

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 1ST WEEK OF JUNE, 2022

Whitefly: On overall Punjab basis 6.16% above ETL spots have been observed during current week as compared to 3.12% % in last week and 0.11% during the same corresponding period of last year. And 69.21% below ETL spots have been observed during current week as compared to 57.47% in last week and 25.35% 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	SAHIWAL	33.3	23	A.P SIAL	5.7
2	OKARA	27.6	24	KHANEWAL	5.3
3	T.T.SINGH	26.7	25	LODHRAN	5.3
4	MULTAN	20.0	26	JALAL PUR P.W	5.0
5	CHICHA WATNI	20.0	27	MINCHAN ABAD	5.0
6	ARIF WALA	19.4	28	RAJAN PUR	5.0
7	VEHARI	17.5	29	HASILPUR	4.4
8	MANKERA	16.7	30	CHISHTIAN	4.3
9	BURE WALA	13.8	31	SUMUNDRI	4.2
10	KABIR WALA	13.3	32	PIR MAHAL	3.2
11	SHUJABAD	12.5	33	R.Y.KHAN	3.1
12	KEHROR PACCA	12.5	34	KHAN PUR	3.0
13	RENALA KHURD	12.5	35	TANDLIANWALA	2.9
14	JHANG	12.5	36	JAHANIAN	2.8
15	BHAKKAR	12.5	37	BAHAWAL NAGAR	2.5
16	PAK PATTAN	11.1	38	LIAQUAT PUR	2.5
17	GOJRA	11.1	39	SADIQ ABAD	2.5
18	JAM PUR	10.0	40	MUZUFAR GARH	2.5
19	18-HAZARI	10.0	41	DUYAPUR	2.0
20	SHORKOT	9.5	42	ALI PUR	2.0
21	MIAN CHANNU	9.3	43	KOT CHUTTA	2.0
22	MAILSI	7.3	44	BAHAWAL PUR	1.5

Jassid: On overall Punjab basis 5.18% above ETL spots has been observed as compared to 2.38% in last week and same week of last year 1.08%. And 64.69% below ETL spots have been observed during current week as compared to 46.86% in last week and 25.41% 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	SAHIWAL	27.8	20	LODHRAN	7.0
2	SHUJABAD	20.0	21	BURE WALA	6.9
3	ARIF WALA	19.4	22	CHISHTIAN	6.5
4	JHANG	18.8	23	VEHARI	5.0
5	CHICHA WATNI	15.0	24	KEHROR PACCA	5.0
6	OKARA	13.8	25	18-HAZARI	5.0
7	KABIR WALA	13.3	26	JALAL PUR P.W	5.0
8	MULTAN	12.7	27	SHORKOT	4.8
9	RENALA KHURD	12.5	28	SUMUNDRI	4.2
10	RAJAN PUR	10.0	29	T.T.SINGH	3.3
11	MUZUFAR GARH	10.0	30	JAM PUR	3.3
12	ALI PUR	10.0	31	R.Y.KHAN	3.1
13	ROJHAN	10.0	32	KHAN PUR	3.0
14	MIAN CHANNU	9.3	33	JAHANIAN	2.8
15	HASILPUR	8.9	34	KHANEWAL	2.6
16	TANDLIANWALA	8.6	35	KOT ADDU	2.5
17	PAK PATTAN	8.3	36	JATOI	2.4
18	KOT CHUTTA	7.8	37	TAUNSA	2.1
19	MAILSI	7.3	38	BAHAWAL PUR	1.5

Thrips: On overall Punjab basis 2.53% above ETL spots has been observed as compared to 2.01% in last week and same week of last year i.e. 0.00%. And 77.45% below ETL spots have been observed during current week as compared to 62.55% in last week and 36.50% 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	A.P SIAL	17.1	15	18-HAZARI	5.0
2	KABIR WALA	16.7	16	JALAL PUR P.W	5.0
3	SHUJABAD	10.0	17	MAILSI	4.9
4	JAHANIAN	8.3	18	SHORKOT	4.8
5	VEHARI	7.5	19	LODHRAN	3.5
6	MIAN CHANNU	7.0	20	RAJAN PUR	3.3
7	OKARA	6.9	21	SAHIWAL	2.8
8	BURE WALA	6.9	22	KHANEWAL	2.6
9	JAM PUR	6.7	23	MUZUFAR GARH	2.5
10	CHISHTIAN	6.5	24	YAZMAN	2.2
11	ARIF WALA	6.5	25	TAUNSA	2.1
12	TANDLIANWALA	5.7	26	DUYAPUR	2.0
13	CHICHA WATNI	5.0	27	MULTAN	1.8
14	ROJHAN	5.0			

Mealy Bug: On overall Punjab basis 0.71% spots (all considered above ETL) of Mealy Bug have been observed as compared to 0.32% in last week and 0.00% 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	5.0	8	SHUJABAD	2.5
2	SHORKOT	4.8	9	VEHARI	2.5
3	GOJRA	3.7	10	MIAN CHANNU	2.3
4	OKARA	3.4	11	CHISHTIAN	2.2
5	RAJAN PUR	3.3	12	YAZMAN	2.2
6	T.T.SINGH	3.3	13	LODHRAN	1.8
7	SAHIWAL	2.8	14	BAHAWAL PUR	1.5

Mites: On overall Punjab basis 0.04% above ETL spots have been observed during current week as compared to 0.05% in last week and 0.00% during the same corresponding period of last year. And 3.37% below ETL spots have been observed during current week as compared to 2.96% in last week and 0.17% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Mites

S. NO.	TEHSIL	%AGE
1	MIAN CHANNU	2.3

Dusky Cotton Bug: On overall Punjab basis 0.18% above ETL spots have been observed during current week as compared to 0.05% in last week and 0.00% during the same corresponding period of last year. And 20.03% below ETL spots have been

observed during current week as compared to 22.72% in last week and 2.04% 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	CHISHTIAN	6.5	2	MINCHAN ABAD	2.5

Aphid: On overall Punjab basis 0.10% above ETL spots has been observed during current week as compared to 0.20% in last week and 0.00% during the same corresponding period of last year. And 2.70% below ETL spots have been observed during current week as compared to 2.00% in last week and 0.10% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of Aphid

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	SHUJABAD	2.5	2	DUYAPUR	2.0

Armyworm: On overall Punjab basis 2.04% spots (all considered above ETL) of Armyworm have been observed as compared to 1.95% in last week and 0.45% 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	SAHIWAL	13.9	13	SUMUNDRI	4.2
2	T.T.SINGH	13.3	14	BURE WALA	3.4
3	HASILPUR	13.3	15	KABIR WALA	3.3
4	MIAN CHANNU	11.6	16	ARIF WALA	3.2
5	DEPALPUR	10.0	17	KHAN PUR	3.0
6	PAK PATTAN	8.3	18	TANDLIANWALA	2.9
7	GOJRA	7.4	19	JAHANIAN	2.8
8	OKARA	6.9	20	VEHARI	2.5
9	KHANEWAL	5.3	21	MAILSI	2.4
10	SHUJABAD	5.0	22	KOT CHUTTA	2.0
11	MUZUFAR GARH	5.0	23	MULTAN	1.8
12	RENALA KHURD	4.2			

Pink Boll Worm: On overall Punjab basis 0.31% above ETL spots have been observed as compared to 0.16% in last week and 0.06% same corresponding period of the last year. And 2.88% below ETL spots have been observed as compared to 2.80% in last week and 3.68% 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	SHUJABAD	5.0	3	KHAN PUR	3.0
2	MULTAN	3.6	4	BAHAWAL PUR	2.9

American Boll Worm: On overall Punjab basis 0.09% above ETL spots have been observed as compared to 0.05% in last week and 0.00% during same corresponding

period of last year. And 4.03% below ETL spots have been observed as compared to 2.75% in last week and 0.06% during same corresponding period of last year.

Tehsil wise percentage of hot spots of American boll worm

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	JAM PUR	3.3	2	CHISHTIAN	2.2

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 & 0.00% below ETL spots have been observed as compared to 0.00% in last week and 0.11% during same corresponding period of last year.

Tehsil wise percentage of hot spots of spotted boll worm

No hot spot find yet.

CLCuV: On overall Punjab basis 0.31% spots (all considered above ETL) of CLCV have been observed as compared to 0.11% in last week and 0.00% 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	VEHARI	5.0	4	SHUJABAD	2.5
2	BURE WALA	3.4	5	MAILSI	2.4
3	R.Y.KHAN	3.1	6	JATOI	2.4

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	44.4	30.3	59.7	0.0	38.5	27.8	58.0	0.0
Khanewal	43.3	28.6	49.6	0.0	39.9	28.8	53.0	0.0
Vehari	42.3	28.4	42.6	0.0	38.9	28.0	54.2	0.0
Lodhran	44.3	28.3	55.4	0.0	38.3	27.0	64.9	10.0
Sahiwal	43.0	25.2	32.4	0.0	36.0	24.0	55.0	1.0
Pakpattan	42.8	24.6	31.6	0.0	37.0	25.0	54.0	1.2
Okara	42.2	25.1	32.5	0.0	36.0	25.0	52.0	3.2
Bahawalpur	44.1	27.5	32.7	0.0	40.5	28.2	44.5	7.5
Bahawalnagar	44.3	27.1	35.5	0.0	39.0	27.7	34.0	0.0
R.Y.Khan	44.0	27.3	48.4	0.0	41.8	26.6	54.4	32.0
D.G. Khan	44.0	30.0	26.5	0.0	43.5	29.4	50.8	0.0
Muzaffar Garh	43.4	23.5	34.5	0.0	43.3	23.8	33.4	0.0
Rajanpur	45.5	29.5	33.8	0.0	40.7	27.5	39.8	3.0
Layyah	49.0	28.0	30.0	0.0	39.5	28.1	35.0	0.0
TOT/AVG	44.04	27.39	38.94	0.00	39.50	26.92	48.80	57.90

Weather forecast for next 7 day in cotton zone

Division	Dated	6/6	7/6	8/6	9/6	10/6	11/6	12/6
Multan	Max.Temp.	45	46	46	46	45	44	44
	Min.Temp.	30	31	31	32	32	32	31
	Humidity %	11	10	13	14	19	21	21
Sahiwal	Max.Temp.	45	46	45	46	45	44	43
	Min.Temp.	29	30	31	30	31	31	32
	Humidity %	11	11	13	14	17	21	21
Bahawalpur	Max.Temp.	45	45	45	45	44	43	43
	Min.Temp.	30	30	29	30	30	29	29
	Humidity %	12	11	14	16	22	24	22
D.G. Khan	Max.Temp.	46	46	46	46	46	45	44
	Min.Temp.	30	30	29	29	30	30	31
	Humidity %	9	9	11	12	16	19	19
Average Cotton Region	Max.Temp.	44.96						
	Min.Temp.	30.32						
	Humidity %	15.46						

Source: timeanddate.com

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain hot, sunny and 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. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%. Keeping in view above all, 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. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%. Keeping in view above all, it is predicted that population of this pest will 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. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%. 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. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%. Keeping in view above all, it is

predicted that population of this pest can increase 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. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%. Keeping in view above all, it is predicted that population of this pest can increase 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. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%. Keeping in view above all, it is predicted that population of this pest may increase during the coming week.

Aphid: This pest flourishes best in moderate climate with optimum temperature 25-35 °C with relative humidity above 60-80%. The current weather conditions on overall Punjab basis (temp. Max. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%. Keeping in view above all, it is predicted that population of this pest may decrease during the coming week.

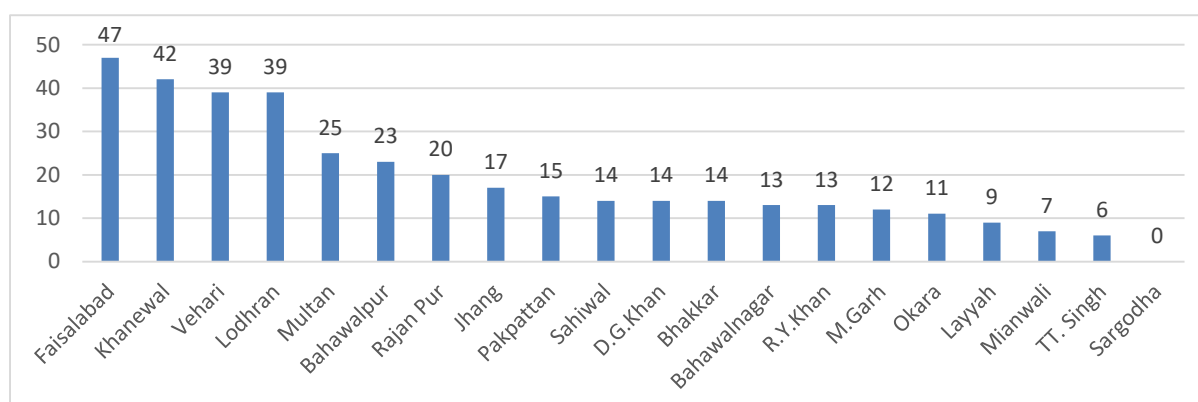
Pink Bollworm: This pest flourishes best at moderate climate with optimum temperature 32-40 °C with relative humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%.

It is predicted that population of this pest will increase on cotton during the coming week.

Moth Catches in Pheromone Traps during 1ST Week of JUNE, 2022

Moth Catches in Pheromone Traps During 1st Week of June, 2022			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	25	0.60
Khanewal	8	42	0.75
Vehari	6	39	0.93
Lodhran	6	39	0.93
Sahiwal	4	14	0.50
Pakpattan	4	15	0.54
Okara	4	11	0.39
Bahawalpur	8	23	0.41
Bahawalnagar	10	13	0.19
R.Y.Khan	8	13	0.23
D.G.Khan	6	14	0.33
M.Garh	8	12	0.21
Rajan Pur	6	20	0.48
Layyah	6	09	0.21
Sargodha	2	00	0.00
Mianwali	4	07	0.25
Bhakkar	8	14	0.25
Faisalabad	6	47	1.12
TT. Singh	6	06	0.14
Jhang	8	17	0.61

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. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%.

It is predicted that population of this pest will remain same on cotton crop during the coming week.

Moth catches on light traps during 1st week of June, 2022

Moth Catches on Light Traps/Trap/night During 1st Week of June, 2022				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1.0	0.0	1.2
Khanewal	4	0.3	0.0	4.1
Vehari	3	0.3	0.0	2.1
Lodhran	3	1.2	0.0	1.6
Sahiwal	2	0.7	0.0	1.0
Pakpattan	2	0.7	0.0	0.9
Okara	3	0.9	0.0	1.0
Bahawalpur	4	1.7	0.4	2.3
Bahawalnagar	5	0.7	0.4	1.7
R.Y.Khan	4	0.7	0.4	0.9
D.G.Khan	3	0.9	0.4	1.1
M.Garh	4	0.6	0.7	0.9
Rajan Pur	3	1.4	0.6	3.7
Layyah	3	0.4	0	1.3
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. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%. 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. 44.04 °C, Min. 27.39 °C with R. humidity 38.94%) & forecast for the next week temp. Max. 44.96 °C, Min. 30.32°C with humidity 15.46%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

CLCuV: The incidence of this disease is expected to increase on cotton crop 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