil wise percentage of hot spots of ABW

S. NO.	TEHSIL	%AGE
1	KOT CHUTTA	2.7

Spotted Bollworm: On overall Punjab basis 0.24% above ETL spots have been observed as compared to 0.15% in last week and 0.19% during same corresponding period of last year & 1.24% below ETL spots have been observed as compared to 0.88% in last week and 2.42% during same corresponding period of last year.

Tehsil wise percentage of hot spots of SBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	YAZMAN	3.4	3	D.G.KHAN	1.8
2	KOT CHUTTA	2.7	4	R.Y.KHAN	1.8

CLCuV: On overall Punjab basis 34.98% spots (all considered above ETL) of CLCV have been observed as compared to 40.29% in last week and 30.87% 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	JALAL PUR P.W	91.1	32	HAROOON ABAD	26.7
2	KOT CHUTTA	82.2	33	ALI PUR	26.0
3	TAUNSA	81.4	34	A.P.EAST	25.5
4	VEHARI	78.6	35	JATOI	25.0
5	HASILPUR	75.0	36	PIPLAN	25.0
6	MULTAN	71.0	37	MIANWALI	25.0
7	BHAKKAR	69.2	38	MINCHAN ABAD	25.0
8	BURE WALA	64.1	39	LODHRAN	23.8
9	SHUJABAD	58.2	40	PAK PATTAN	23.8
10	DARYA KHAN	56.5	41	KHAN PUR	20.8
11	KABIR WALA	51.1	42	LIAQUAT PUR	20.8
12	D.G.KHAN	49.1	43	LAYYAH	20.0
13	KALLOR KOT	48.1	44	MUZUFAR GARH	19.6
14	MANKERA	47.2	45	YAZMAN	17.2
15	KAROR L.E.	45.8	46	KOT ADDU	16.0
16	MAILSI	45.7	47	PIR MAHAL	16.0
17	T.T.SINGH	42.5	48	JAHANIAN	15.6
18	SADIQ ABAD	42.0	49	ARIF WALA	15.4
19	CHOBARA	40.0	50	BAHAWAL NAGAR	15.0
20	BAHAWAL PUR	39.6	51	FAISALABAD	12.5
21	FORT ABBAS	38.6	52	JAM PUR	10.7
22	ISA KHEL	37.5	53	SAHIWAL	10.5
23	MIAN CHANNU	33.3	54	GOJRA	10.5
24	DUYAPUR	32.6	55	OKARA	10.0
25	KHANEWAL	31.3	56	JHANG	10.0
26	KEHROR PACCA	30.8	57	A.P SIAL	10.0
27	CHISHTIAN	30.4	58	RENALA KHURD	9.1
28	R.Y.KHAN	30.4	59	SHORKOT	8.8
29	CHICHA WATNI	30.0	60	18-HAZARI	6.3
30	RAJAN PUR	28.1	61	TANDLIANWALA	4.2
31	ROJHAN	27.3	62	SUMUNDRI	2.0

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	38.1	26.4	63.0	0.7	37.0	28.6	66.2	0.0
Khanewal	37.5	26.6	65.3	0.0	37.9	28.1	60.3	0.0
Vehari	36.9	26.9	65.6	0.0	37.7	28.9	59.4	0.0
Lodhran	36.4	25.0	69.6	0.0	38.5	26.5	70.0	0.0
Sahiwal	36.1	25.4	74.8	1.0	37.0	26.0	69.0	0.0
Pakpattan	35.8	24.6	72.4	0.0	38.0	27.0	71.0	0.0
Okara	36.0	25.0	72.0	0.0	36.0	25.0	68.0	0.0
Bahawalpur	38.3	26.2	63.1	0.0	38.6	27.2	60.7	0.0
Bahawalnagar	37.8	26.1	66.3	0.0	38.1	26.1	59.6	0.0
R.Y.Khan	38.6	26.2	44.7	0.0	38.3	27.6	48.8	0.0
D.G. Khan	39.3	27.4	58.9	0.0	37.6	25.3	52.4	0.0
Muzaffar Garh	36.2	26.4	60.0	3.0	37.7	28.7	54.0	3.0
Rajanpur	38.8	28.0	61.3	0.0	40.5	29.9	55.6	0.0
Layyah	37.0	27.0	82.0	0.0	41.7	29.7	55.1	0.0
TOT/AVG	37.34	26.23	65.64	4.70	38.19	27.46	60.72	3.00

Weather forecast for next 7 day in cotton zone

Division	Dated	21/9	22/9	23/9	24/9	25/9	26/9	27/9
Multan	Max.Temp.	39	39	38	38	38	37	36
	Min.Temp.	26	26	26	26	27	25	25
	Humidity %	33	30	31	39	41	30	28
Sahiwal	Max.Temp.	38	38	36	36	36	33	35
	Min.Temp.	24	24	24	24	25	23	25
	Humidity %	36	38	50	48	51	37	30
Bahawalpur	Max.Temp.	38	38	38	38	37	37	39
	Min.Temp.	25	25	25	26	26	25	24
	Humidity %	35	35	34	32	29	38	35
D.G. Khan	Max.Temp.	38	38	38	38	36	39	38
	Min.Temp.	24	24	24	24	25	25	26
	Humidity %	33	27	29	42	43	33	25
Average Cotton Region	Max.Temp.	37.39						
	Min.Temp.	24.93						
	Humidity %	35.43						

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. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C with humidity 35.43%. Keeping in view above all, it is predicted that population of this pest will decrease 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. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C with humidity 35.43%. 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. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C with humidity 35.43%. 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. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C with humidity 35.43%. 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. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C with humidity 35.43%. Keeping in view above all, it is predicted that population of this pest will sustain during the coming week.

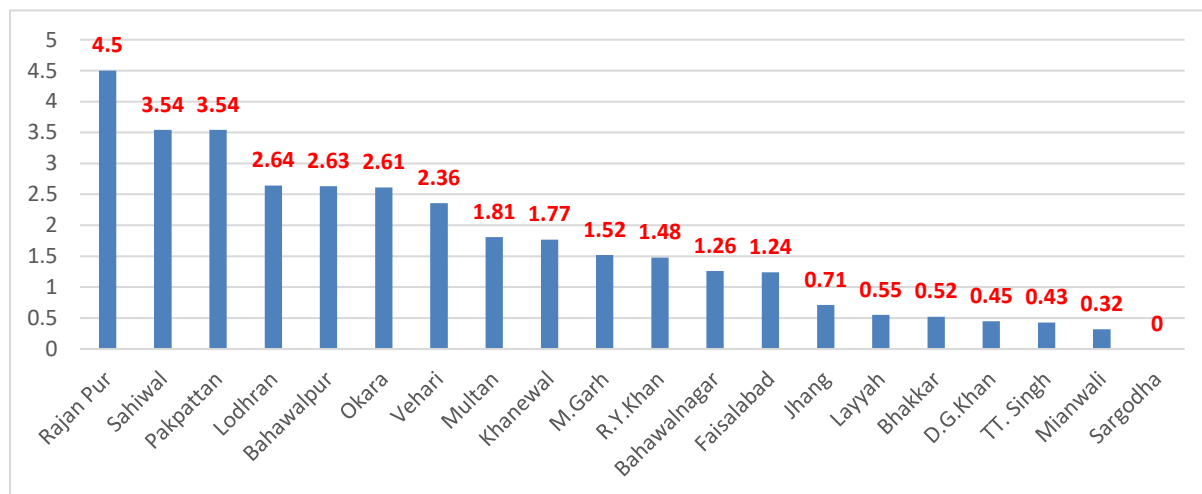
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C with humidity 35.43%. 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. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C with humidity 35.43%. It is predicted that population of this pest will increase on cotton crop.

Moth Catches in Pheromone Traps during 3rd Week of September, 2022

Moth Catches in Pheromone Traps During 3rd Week of September 2022			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	76	1.81
Khanewal	8	99	1.77
Vehari	6	99	2.36
Lodhran	6	111	2.64
Sahiwal	4	99	3.54
Pakpattan	4	99	3.54
Okara	4	73	2.61
Bahawalpur	8	147	2.63
Bahawalnagar	10	88	1.26
R.Y.Khan	8	83	1.48
D.G.Khan	6	19	0.45
M.Garh	8	85	1.52
Rajan Pur	6	189	4.50
Layyah	6	23	0.55
Sargodha	0	0	0.00
Mianwali	4	9	0.32
Bhakkar	8	29	0.52
Faisalabad	6	52	1.24
TT. Singh	6	18	0.43
Jhang	4	20	0.71

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. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C with humidity

35.43%.It is predicted that population of this pest will sustain on cotton crop during the coming week.

Moth catches on light traps during 3rd week of September, 2022

Moth Catches on Light Traps/Trap/week During 3rd Week of September, 2022				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1.0	0.0	3.0
Khanewal	4	0.0	0.0	8.1
Vehari	3	0.0	0.0	1.3
Lodhran	3	2.7	0.0	5.1
Sahiwal	2	2.1	0.0	2.3
Pakpattan	2	1.9	0.0	2.0
Okara	3	2.0	0.0	2.3
Bahawalpur	4	0.9	0.7	3.1
Bahawalnagar	5	1.1	1.0	3.3
R.Y.Khan	4	1.9	1.7	2.9
D.G.Khan	3	0.9	0.9	1.1
M.Garh	4	0.9	0.9	1.4
Rajan Pur	3	1.2	1.0	1.4
Layyah	3	0.0	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. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C with humidity 35.43%.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. 37.34 °C, Min. 26.23 °C with R. humidity 65.64%) & forecast for the next week temp. Max. 37.39 °C, Min. 24.93°C

with humidity 35.43%. 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 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
			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