

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 2nd WEEK OF JULY, 2022

Whitefly: On overall Punjab basis 21.81 above ETL spots have been observed during current week as compared to 23.37% % in last week and 5.13% during the same corresponding period of last year. And 77.07% below ETL spots have been observed during current week as compared to 75.54% in last week and 92.90% 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	SHUJABAD	44.7	32	OKARA	20.0
2	MIAN CHANNU	42.5	33	LIAQUAT PUR	19.1
3	VEHARI	39.1	34	DEPALPUR	18.8
4	JAHANIAN	37.5	35	JATOI	18.8
5	CHICHA WATNI	37.5	36	DUYAPUR	18.6
6	PIR MAHAL	37.1	37	YAZMAN	18.2
7	BHAKKAR	35.3	38	T.T.SINGH	18.2
8	KOT CHUTTA	35.1	39	D.G.KHAN	17.9
9	DARYA KHAN	34.8	40	LAYYAH	17.1
10	RAJAN PUR	34.0	41	KHAN PUR	16.7
11	KHANEWAL	34.0	42	BAHAWAL NAGAR	15.8
12	MULTAN	31.7	43	JHANG	15.6
13	BAHAWAL PUR	31.4	44	HAROON ABAD	15.2
14	ARIF WALA	30.3	45	R.Y.KHAN	15.0
15	KABIR WALA	30.0	46	KEHROR PACCA	14.6
16	BURE WALA	30.0	47	HASILPUR	14.3
17	JALAL PUR P.W	29.5	48	ISA KHEL	14.3
18	MAILSI	28.3	49	KALLOR KOT	13.8
19	JAM PUR	27.5	50	SADIQ ABAD	13.6
20	CHOBARA	27.1	51	ALI PUR	12.5
21	CHISHTIAN	25.9	52	KAROR L.E.	12.5
22	FORT ABBAS	25.0	53	MANKERA	10.0
23	KOT ADDU	25.0	54	SHORKOT	9.5
24	18-HAZARI	24.0	55	MIANWALI	6.9
25	MINCHAN ABAD	23.9	56	A.P.EAST	6.4
26	SAHIWAL	23.7	57	TANDLIANWALA	5.3
27	PAK PATTAN	22.9	58	LODHRAN	4.4
28	TAUNSA	22.5	59	SUMUNDRI	4.4
29	MUZUFAR GARH	21.4	60	PIPLAN	3.3
30	ROJHAN	21.4	61	GOJRA	3.2
31	RENALA KHURD	21.1	62	A.P SIAL	3.0

Jassid: On overall Punjab basis 15.90% above ETL spots has been observed as compared to 17.21% in last week and same week of last year 21.70%. And 81.93% below ETL spots have been observed during current week as compared to 80.87% in last week and 76.96% 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	BHAKKAR	35.3	31	CHISHTIAN	15.5
2	VEHARI	34.8	32	KHANEWAL	15.1
3	KOT ADDU	32.7	33	KABIR WALA	15.0
4	MULTAN	30.2	34	YAZMAN	14.5
5	MANKERA	30.0	35	PIR MAHAL	14.3
6	JALAL PUR P.W	29.5	36	ISA KHEL	14.3
7	CHOBARA	29.2	37	KALLOR KOT	13.8
8	18-HAZARI	28.0	38	LODHRAN	13.3
9	CHICHA WATNI	27.5	39	PIPLAN	13.3
10	LAYYAH	26.8	40	A.P.EAST	12.8
11	DARYA KHAN	26.1	41	KHAN PUR	12.5
12	BURE WALA	25.0	42	ALI PUR	12.5
13	OKARA	24.0	43	T.T.SINGH	12.1
14	MUZUFAR GARH	23.8	44	PAK PATTAN	11.4
15	SHUJABAD	23.4	45	HASILPUR	10.2
16	DUYAPUR	23.3	46	FORT ABBAS	10.0
17	TAUNSA	22.5	47	A.P SIAL	9.1
18	R.Y.KHAN	22.5	48	KAROR L.E.	8.9
19	LIAQUAT PUR	21.3	49	JATOI	8.3
20	RENALA KHURD	21.1	50	BAHAWAL NAGAR	7.9
21	MIAN CHANNU	20.0	51	SHORKOT	7.1
22	DEPALPUR	18.8	52	SUMUNDRI	6.7
23	ARIF WALA	18.2	53	MINCHAN ABAD	6.5
24	SADIQ ABAD	18.2	54	JAHANIAN	6.3
25	KOT CHUTTA	17.5	55	RAJAN PUR	6.0
26	MAILSI	17.4	56	D.G.KHAN	5.4
27	MIANWALI	17.2	57	JAM PUR	5.0
28	KEHROR PACCA	17.1	58	HAROON ABAD	4.3
29	BAHAWAL PUR	15.7	59	SAHIWAL	2.6
30	JHANG	15.6	60	TANDLIANWALA	1.8

Thrips: On overall Punjab basis 3.86% above ETL spots has been observed as compared to 4.28% in last week and same week of last year i.e. 7.81%. And 92.49% below ETL spots have been observed during current week as compared to 93.61% in last week and 89.06% 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	ROJHAN	28.6	17	DARYA KHAN	4.3
2	ALI PUR	25.0	18	SHUJABAD	4.3
3	BURE WALA	17.5	19	18-HAZARI	4.0
4	BAHAWAL PUR	13.7	20	KOT ADDU	3.8
5	VEHARI	13.0	21	FORT ABBAS	3.3
6	JAM PUR	12.5	22	JHANG	3.1
7	RAJAN PUR	12.0	23	JAHANIAN	3.1
8	MAILSI	10.9	24	T.T.SINGH	3.0
9	JATOI	10.4	25	LODHRAN	2.2
10	MIAN CHANNU	7.5	26	CHOBARA	2.1
11	MUZUFAR GARH	7.1	27	KHANEWAL	1.9
12	KAROR L.E.	7.1	28	YAZMAN	1.8
13	JALAL PUR P.W	6.8	29	D.G.KHAN	1.8
14	MULTAN	6.3	30	KOT CHUTTA	1.8
15	KABIR WALA	5.0	31	CHISHTIAN	1.7
16	LAYYAH	4.9			

Mealy Bug: On overall Punjab basis 3.61% spots (all considered above ETL) of Mealy Bug have been observed as compared to 3.01% in last week and 3.26% 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	22.7	18	R.Y.KHAN	5.0
2	SHUJABAD	17.0	19	VEHARI	4.3
3	DUYAPUR	16.3	20	BAHAWAL PUR	3.9
4	KABIR WALA	10.0	21	KHANEWAL	3.8
5	T.T.SINGH	9.1	22	KAROR L.E.	3.6
6	HAROON ABAD	8.7	23	KOT CHUTTA	3.5
7	CHISHTIAN	8.6	24	FORT ABBAS	3.3
8	18-HAZARI	8.0	25	PIPLAN	3.3
9	OKARA	8.0	26	JHANG	3.1
10	YAZMAN	7.3	27	JAHANIAN	3.1
11	ROJHAN	7.1	28	PIR MAHAL	2.9
12	MULTAN	6.3	29	SAHIWAL	2.6
13	CHOBARA	6.3	30	CHICHA WATNI	2.5
14	HASILPUR	6.1	31	LAYYAH	2.4
15	RAJAN PUR	6.0	32	A.P.EAST	2.1
16	MIAN CHANNU	5.0	33	D.G.KHAN	1.8
17	TAUNSA	5.0			

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 0.88% below ETL spots have been observed during current week as compared to 0.34% in last week and 1.88% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Mites

No hot spot find yet.

Dusky Cotton Bug: On overall Punjab basis 0.08% above ETL spots have been observed during current week as compared to 0.04% in last week and 0.00% during the same corresponding period of last year. And 20.12% below ETL spots have been observed during current week as compared to 19.02% in last week and 8.53 % 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	SHUJABAD	2.1	2	MULTAN	1.6

Armyworm: On overall Punjab basis 0.24% spots (all considered above ETL) of Armyworm have been observed as compared to 0.79% in last week and 0.58% 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	3.2	4	HASILPUR	2.0
2	JAHANIAN	3.1	5	KAROR L.E.	1.8
3	VEHARI	2.2			

Pink Boll Worm: On overall Punjab basis 0.08% above ETL spots have been observed as compared to 0.04% in last week and 0.98% same corresponding period of the last year. And 4.30% below ETL spots have been observed as compared to 2.71% in last week and 11.47% during same corresponding period of last year.

Tehsil wise percentage of hot spots of PBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	JAHANIAN	3.1	2	LODHRAN	2.2

American Boll Worm: On overall Punjab basis 0.04% above ETL spots have been observed as compared to 0.04 in last week and 0.04% during same corresponding period of last year. And 0.08% below ETL spots have been observed as compared to 0.26% in last week and 1.21% during same corresponding period of last year.

Tehsil wise percentage of hot spots of ABW

S. NO.	TEHSIL	%AGE
1	R.Y.KHAN	2.5

Spotted Boll Worm: On overall Punjab basis 0.04% above ETL spots have been observed as compared to 0.08% in last week and 0.00% during same corresponding period of last year & 0.04% below ETL spots have been observed as compared to 0.04% in last week and 0.40% during same corresponding period of last year.

Table 9 Tehsil wise percentage of hot spots of SBW

S. NO.	TEHSIL	%AGE
1	R.Y.KHAN	2.5

CLCuV: On overall Punjab basis 19.88% spots (all considered above ETL) of CLCV have been observed as compared to 15.48% in last week and 2.59% 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	92.1	25	KOT ADDU	21.2
2	JALAL PUR P.W	68.2	26	D.G.KHAN	19.6
3	SHUJABAD	63.8	27	LIAQUAT PUR	19.1
4	KABIR WALA	52.5	28	MIAN CHANNU	17.5
5	VEHARI	52.2	29	KHANEWAL	17.0

6	JATOI	37.5	30	HASILPUR	14.3
7	ROJHAN	35.7	31	KOT CHUTTA	14.0
8	A.P.EAST	34.0	32	KAROR L.E.	12.5
9	RAJAN PUR	34.0	33	MIANWALI	10.3
10	ALI PUR	33.3	34	SADIQ ABAD	9.1
11	LAYYAH	31.7	35	PIR MAHAL	8.6
12	KEHROR PACCA	31.7	36	KHAN PUR	8.3
13	JAHANIAN	31.3	37	18-HAZARI	8.0
14	DUYAPUR	30.2	38	CHICHA WATNI	7.5
15	BURE WALA	30.0	39	CHISHTIAN	6.9
16	CHOBARA	29.2	40	YAZMAN	5.5
17	LODHRAN	28.9	41	JAM PUR	5.0
18	MUZUFAR GARH	28.6	42	KALLOR KOT	3.4
19	R.Y.KHAN	27.5	43	PIPLAN	3.3
20	TAUNSA	27.5	44	JHANG	3.1
21	GOJRA	22.6	45	ARIF WALA	3.0
22	MAILSI	21.7	46	BAHAWAL NAGAR	2.6
23	BAHAWAL PUR	21.6	47	MINCHAN ABAD	2.2
24	T.T.SINGH	21.2			

FORECAST FOR THE NEXT WEEK

Meteorological data of the current week 2021-2022

Districts	2021				2020			
	Temperature		R.H%	Rainfall (mm)	Temperature °C		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	38.6	26.6	64.8	1.9	40.8	32.5	73.8	0.0
Khanewal	38.4	28.0	71.9	4.8	40.4	31.4	62.8	1.0
Vehari	36.7	28.3	65.3	3.6	40.9	31.6	63.6	2.0
Lodhran	35.3	25.7	78.8	4.9	41.1	30.6	72.2	3.0
Sahiwal	38.4	28.2	76.1	44.0	41.0	29.0	56.0	1.0
Pakpattan	37.1	28.1	69.5	34.5	42.0	31.0	53.0	2.0
Okara	35.2	27.5	71.2	34.0	40.0	24.0	51.0	1.0
Bahawalpur	38.9	27.0	70.0	31.2	41.6	29.4	54.3	31.5
Bahawalnagar	39.4	26.7	68.0	12.0	41.7	30.1	50.8	0.0
R.Y.Khan	38.5	27.8	69.1	36.7	39.7	27.1	59.3	0.0
D.G. Khan	43.00	33.00	38.00	6.00	44.00	32.00	30.00	2.00
M.Garh	35.40	22.30	67.00	24.00	43.17	33.50	31.50	0.00
Rajanpur	36.8	27.8	53.35	36.00	43.70	32.12	39.94	0.00
Layyah	44.00	24.00	60.00	3.30	47.29	29.14	43.29	0.00
TOT/AVG	38.27	27.22	65.93	19.78	41.96	30.25	52.96	3.11

Weather forecast for next 7 day in cotton zone

Division	Dated	18/7	19/7	20/7	21/7	22/7	23/7	23/7
Multan	Max.Temp.	36	40	40	38	33	36	34
	Min.Temp.	28	30	32	30	30	28	30
	Humidity %	54	41	40	51	65	59	60
Sahiwal	Max.Temp.	36	39	39	37	30	32	33
	Min.Temp.	27	30	31	29	27	27	27
	Humidity %	55	48	48	56	76	75	65
Bahawalpur	Max.Temp.	35	39	39	37	33	36	32
	Min.Temp.	28	30	31	30	29	28	30
	Humidity %	60	46	44	50	63	62	69
D.G. Khan	Max.Temp.	36	40	41	38	34	38	37
	Min.Temp.	28	30	33	32	30	28	30
	Humidity %	53	40	40	48	64	55	51
Average Cotton Region	Max.Temp.	36.36						
	Min.Temp.	29.39						
	Humidity %	54.93						

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain moderate, Sunny & 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. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp. Max. 36.36 °C, Min. 29.39°C with humidity 54.93%. Keeping in view above all, it is predicted that population of this pest can decrease from this week due to rainfall 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. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp.

Max. 36.36 °C, Min. 29.39°C with humidity 54.93%. Keeping in view above all, it is predicted that population of this pest may rapidly 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. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp. Max. 36.36 °C, Min. 29.39°C with humidity 54.93%. Keeping in view above all, it is predicted that population of this pest will increase 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. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp. Max. 36.36 °C, Min. 29.39°C with humidity 54.93%. 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. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp. Max. 36.36 °C, Min. 29.39°C with humidity 54.93%. Keeping in view above all, it is predicted that population of this pest will sustain during the coming week.

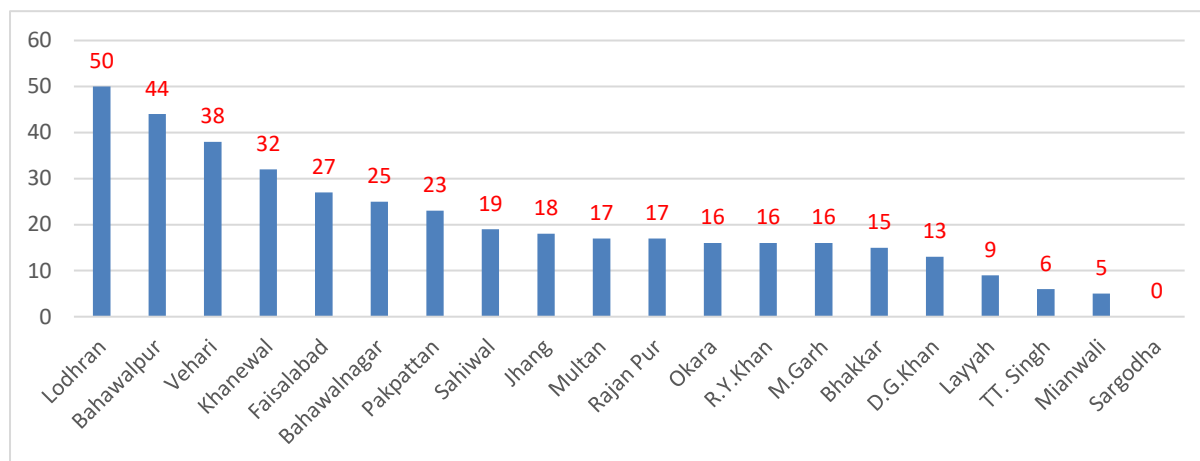
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp. Max. 36.36 °C, Min. 29.39°C

with humidity 54.93%. Keeping in view above all, 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. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp. Max. 36.36 °C, Min. 29.39°C with humidity 54.93%. It is predicted that population of this pest will sustain on cotton crop.

Moth Catches in Pheromone Traps during 2nd Week of July, 2022

Moth Catches in Pheromone Traps During 2nd Week of July 2022			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	17	0.40
Khanewal	8	32	0.57
Vehari	6	38	0.90
Lodhran	6	50	1.19
Sahiwal	4	19	0.68
Pakpattan	4	23	0.82
Okara	4	16	0.57
Bahawalpur	8	44	0.79
Bahawalnagar	10	25	0.36
R.Y.Khan	8	16	0.29
D.G.Khan	6	13	0.31
M.Garh	8	16	0.29
Rajan Pur	6	17	0.40
Layyah	6	9	0.21
Sargodha	0	0	0.00
Mianwali	4	5	0.18
Bhakkar	8	15	0.27
Faisalabad	6	27	0.64
TT. Singh	6	6	0.14
Jhang	4	18	0.64
<i>Note. 3 moth catches on 3 consecutive nights in a trap is considered as ETL</i>			



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. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp. Max. 36.36 °C, Min. 29.39°C with humidity 54.93%.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 July, 2022

Moth Catches on Light Traps/Trap/week During 2nd Week of July, 2022				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	0.6	0.0	1.6
Khanewal	4	1.7	0.0	4.6
Vehari	3	0.6	0.3	1.6
Lodhran	3	2.6	0.0	2.7
Sahiwal	2	0.9	0.0	0.9
Pakpattan	2	0.6	0.0	0.6
Okara	3	0.7	0.0	0.7
Bahawalpur	4	1.2	0.7	1.7
Bahawalnagar	5	1.6	1.1	1.6
R.Y.Khan	4	0.3	0.3	0.3
D.G.Khan	3	0.3	0.3	0.3
M.Garh	4	0.7	0.9	0.9
Rajan Pur	3	1.6	0.6	3.0
Layyah	3	0.1	0	0.7
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. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp. Max. 36.36 °C, Min. 29.39°C with humidity 54.93%. 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. 38.27 °C, Min. 27.22 °C with R. humidity 65.93%) & forecast for the next week temp. Max. 36.36 °C, Min. 29.39°C with humidity 54.93%. 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. 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 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