

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 3rd WEEK OF JULY, 2021

Whitefly: On overall Punjab basis 12.18 above ETL spots have been observed during current week as compared to 5.18% % in last week and 17.48% during the same corresponding period of last year. And 86.55% below ETL spots have been observed during current week as compared to 92.90% in last week and 81.27% 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	JAM PUR	63.9	26	JAHANIAN	11.8
2	KOT CHUTTA	42.2	27	FORT ABBAS	11.6
3	RAJAN PUR	40.0	28	JALAL PUR P.W	10.0
4	MANKERA	33.3	29	MINCHAN ABAD	10.0
5	KHANEWAL	32.3	30	TAUNSA	10.0
6	CHICHA WATNI	31.3	31	MUZUFAR GARH	10.0
7	KABIR WALA	29.7	32	CHOBARA	10.0
8	BHAKKAR	28.6	33	MAILSI	9.7
9	SAHIWAL	28.1	34	KHAN PUR	8.0
10	ROJHAN	27.8	35	ALI PUR	8.0
11	VEHARI	25.0	36	RENALA KHURD	7.7
12	D.G.KHAN	25.0	37	GOJRA	6.7
13	CHISHTIAN	23.8	38	PIR MAHAL	6.3
14	PAK PATTAN	20.0	39	JATOI	6.0
15	MIAN CHANNU	18.2	40	KALLOR KOT	5.6
16	BAHAWAL NAGAR	17.5	41	HASILPUR	5.4
17	ARIF WALA	15.4	42	SHUJABAD	4.9
18	BURE WALA	15.0	43	LAYYAH	4.7
19	DEPALPUR	14.3	44	TANDLIANWALA	3.2
20	DARYA KHAN	14.3	45	DUYAPUR	3.0
21	PIPLAN	13.3	46	KEHROR PACCA	2.7
22	OKARA	12.5	47	SADIQ ABAD	2.5
23	HARON ABAD	12.5	48	KOT ADDU	2.5
24	KAROR L.E.	12.5	49	MULTAN	2.1
25	MIANWALI	12.5	50	LODHRAN	2.0

Jassid: On overall Punjab basis 22.54% above ETL spots has been observed as compared to 21.70% in last week and same week of last year 17.36%. And 76.35% below ETL spots have been observed during current week as compared to 76.96% in last week and 77.71% 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	48.8	32	LODHRAN	18.4
2	TAUNSA	45.0	33	DUYAPUR	18.2
3	BHAKKAR	42.9	34	SADIQ ABAD	17.5
4	DARYA KHAN	42.9	35	MUZUFAR GARH	17.5
5	JATOI	42.0	36	KOT ADDU	17.5
6	CHISHTIAN	38.1	37	RAJAN PUR	17.1
7	ALI PUR	38.0	38	ROJHAN	16.7
8	MULTAN	37.5	39	KHAN PUR	16.0
9	LAYYAH	34.9	40	BURE WALA	15.0
10	D.G.KHAN	34.1	41	SHORKOT	15.0
11	MANKERA	33.3	42	BAHAWAL PUR	14.6
12	A.P.EAST	31.4	43	DEPALPUR	14.3
13	KOT CHUTTA	31.1	44	FORT ABBAS	14.0
14	JALAL PUR P.W	30.0	45	JAM PUR	13.9
15	PAK PATTAN	28.0	46	KEHROR PACCA	13.5
16	18-HAZARI	27.8	47	A.P SIAL	13.3
17	KAROR L.E.	27.5	48	GOJRA	13.3
18	MIAN CHANNU	27.3	49	PIPLAN	13.3
19	VEHARI	25.0	50	OKARA	12.5
20	CHICHA WATNI	25.0	51	BAHAWAL NAGAR	12.5
21	CHOBARA	25.0	52	HAROON ABAD	12.5
22	KABIR WALA	24.3	53	T.T.SINGH	12.5
23	HASILPUR	24.3	54	MIANWALI	12.5
24	R.Y.KHAN	23.8	55	KALLOR KOT	11.1
25	ARIF WALA	23.1	56	JHANG	10.0
26	MAILSI	22.6	57	KHANEWAL	9.7
27	JAHANIAN	20.6	58	TANDLIANWALA	9.7
28	ISA KHEL	20.0	59	PIR MAHAL	9.4
29	YAZMAN	19.0	60	SUMUNDRI	8.3
30	LIAQUAT PUR	19.0	64	RENALA KHURD	7.7
31	SAHIWAL	18.8	65	MINCHAN ABAD	7.5

Thrips: On overall Punjab basis 8.78% above ETL spots has been observed as compared to 7.81% in last week and same week of last year i.e. 9.81%. And 89.04% below ETL spots have been observed during current week as compared to 89.06% in last week and 85.83% 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	CHISHTIAN	31.0	26	KEHROR PACCA	8.1
2	DARYA KHAN	28.6	27	HAROON ABAD	7.5
3	MUZUFAR GARH	25.0	28	SHUJABAD	7.3
4	MAILSI	22.6	29	BAHAWAL PUR	7.3
5	BAHAWAL NAGAR	22.5	30	PIPLAN	6.7
6	HASILPUR	21.6	31	MULTAN	6.3
7	JATOI	20.0	32	CHICHA WATNI	6.3
8	RAJAN PUR	20.0	33	PIR MAHAL	6.3
9	MANKERA	16.7	34	MIANWALI	6.3
10	LAYYAH	14.0	35	JAHANIAN	5.9
11	ROJHAN	13.9	36	18-HAZARI	5.6

12	VEHARI	12.5	37	KALLOR KOT	5.6
13	TAUNSA	12.5	38	MINCHAN ABAD	5.0
14	KAROR L.E.	12.5	39	SHORKOT	5.0
15	ALI PUR	12.0	40	YAZMAN	4.8
16	JAM PUR	11.1	41	R.Y.KHAN	4.8
17	LODHRAN	10.2	42	LIAQUAT PUR	4.8
18	JALAL PUR P.W	10.0	43	KOT CHUTTA	4.4
19	BURE WALA	10.0	44	KHAN PUR	4.0
20	CHOBARA	10.0	45	A.P.EAST	3.9
21	JHANG	10.0	46	KHANEWAL	3.2
22	FORT ABBAS	9.3	47	SADIQ ABAD	2.5
23	MIAN CHANNU	9.1	48	KOT ADDU	2.5
24	DUYAPUR	9.1	49	D.G.KHAN	2.3
25	KABIR WALA	8.1			

Mealy Bug: On overall Punjab basis 7.36% spots (all considered above ETL) of Mealy Bug have been observed as compared to 3.26% in last week and 3.79% 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	CHISHTIAN	31.0	21	FORT ABBAS	7.0
2	MULTAN	25.0	22	KHANEWAL	6.5
3	JAM PUR	25.0	23	SAHIWAL	6.3
4	DUYAPUR	24.2	24	CHICHA WATNI	6.3
5	SHUJABAD	22.0	25	OKARA	6.3
6	ALI PUR	16.0	26	KEHROR PACCA	5.4
7	RAJAN PUR	14.3	27	HAROON ABAD	5.0
8	JATOI	14.0	28	T.T.SINGH	5.0
9	KABIR WALA	13.5	29	MIAN CHANNU	4.5
10	JALAL PUR P.W	12.5	30	KOT CHUTTA	4.4
11	HASILPUR	10.8	31	LODHRAN	4.1
12	BAHAWAL NAGAR	10.0	32	PAK PATTAN	4.0
13	KHAN PUR	10.0	33	A.P.EAST	3.9
14	BAHAWAL PUR	9.8	34	PIR MAHAL	3.1
15	MAILSI	9.7	35	JAHANIAN	2.9
16	VEHARI	8.3	36	ROJHAN	2.8
17	MUZUFAR GARH	7.5	37	MINCHAN ABAD	2.5
18	YAZMAN	7.1	38	SADIQ ABAD	2.5
19	R.Y.KHAN	7.1	39	D.G.KHAN	2.3
20	LIAQUAT PUR	7.1			

Mites: On overall Punjab basis no prevalence of above ETL spots have been observed during current week and last week as compared to 0.02% during the same corresponding period of last year. And 2.23% below ETL spots have been observed during current week as compared to 1.88% in last week and 4.20% during the same corresponding period of last year.

Dusky Cotton Bug: On overall Punjab basis 0.25% above ETL spots have been observed during current week as compared to 0.04% in last week and 0.04% during the same corresponding period of last year. And 9.14% below ETL spots have been observed during current week as compared to 8.53% in last week and 12.80 % during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Dusky cotton Bug

S. NO.	TEHSIL	%AGE
1	MULTAN	10.4

Armyworm: On overall Punjab basis 0.56% spots (all considered above ETL) of Armyworm have been observed as compared to 0.58% in last week and 3.07% 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	DEPALPUR	14.3	7	JAHANIAN	2.9
2	JHANG	10.0	8	MINCHAN ABAD	2.5
3	OKARA	6.3	9	MUZUFAR GARH	2.5
4	MIAN CHANNU	4.5	10	KOT ADDU	2.5
5	KHANEWAL	3.2	11	SHUJABAD	2.4
6	CHICHA WATNI	3.1			

Pink Boll Worm: On overall Punjab basis 1.27% above ETL spots have been observed as compared to 0.98% in last week and 0.28% same corresponding period of the last year. And 15.69% below ETL spots have been observed as compared to 11.47% in last week and 10.13% during same corresponding period of last year.

Tehsil wise percentage of hot spots of PBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	VEHARI	12.5	8	KHAN PUR	4.0
2	SHUJABAD	9.8	9	JAHANIAN	2.9
3	R.Y.KHAN	7.1	10	KEHROR PACCA	2.7
4	MAILSI	6.5	11	JALAL PUR P.W	2.5
5	BAHAWAL PUR	4.9	12	SADIQ ABAD	2.5
6	LIAQUAT PUR	4.8	13	JATOI	2.0
7	MULTAN	4.2			

American Bollworm: On overall Punjab basis 0.05% above ETL spots have been observed as compared to 0.04 in last week and 0.00% during same corresponding period of last year. And 0.86% below ETL spots have been observed as compared to 1.21% in last week and 0.73% during same corresponding period of last year.

Table 8 Tehsil wise percentage of hot spots of ABW

S. NO.	TEHSIL	%AGE
1	JAM PUR	2.8

Spotted Bollworm: On overall Punjab basis no prevalence of above ETL spots have been observed however, 0.36% below ETL spots have been observed as compared to 0.40% in last week and 0.24% during same corresponding period of last year.

CLCuV: On overall Punjab basis 5.08% spots (all considered above ETL) of CLCV have been observed as compared to 2.59% in last week and 1.41% 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	VEHARI	54.2	15	A.P.EAST	7.8
2	MAILSI	29.0	16	MUZUFAR GARH	7.5
3	CHICHA WATNI	25.0	17	LAYYAH	7.0
4	BURE WALA	15.0	18	KHANEWAL	6.5
5	TAUNSA	15.0	19	PIR MAHAL	6.3
6	KAROR L.E.	12.5	20	JAHANIAN	5.9
7	MULTAN	10.4	21	KEHROR PACCA	5.4
8	T.T.SINGH	10.0	22	SADIQ ABAD	5.0
9	SAHIWAL	9.4	23	KOT ADDU	5.0
10	MIAN CHANNU	9.1	24	CHOBARA	5.0
11	KABIR WALA	8.1	25	SHORKOT	5.0
12	PAK PATTAN	8.0	26	R.Y.KHAN	4.8
13	ALI PUR	8.0	27	SHUJABAD	2.4
14	JATOI	8.0	28	LODHRAN	2.0

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	39.00	31.25	71.00	0.00	38.60	30.20	74.90	0.00
KHANEWAL	39.86	29.57	63.29	0.00	40.91	30.57	64.14	0.00
VEHARI	38.60	30.00	60.90	0.00	40.57	31.14	69.29	0.00
LODHRAN	40.6	29.6	71.1	0.00	40.28	29.14	66	0.00
Sahiwal	38.00	28.00	67.00	0.00	38.10	27.21	72.43	46.00
Pakpattan	39.00	29.00	62.00	0.00	35.80	27.00	54.80	0.00
Okara	40.00	30.00	61.00	0.00	41.00	30.35	73.15	15.00
Bahawalpur	40.13	28.45	61.50	31.30	41.66	30.21	52.64	0.00
Bahawalnagar	39.50	28.50	59.38	0.00	40.88	30.13	53.75	0.00
R.Y.Khan	40.37	27.37	57.50	0.00	45.50	29.75	54.50	0.00
D.G. Khan	40.29	30.00	58.93	0.00	41.86	30.43	55.71	0.00
M. Garh	42.25	31.25	32.25	0.00	43.00	32.25	50.88	0.29
Rajanpur	44.3	32.3	39.10	0.00	43.10	32.4	39.30	0.00
Layyah	45.57	26.86	47.93	38.66	38.66	27.57	41.00	0.00
TOT/AVG	40.53	29.44	58.06	69.96	40.71	29.88	58.75	61.29

Weather forecast for next 7 day in cotton zone

Division	Dated	19/7	20/7	21/7	22/7	23/7	24/7	25/7
Multan	Max.Temp.	40	40	35	36	39	42	39
	Min.Temp.	33	29	28	28	28	30	32
	Humidity %	32	58	51	43	35	32	21
Sahiwal	Max.Temp.	36	33	32	35	36	39	36
	Min.Temp.	30	27	28	27	27	28	30
	Humidity %	51	61	61	58	48	44	27
Bahawalpur	Max.Temp.	38	35	36	38	40	40	39
	Min.Temp.	32	29	29	28	29	30	30
	Humidity %	45	53	50	39	33	36	27
D.G. Khan	Max.Temp.	41	35	38	39	41	42	40
	Min.Temp.	34	28	28	29	30	32	32
	Humidity %	40	55	43	37	30	31	21
Average Cotton Region	Max.Temp.	37.86						
	Min.Temp.	29.46						
	Humidity %	41.5						

Source: timeanddate.com

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain windy, 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. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity 41.5%. 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%. Maximum lethal temperature for this pest is 45-51 °C. The current weather conditions on overall Punjab basis (temp. Max. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity 41.5%. Keeping in view the prevailing conditions, **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. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity 41.5%. Keeping in view climatic conditions, **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. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity 41.5%. Keeping in view, **it is predicted that population of this pest can 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. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity 41.5%. Keeping in view, it is predicted that population of this pest will sustain during the coming week.

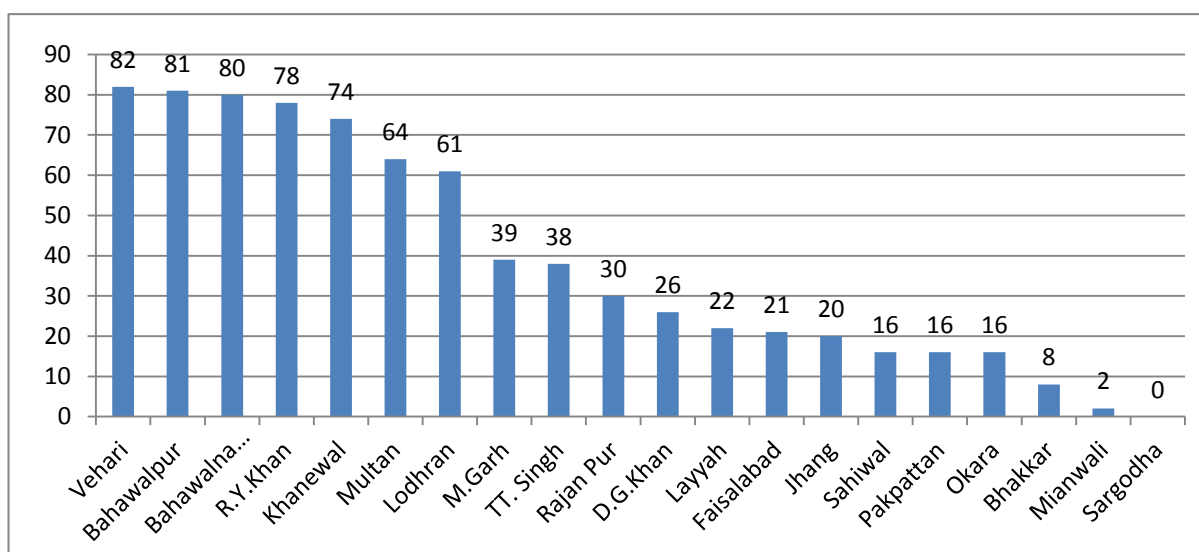
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity 41.5%. 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. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity

41.5%. It is predicted that population of this pest will increase rapidly on cotton during the coming week & mostly will be observed in flowers.

Moth Catches in Pheromone Traps During 3rd Week of July 2021			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	64	1.52
Khanewal	8	74	1.32
Vehari	6	82	1.95
Lodhran	6	61	1.45
Sahiwal	4	16	0.57
Pakpattan	4	16	0.57
Okara	4	16	0.57
Bahawalpur	8	81	1.45
Bahawalnagar	10	80	1.14
R.Y.Khan	8	78	1.39
D.G.Khan	6	26	0.62
M.Garh	8	39	0.70
Rajan Pur	6	30	0.71
Layyah	6	22	0.52
Sargodha	0	0	0
Mianwali	4	2	0.07
Bhakkar	8	8	0.14
Faisalabad	6	21	0.50
TT. Singh	6	38	0.90
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%. humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity 41.5%. 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.

Moth catches on light traps during 3rd week of July, 2021

Moth Catches on Light Traps/Trap/week During 3rd Week of July, 2021				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	4	0	13
Khanewal	4	13	0	29
Vehari	3	0	0	13
Lodhran	3	20	0	26
Sahiwal	2	2	0	4
Pakpattan	2	2	0	2
Okara	3	3	0	4
Bahawalpur	4	6	2	7
Bahawalnagar	5	10	6	18
R.Y.Khan	4	9	9	11
D.G.Khan	3	2	0	7
M.Garh	4	6	7	8
Rajan Pur	3	1	1	2
Layyah	3	0	0	1
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. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity 41.5%. Maximum lethal temperature for this pest is 45-53 °C. 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. 40.53 °C, Min. 29.44 °C with R. humidity 58.06%) & forecast for the next week temp. Max. 37.86 °C, Min. 29.46°C with humidity 41.5%. Maximum lethal temperature for this pest is 45-53 °C. 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.
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
			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