

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

Whitefly: On overall Punjab basis 3.75 above ETL spots have been observed during current week as compared to 5.49% % in last week and 28.73% during the same corresponding period of last year. And 82.03% below ETL spots have been observed during current week as compared to 87.59% in last week and 69.27% 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	BAHAWAL PUR	30.6	10	FORT ABBAS	9.6
2	HAROON ABAD	22.5	11	BAHAWAL NAGAR	9.4
3	R.Y.KHAN	20.8	12	CHISHTIAN	9.3
4	LIAQUAT PUR	14.6	13	BHAKKAR	6.3
5	MINCHAN ABAD	12.5	14	MANKERA	5.9
6	KHAN PUR	12.5	15	VEHARI	5.0
7	SADIQ ABAD	12.5	16	HASILPUR	4.5
8	YAZMAN	11.3	17	BURE WALA	2.5
9	A.P.EAST	10.4	18	JATOI	2.5

Jassid: On overall Punjab basis 2.27% above ETL spots has been observed as compared to 4.11% in last week and same week of last year 3.21%. And 75.84% below ETL spots have been observed during current week as compared to 85.48% in last week and 76.01% 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	GOJRA	17.1	13	PAK PATTAN	5.0
2	T.T.SINGH	15.4	14	JHANG	5.0
3	A.P.EAST	12.5	15	DARYA KHAN	5.0
4	CHICHA WATNI	12.5	16	BAHAWAL PUR	4.1
5	ARIF WALA	11.1	17	FORT ABBAS	3.8
6	MINCHAN ABAD	9.4	18	SAHIWAL	3.8
7	OKARA	7.7	19	KALLOR KOT	3.6
8	SADIQ ABAD	6.3	20	TANDLIANWALA	3.4
9	BAHAWAL NAGAR	6.3	21	BURE WALA	2.5
10	BHAKKAR	6.3	22	JATOI	2.5
11	MANKERA	5.9	23	CHISHTIAN	2.3
12	VEHARI	5.0	24	SUMUNDRI	2.3

Thrips: On overall Punjab basis 0.00% above ETL spots has been observed as compared to 0.00% in last week and same week of last year i.e. 0.05%. And 53.28% below ETL spots have been observed during current week as compared to 62.33% in last week and 57.69% 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 4.59% spots (all considered above ETL) of Mealy Bug have been observed as compared to 6.31% in last week and 30.78% 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	YAZMAN	24.5	15	BAHAWAL NAGAR	6.3
2	A.P.EAST	22.9	16	LODHRAN	6.3
3	BAHAWAL PUR	20.4	17	MIANWALI	6.3
4	JALAL PUR P.W	20.0	18	SHORKOT	6.1
5	SHUJABAD	18.8	19	ALI PUR	6.0
6	ISA KHEL	14.3	20	T.T.SINGH	5.1
7	CHISHTIAN	11.6	21	JHANG	5.0
8	FORT ABBAS	11.5	22	JATOI	5.0
9	CHICHA WATNI	10.0	23	HASILPUR	4.5
10	HAROON ABAD	10.0	24	LAYYAH	4.2
11	MINCHAN ABAD	9.4	25	A.P SIAL	3.2
12	PIPLAN	9.4	26	BHAKKAR	3.1
13	MULTAN	8.5	27	CHOBARA	2.1
14	KEHROR PACCA	6.7			

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 1.85% below ETL spots have been observed during current week as compared to 1.91% in last week and 1.39% 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 9.93% above ETL spots have been observed during current week as compared to 8.54% in last week and 0.00% during the same corresponding period of last year. And 66.75% below ETL spots have been observed during current week as compared to 64.44% in last week and 62.90% 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	MULTAN	45.8	19	MINCHAN ABAD	12.5
2	HASILPUR	43.2	20	KABIR WALA	12.5
3	BAHAWAL PUR	38.8	21	FORT ABBAS	11.5
4	A.P.EAST	29.2	22	DUYAPUR	10.3
5	SHUJABAD	29.2	23	PIR MAHAL	9.1
6	JALAL PUR P.W	28.9	24	JAHANIAN	8.6
7	ISA KHEL	28.6	25	LIAQUAT PUR	8.3
8	MIANWALI	21.9	26	SADIQ ABAD	6.3

9	T.T.SINGH	20.5	27	KHAN PUR	6.3
10	PIPLAN	18.8	28	D.G.KHAN	6.3
11	LODHRAN	18.8	29	KOT CHUTTA	6.3
12	GOJRA	17.1	30	MANKERA	5.9
13	KEHROR PACCA	16.7	31	DARYA KHAN	5.0
14	CHISHTIAN	16.3	32	SUMUNDRI	4.5
15	YAZMAN	15.1	33	TAUNSA	4.2
16	R.Y.KHAN	14.6	34	KALLOR KOT	3.6
17	KHANEWAL	14.0	35	TANDLIANWALA	3.4
18	MIAN CHANNU	13.0	36	BHAKKAR	3.1

Armyworm: On overall Punjab basis 0.21% spots (all considered above ETL) of Armyworm have been observed as compared to 1.06% in last week and 1.58% 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	ISA KHEL	14.3	3	PIPLAN	3.1
2	MIANWALI	6.3	4	LAYYAH	2.1

Pink Bollworm: On overall Punjab basis 18.60% above ETL spots have been observed as compared to 21.32% in last week and 31.47% same corresponding period of the last year. And 42.97% below ETL spots have been observed as compared to 38.81% in last week and 43.61% during same corresponding period of last year.

Tehsil wise percentage of hot spots of PBW

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	MULTAN	59.3	26	FORT ABBAS	17.3
2	JALAL PUR P.W	53.3	27	LAYYAH	16.7
3	SHUJABAD	52.1	28	MIANWALI	15.6
4	DUYAPUR	43.6	29	DARYA KHAN	15.0
5	BAHAWAL PUR	38.8	30	JATOI	15.0
6	YAZMAN	37.7	31	VEHARI	15.0
7	A.P.EAST	37.5	32	CHOBARA	14.6
8	BHAKKAR	37.5	33	JAHANIAN	14.3
9	HASILPUR	36.4	34	KALLOR KOT	14.3
10	LIAQUAT PUR	35.4	35	ALI PUR	14.0
11	SADIQ ABAD	31.3	36	HAROON ABAD	12.5
12	LODHRAN	29.2	37	CHICHA WATNI	10.0
13	R.Y.KHAN	29.2	38	PAK PATTAN	10.0
14	ISA KHEL	28.6	39	BURE WALA	10.0
15	KHAN PUR	27.1	40	MAILSI	9.5
16	KEHROR PACCA	26.7	41	OKARA	7.7
17	KHANEWAL	25.6	42	KOT ADDU	7.7
18	BAHAWAL NAGAR	25.0	43	RENALA KHURD	6.7
19	MANKERA	23.5	44	D.G.KHAN	6.3
20	MINCHAN ABAD	21.9	45	KOT CHUTTA	6.3
21	CHISHTIAN	20.9	46	TAUNSA	6.3
22	KABIR WALA	19.6	47	MUZUFAR GARH	5.0
23	PIPLAN	18.8	48	SAHIWAL	3.8
24	KAROR L.E.	17.9	49	T.T.SINGH	2.6
25	MIAN CHANNU	17.4	50	FORT ABBAS	17.3

American Bollworm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.00 in last week and 0.14% during same corresponding period of last year. And 1.14% below ETL spots have been observed as compared to 1.22% in last week and 0.65% during same corresponding period of last year.

Tehsil wise percentage of hot spots of ABW

No hot spot found in this week.

Spotted Bollworm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.00% in last week and 0.19% during same corresponding period of last year & 0.34% below ETL spots have been observed as compared to 0.61% in last week and 1.16% during same corresponding period of last year.

Tehsil wise percentage of hot spots of SBW

No hot spot found in this week.

CLCuV: On overall Punjab basis 12.54% spots (all considered above ETL) of CLCuV have been observed as compared to 20.46% in last week and 25.76% 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	BHAKKAR	83.7	24	CHICHA WATNI	13.0
2	KALLOR KOT	80.0	25	FORT ABBAS	14.7
3	DARYA KHAN	63.6	26	GOJRA	10.7
4	HASILPUR	61.5	27	ARIF WALA	13.2
5	MANKERA	36.8	28	MIAN CHANNU	5.6
6	JALAL PUR P.W	36.7	29	JATOI	4.8
7	BAHAWAL PUR	45.1	30	PAK PATTAN	14.1
8	ISA KHEL	27.3	31	MINCHAN ABAD	23.1
9	MIANWALI	24.4	32	JAHANIAN	10.2
10	T.T.SINGH	25.4	33	KHAN PUR	5.7
11	KABIR WALA	25.7	34	OKARA	5.9
12	PIPLAN	30.6	35	KHANEWAL	5.7
13	BURE WALA	28.6	36	A.P SIAL	5.7
14	MAILSI	16.1	37	SADIQ ABAD	6.0
15	A.P.EAST	12.3	38	HAROON ABAD	3.2
16	VEHARI	24.6	39	MUZUFAR GARH	4.1
17	SHUJABAD	7.4	40	LODHRAN	2.4
18	R.Y.KHAN	7.9	41	SAHIWAL	4.4
19	ALI PUR	6.9	42	SHORKOT	2.5
20	CHISHTIAN	15.6	43	DUYAPUR	6.7
21	PIR MAHAL	18.6	44	SUMUNDRI	3.1
22	RENALA KHURD	21.4	45	KOT ADDU	2.2
23	LIAQUAT PUR	11.8	46	TANDLIANWALA	3.0

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	35.0	21.6	66.3	0.0	35.6	23.6	68.4	0.0
Khanewal	35.3	22.4	65.6	0.0	36.0	23.8	64.6	0.0
Vehari	34.1	20.9	70.2	0.0	36.0	24.1	61.1	0.0
Lodhran	33.6	22.8	71.0	0.0	35.0	23.0	71.0	0.0
Sahiwal	31.5	20.1	73.1	0.0	35.0	22.0	67.0	0.0
Pakpattan	32.0	20.5	72.4	0.0	36.0	23.0	71.0	0.0
Okara	31.0	21.2	72.5	0.0	34.0	24.0	72.0	0.0
Bahawalpur	37.7	23.4	54.1	0.0	36.9	26.1	70.3	23.5
Bahawalnagar	33.6	22.6	67.4	0.0	36.1	23.4	67.5	0.0
R.Y.Khan	37.1	21.4	42.8	0.0	37.4	24.6	34.0	0.0
D.G. Khan	33.5	23.5	61.5	0.0	34.5	27.0	68.0	0.0
Muzaffar Garh	34.2	22.1	68.2	0.0	35.0	22.0	58.0	3.0
Rajapur	36.3	28.8	48.4	0.0	40.5	25.7	50.7	0.0
Layyah	34.0	21.0	74.0	0.0	34.0	22.0	56.0	0.0
TOT/AVG	34.21	22.30	64.82	0.00	35.86	23.88	62.83	26.50

Weather forecast for next 7 day in cotton zone

Division	Dated	14/10	15/10	16/10	17/10	18/10	19/10	20/10
Multan	Max.Temp.	34	35	35	35	34	34	33
	Min.Temp.	19	18	18	18	17	18	21
	Humidity %	22	20	19	18	20	21	25
Sahiwal	Max.Temp.	34	35	35	35	35	35	34
	Min.Temp.	17	16	16	16	15	16	17
	Humidity %	22	17	16	16	17	15	20
Bahawalpur	Max.Temp.	35	35	35	35	35	36	35
	Min.Temp.	18	18	18	17	17	17	21
	Humidity %	19	19	19	18	19	20	21
D.G. Khan	Max.Temp.	35	35	34	34	34	34	33
	Min.Temp.	19	17	17	17	18	18	21
	Humidity %	25	20	20	19	20	21	28
Average Cotton Region	Max.Temp.	34.57						
	Min.Temp.	17.68						
	Humidity %	19.86						

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. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C with humidity 19.86%. 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. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C with humidity 19.86%. 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. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C with humidity 19.86%. 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. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C with humidity 19.86%. 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. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C with humidity 19.86%. Keeping in view above all, it is predicted that population of this pest will sustain during the coming week.

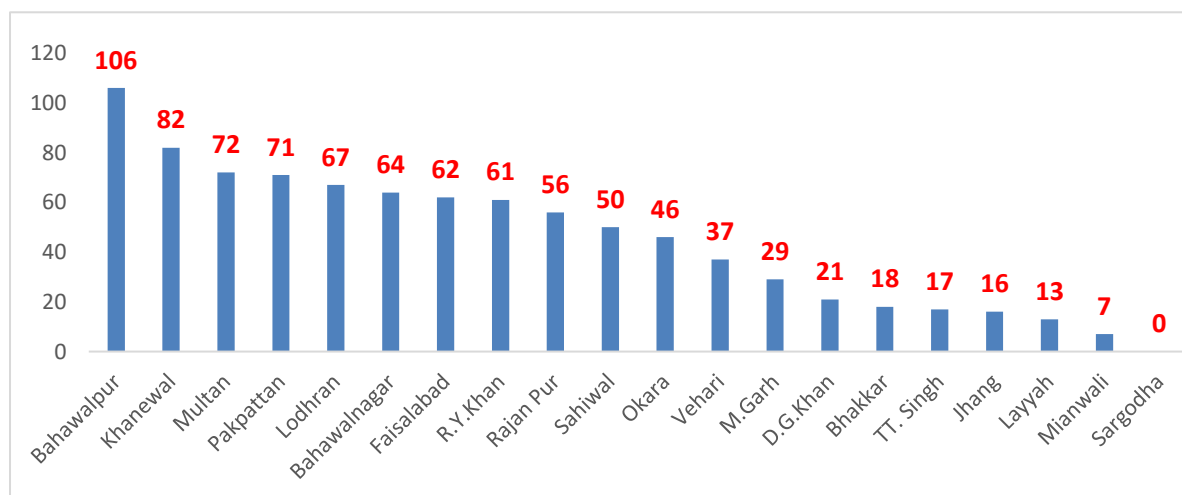
Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C with humidity 19.86%. Keeping in view above all, it is predicted that population of this pest can increase during coming week.

Pink BollwormThis 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. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C with humidity 19.86%. It is predicted that population of this pest will decrease on cotton crop.

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

Moth Catches in Pheromone Traps During 2nd Week of October 2022			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	72	1.71
Khanewal	8	82	1.46
Vehari	6	37	0.88
Lodhran	6	67	1.60
Sahiwal	4	50	1.79
Pakpattan	4	71	2.54
Okara	4	46	1.64
Bahawalpur	8	106	1.89
Bahawalnagar	10	64	0.91
R.Y.Khan	8	61	1.09
D.G.Khan	6	21	0.50
M.Garh	8	29	0.52
Rajan Pur	6	56	1.33
Layyah	6	13	0.31
Sargodha	0	0	0.00
Mianwali	4	7	0.25
Bhakkar	8	18	0.32
Faisalabad	6	62	1.48
TT. Singh	6	17	0.40
Jhang	4	16	0.57

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. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C with humidity

19.86%. 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 October, 2022

Moth Catches on Light Traps/Trap/week During 2nd Week of October, 2022				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	0.3	0.0	0.9
Khanewal	4	0.9	0.0	4.7
Vehari	3	0.0	0.0	1.0
Lodhran	3	0.9	0.0	2.1
Sahiwal	2	1.3	0.0	1.3
Pakpattan	2	1.1	0.0	1.1
Okara	3	1.3	0.0	1.6
Bahawalpur	4	1.0	0.6	2.1
Bahawalnagar	5	1.1	0.7	2.6
R.Y.Khan	4	0.4	1.3	1.9
D.G.Khan	3	0.0	0.4	0.4
M.Garh	4	0.1	0.1	0.3
Rajan Pur	3	0.6	0.6	0.4
Layyah	3	0.0	0.0	0.3
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. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C with humidity 19.86%. 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. 34.21 °C, Min. 22.30 °C with R. humidity 64.82%) & forecast for the next week temp. Max. 34.57 °C, Min. 17.68°C

with humidity 19.86%. 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