

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 1ST WEEK OF OCTOBER, 2023

Whitefly: On overall Punjab basis 13.25% above ETL spots have been observed during current week as compared to 17.26% % in last week and 5.49% during the same corresponding period of last year. And 84.31% below ETL spots have been observed during current week as compared to 80.37% in last week and 87.59% 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	BAHAWAL PUR	55.7	25	VEHARI	11.7
2	SADIQ ABAD	50.0	26	KEHROR PACCA	11.7
3	R.Y.KHAN	45.5	27	MULTAN	11.5
4	A.P.EAST	38.7	28	KOT ADDU	11.0
5	KHAN PUR	38.2	29	MUZUFAR GARH	10.8
6	LIAQUAT PUR	37.0	30	BURE WALA	10.0
7	YAZMAN	33.3	31	KHUSHAB	10.0
8	QASUR	33.3	32	KABIR WALA	9.1
9	HASILPUR	27.5	33	KAROR L.E.	8.1
10	CHISHTIAN	25.4	34	LAYYAH	6.4
11	BAHAWAL NAGAR	25.0	35	DARYA KHAN	6.3
12	FORT ABBAS	21.9	36	D.G.KHAN	6.0
13	HAROON ABAD	20.5	37	PIPLAN	4.8
14	KOT RADHA KISHAN	20.0	38	KALLOR KOT	4.5
15	MINCHAN ABAD	18.3	39	DUYAPUR	4.0
16	TAUNSA	18.0	40	JAHANIAN	3.8
17	SAHIWAL	16.7	41	JAM PUR	3.8
18	JATOI	16.0	42	ISA KHEL	3.8
19	MAILSI	15.9	43	MIANWALI	2.7
20	LODHRAN	15.9	44	BHAKKAR	2.7
21	ALI PUR	15.0	45	KOT CHUTTA	2.1
22	SHUJABAD	14.8	46	KHANEWAL	1.7
23	JALAL PUR P.W	14.1	47	MIAN CHANNU	1.7
24	CHOBARA	13.3			

Jassid: On overall Punjab basis 0.48% above ETL spots have been observed as compared to 1.51% in last week and same week of last year 4.11% and 94.03% below ETL spots have been observed during current week as compared to 95.59% in last week and 85.48% 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	QASUR	33.3	9	RENALA KHURD	4.2
2	CHUNIAN	25.0	10	ISA KHEL	3.8
3	KOT RADHA KISHAN	20.0	11	DARYA KHAN	3.1
4	SAHIWAL	16.7	12	KABIR WALA	1.8
5	KHUSHAB	10.0	13	KEHROR PACCA	1.7
6	T.T.SINGH	7.4	14	BURE WALA	1.7
7	VEHARI	5.0	15	MAILSI	1.4
8	ARIF WALA	4.5			

Thrips: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.00% in last week and same week of last year i.e. 0.00%. And 73.44% below ETL spots have been observed during current week as compared to 80.26% in last week and 62.33% during the same corresponding period of last year.

Mealy Bug: On overall Punjab basis 11.97% spots (all considered above ETL) of Mealy Bug have been observed as compared to 14.65% in last week and 6.31% 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	BAHAWAL PUR	49.4	24	MINCHAN ABAD	11.7
2	KHAN PUR	40.8	25	CHOBARA	11.7
3	R.Y.KHAN	37.7	26	MAILSI	11.6
4	LIAQUAT PUR	30.1	27	JATOI	11.2
5	MULTAN	26.2	28	LAYYAH	11.0
6	SHUJABAD	25.9	29	KAROR L.E.	10.8
7	BAHAWAL NAGAR	25.0	30	KHANEWAL	10.2
8	SADIQ ABAD	23.6	31	DUYAPUR	10.0
9	VEHARI	23.3	32	QUIDABAD	7.7
10	HASILPUR	22.5	33	ALI PUR	7.1
11	RAJAN PUR	21.3	34	KEHROR PACCA	6.7
12	KABIR WALA	20.0	35	JAM PUR	5.8
13	A.P.EAST	19.4	36	MIANWALI	5.5
14	FORT ABBAS	19.2	37	MUZUFAR GARH	5.4
15	KOT CHUTTA	18.8	38	LODHRAN	4.9
16	YAZMAN	18.3	39	PIPLAN	4.8
17	CHISHTIAN	18.3	40	ISA KHEL	3.8
18	TAUNSA	18.0	41	KOT ADDU	3.7
19	D.G.KHAN	18.0	42	PIR MAHAL	2.9
20	HAROON ABAD	16.4	43	GOJRA	2.2
21	JALAL PUR P.W	14.1	44	JAHANIAN	1.9
22	ROJHAN	13.9	45	SUMUNDRI	1.1
23	MAN CHANNU	13.3	46	TANDLIANWALA	1.0

Mites: On overall Punjab basis 0.00% above ETL spots has been observed during current week as compared to 0.02% in last week and 0.00% during the same corresponding period of last year. And 2.01% below ETL spots have been observed during current week as compared to 3.16% in last week and 1.91% during the same corresponding period of last year.

Dusky Cotton Bug: On overall Punjab basis 6.45% above ETL spots have been observed during current week as compared to 3.39% in last week and 8.54% during the same corresponding period of last year. And 60.64% below ETL spots have been observed during current week as compared to 61.18% in last week and 64.44% 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	BAHAWAL PUR	83.5	17	KALLOR KOT	4.5
2	A.P.EAST	33.9	18	PIR MAHAL	4.3
3	YAZMAN	26.7	19	KHANEWAL	3.4
4	SHUJABAD	25.9	20	VEHARI	3.3
5	FORT ABBAS	23.3	21	MIAN CHANNU	3.3
6	HAROOON ABAD	23.3	22	MAILSI	2.9
7	MULTAN	23.0	23	BHAKKAR	2.7
8	HASILPUR	20.0	24	R.Y.KHAN	2.5974
9	JALAL PUR P.W	19.7	25	DUYAPUR	2.0
10	MANKERA	14.3	26	JAHANIAN	1.9
11	LODHRAN	12.2	27	MINCHAN ABAD	1.7
12	T.T.SINGH	11.1	28	BURE WALA	1.7
13	MIANWALI	8.2	29	KAROR L.E.	1.4
14	CHISHTIAN	5.6	30	TANDLIANWALA	1.0
15	KHAN PUR	5.3	31	JARANWALA	1.0
16	BAHAWAL NAGAR	5.0			

Armyworm: On overall Punjab basis 0.11% spots (all considered above ETL) of Armyworm have been observed as compared to 0.66% in last week and 1.06% 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	HASILPUR	5.0	3	LIAQUAT PUR	1.4
2	JAHANIAN	1.9			

Pink Boll Worm: On overall Punjab basis 15.15% above ETL spots have been observed as compared to 13.42% in last week and 21.32% same corresponding period of the last year. And 43.16% below ETL spots have been observed as compared to 44.27% in last week and 38.81% during same corresponding period of last year.

Tehsil wise percentage of hot spots of pink boll worm

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	BAHAWAL PUR	58.2	30	KOT ADDU	12.5
2	A.P.EAST	38.7	31	KAROR L.E.	12.2
3	KHAN PUR	32.9	32	TAUNSA	12.0
4	LIAQUAT PUR	30.1	33	CHOBARA	11.7
5	HASILPUR	30.0	34	KEHROR PACCA	11.7
6	JALAL PUR P.W	29.6	35	JAHANIAN	11.5
7	R.Y.KHAN	28.5714	36	LODHRAN	11.0
8	SADIQ ABAD	27.8	37	KABIR WALA	10.9
9	BAHAWAL NAGAR	27.5	38	QUIDABAD	10.0
10	MULTAN	24.6	39	KHUSHAB	10.0
11	SHUJABAD	24.1	40	MANKERA	9.5
12	YAZMAN	21.7	41	ROJHAN	8.3
13	BURE WALA	21.7	42	MIANWALI	8.2
14	KOT CHUTTA	20.8	43	T.T.SINGH	7.4
15	FORT ABBAS	20.5	44	CHICHA WATNI	6.7
16	HAROOON ABAD	20.5	45	OKARA	6.3
17	CHISHTIAN	19.7	46	JAM PUR	5.8

18	KHANEWAL	18.6	47	BHAKKAR	5.4
19	ALI PUR	18.6	48	SAHIWAL	5.0
20	MIAN CHANNU	18.3	49	PIPLAN	4.8
21	MINCHAN ABAD	18.3	50	KALLOR KOT	4.5
22	DUYAPUR	16.0	51	PIR MAHAL	4.3
23	MAILSI	15.9	52	GOJRA	4.3
24	VEHARI	15.0	53	RAJAN PUR	4.3
25	MUZUFAR GARH	14.6	54	ISA KHEL	3.8
26	D.G.KHAN	14.0	55	DARYA KHAN	3.1
27	ARIF WALA	13.6	56	PAK PATTAN	2.3
28	JATOI	13.6	57	SUMUNDRI	2.3
29	LAYYAH	12.8	58	TANDLIANWALA	1.9

American Boll Worm: 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 0.19% below ETL spots have been observed as compared to 0.40% in last week and 1.22% during same corresponding period of last year.

Spotted Boll Worm: 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 & 0.24% below ETL spots have been observed as compared to 0.25% in last week and 0.61% during same corresponding period of last year.

CLCuV: On overall Punjab basis 3.29% spots (all considered above ETL) of CLCV have been observed as compared to 4.03% in last week and 20.46% during the same corresponding period of the last year.

Tehsil wise percentage of hot spots of CLCuV

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	KABIR WALA	27.3	14	MANKERA	4.8
2	MIAN CHANNU	18.3	15	MUZUFAR GARH	4.6
3	SAHIWAL	16.7	16	KALLOR KOT	4.5
4	MAILSI	14.5	17	KOT CHUTTA	4.2
5	JATOI	14.4	18	D.G.KHAN	4.0
6	KHANEWAL	13.6	19	MULTAN	3.3
7	BURE WALA	13.3	20	DARYA KHAN	3.1
8	VEHARI	13.3	21	BHAKKAR	2.7
9	KEHROR PACCA	10.0	22	KOT ADDU	2.2
10	KHUSHAB	10.0	23	TAUNSA	2.0
11	QUIDABAD	7.7	24	JAHANIAN	1.9
12	ALI PUR	5.7	25	KAROR L.E.	1.4
13	MIANWALI	5.5	26	LODHRAN	1.2

FORECAST FOR THE NEXT WEEK

Meteorological data of the current week 2022-2023

Districts	2023				2022			
	Temperature °C		R.H%	Rainfall (mm)	Temperature °C		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	39.0	25.0	65.0	0.0	38.1	23.1	63.1	0.0
Khanewal	37.5	25.1	55.3	0.0	37.7	23.7	60.7	0.0
Vehari	36.4	22.4	48.4	0.0	36.4	24.0	65.9	0.0
Lodhran	36.0	25.0	35.0	0.0	35.8	23.5	63.5	0.0
Sahiwal	34.3	23.2	76.0	0.0	36.3	22.0	72.0	0.0
Pakpattan	34.7	23.6	75.0	0.0	35.6	21.5	71.5	0.0
Okara	34.0	23.1	76.5	0.0	35.0	21.0	72.4	0.0
Bahawalpur	37.6	22.7	52.8	0.0	37.7	23.4	54.1	0.0
Bahawalnagar	37.3	22.1	66.5	0.0	38.1	24.6	55.5	0.0
R.Y.Khan	39.6	25.6	66.1	0.0	35.9	25.8	66.7	0.0
D.G. Khan	34.6	25.7	64.4	0.0	37.4	26.7	69.6	0.0
M. Garh	38.9	25.0	58.5	0.0	33.4	21.6	62.3	0.0
Rajanpur	38.5	24.3	57.8	0.0	37.4	25.6	53.6	0.0
Layyah	37.0	18.0	48.0	0.0	35.0	23.0	78.0	0.0
TOT/AVG	36.81	23.64	60.38	0	36.41	23.54	64.92	0

Weather forecast for next 7 day in cotton zone

Division	Dated	9/10	10/10	11/10	12/10	13/10	14/10	15/10
Multan	Max.Temp.	37	36	36	37	37	38	37
	Min.Temp.	23	23	21	22	24	23	24
	Humidity %	21	25	22	18	25	24	16
Sahiwal	Max.Temp.	37	36	36	37	38	37	37
	Min.Temp.	22	20	20	20	20	22	22
	Humidity %	24	28	21	17	23	26	21
Bahawalpur	Max.Temp.	37	37	37	38	37	37	39
	Min.Temp.	23	19	22	22	22	24	26
	Humidity %	18	20	20	22	27	28	20
D.G. Khan	Max.Temp.	37	36	37	37	38	39	38
	Min.Temp.	21	24	21	21	22	22	24
	Humidity %	11	25	21	17	23	22	13
Average Cotton Region	Max.Temp.	37.14						
	Min.Temp.	22.11						
	Humidity %	21.36						

Source: timeanddate.com

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain partly cloudy, Sunny & Shiny.

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. 36.81 °C, Min. 23.64°C with R. humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. Keeping in view above all, it is predicted that population of this pest will sustain 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. 36.81 °C, Min. 23.64°C with R. humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. Keeping in view above all, it is predicted that population of this pest will 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. 36.81 °C, Min. 23.64°C with R. humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. 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. 36.81 °C, Min. 23.64°C with R. humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. Keeping in view above all, it is

predicted that population of this pest will increase as such on cotton crop during the coming week.

Mites: This pest flourishes best in dry climate with optimum temperature 28-40 °C with relative humidity above 40-50%. Maximum lethal temperature for this pest is 45 °C. The current weather conditions on overall Punjab basis (temp. Max. 36.81 °C, Min. 23.64°C with R. humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. Keeping in view above all, it is predicted that population of this pest will sustain as such during the coming week.

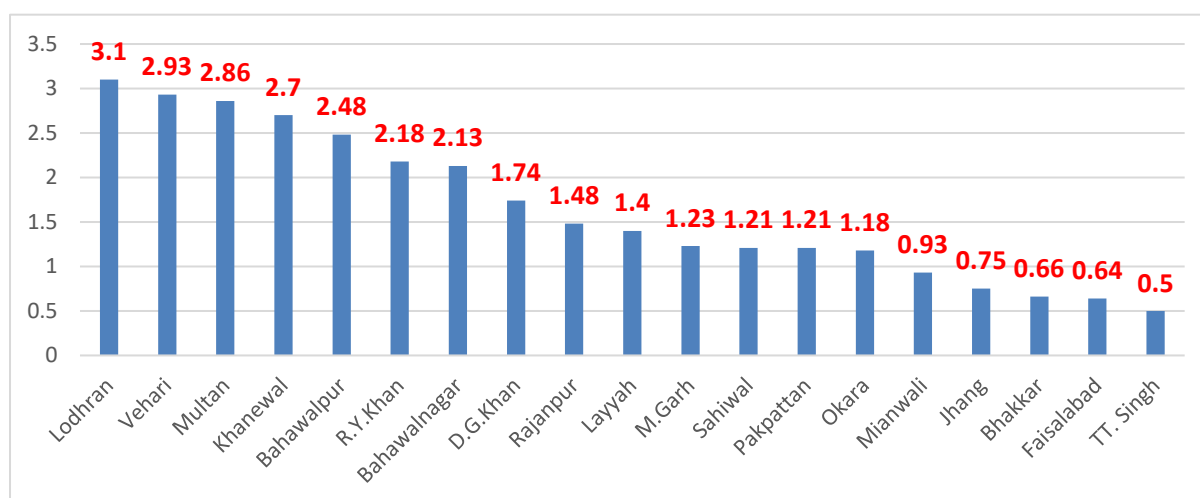
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 36.81 °C, Min. 23.64°C with R. humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. In view above all, it is predicted that population of this pest will increase during the 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. 36.81 °C, Min. 23.64°C with R. humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. It is predicted that population of this pest will sustain on cotton during the coming week.

Moth Catches in Pheromone Traps during 1st Week of October, 2023

Moth Catches in Pheromone Traps During 1 st Week of October, 2023			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	120	2.86
Khanewal	8	151	2.70
Vehari	6	123	2.93
Lodhran	6	130	3.10
Sahiwal	4	34	1.21
Pakpattan	4	34	1.21
Okara	4	33	1.18
Bahawalpur	8	139	2.48
Bahawalnagar	10	149	2.13
R.Y.Khan	8	122	2.18
D.G.Khan	6	73	1.74
Rajanpur	6	62	1.48
M.Garh	8	69	1.23
Layyah	6	59	1.40
Bhakkar	8	37	0.66
Mianwali	6	39	0.93
Faisalabad	6	27	0.64
TT. Singh	6	21	0.50
Jhang	4	21	0.75

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. 36.81 °C, Min. 23.64°C with R. humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. It is predicted that population of this pest will remain sustain on cotton crop during the coming week.

Moth catches on light traps during 1st week of October, 2023

Moth Catches on Light Traps/Trap/night During 1st Week of October, 2023				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1.0	0.0	3.3
Khanewal	4	1.9	0.0	4.6
Vehari	3	0.0	0.0	1.1
Lodhran	3	1.1	0.0	3.0
Sahiwal	2	0.3	0.0	0.6
Pakpattan	2	0.3	0.0	0.4
Okara	3	0.4	0.0	0.7
Bahawalpur	4	1.4	1.1	3.9
Bahawalnagar	5	1.3	0.9	2.3
R.Y.Khan	4	1.1	0.9	1.1
D.G.Khan	3	0.7	0.6	1.9
M.Garh	4	0.0	0.0	0.3
Rajan Pur	3	0.4	0.3	1.0
Layyah	3	0.0	0.0	0.4
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. The current weather conditions on overall Punjab basis (temp. Max. 36.81 °C, Min. 23.64°C with R. humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. 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. 36.81 °C, Min. 23.64°C with R.

humidity 60.38%) & forecast for the next week temp. Max. 37.14°C, Min. 22.11°C with humidity 21.36%. 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 as such on cotton crop during 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, kangi booti, aksin etc.
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. Avoid water stress to the plants.
5. Avoid repeated visits of workers from infested fields to healthy fields.
6. Apply the localized chemical spray on infected along with its 2 meter surrounding area.

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. Keep the special observation/ pest scouting when the boll opening starts.
2. Use of soft contact poison on the above ETL.

MANAGEMENT OF ARMY WORM

1. Keep the fields clean from weeds especially Its it which is a preferred host of armyworm.
2. Observe the field on regular basis and under close observation to assess its attack and treat the patch at earliest if necessary.
3. Avoid sowing of Jantar near cotton fields.
4. Regular pest scouting at least twice a week.
5. Hand picking and destruction of egg masses at initial stage as initially its attack starts in patches and is clearly visible.

CLCuV MANAGEMENT

1. Use CLCuV tolerant varieties for sowing.
2. Keep Cotton fields free from all kinds of weeds.
3. Eradicate other alternate host plants of CLCuV and dispose them off carefully.
4. Thinning out and destruction of Virus affected plants.
5. Remove CLCuV affected plants in less than 60 DAS (Days after sowing) crop.
6. Hoeing after each irrigation or rain at watar condition till canopies permit.

7. 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.
8. Irrigate the fields when needed keeping in view weather conditions e.g. temperature, rainfall, soil water holding capacity and plant need.
9. Balanced use of Fertilizer i.e. N.P.K. along with foliar growth promoters if necessary.
10. Keep transmission vector (whitefly) at the low ebb

Alternate host plants of CLCuV vector (whitefly)

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

