

PEST SITUATION ON COTTON CROP IN PUNJAB DURING 4th WEEK OF MAY, 2022

Whitefly: On overall Punjab basis 3.12% above ETL spots have been observed during current week as compared to 2.18% % in last week and 0.07% during the same corresponding period of last year. And 57.47% below ETL spots have been observed during current week as compared to 46.43% in last week and 18.88% 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	20.6	13	PIR MAHAL	6.5
2	CHICHA WATNI	17.5	14	SHORKOT	5.9
3	VEHARI	16.7	15	MIANCHANNU	5.0
4	18-HAZARI	15.0	16	A.P SIAL	4.8
5	ARIF WALA	10.3	17	BUREWALA	4.3
6	MULTAN	10.2	18	MINCHAN ABAD	4.0
7	SHUJABAD	10.0	19	TANDLIANWALA	4.0
8	OKARA	8.7	20	JHANG	3.7
9	PAK PATTAN	8.0	21	MAILSI	3.2
10	LODHRAN	7.3	22	CHISHTIAN	3.2
11	KEHROR PACCA	7.3	23	JALAL PUR P.W	2.5
12	RENALA KHURD	6.7	24	ALI PUR	1.9

Jassid: On overall Punjab basis 2.38% above ETL spots has been observed as compared to 0.88% in last week and same week of last year 0.86%. And 46.86% below ETL spots have been observed during current week as compared to 39.19% in last week and 16.51% 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	ARIF WALA	13.8	11	SAHIWAL	5.9
2	RENALA KHURD	13.3	12	SUMUNDRI	5.3
3	CHICHA WATNI	12.5	13	MIANCHANNU	5.0
4	ALI PUR	11.5	14	OKARA	4.3
5	SHUJABAD	10.0	15	RAJAN PUR	3.6
6	KOT CHUTTA	8.3	16	MAILSI	3.2
7	PAK PATTAN	8.0	17	KHANEWAL	3.0
8	JAHANIAN	6.9	18	LODHRAN	2.4
9	KABIR WALA	6.5	19	DEPALPUR	1.4
10	MULTAN	6.1			

Thrips: On overall Punjab basis 2.01% above ETL spots has been observed as compared to 1.36% in last week and same week of last year i.e. 0.07%. And 62.55% below ETL spots have been observed during current week as compared to 55.57% in last week and 26.13% 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	ARIF WALA	10.3	12	OKARA	4.3
2	JAHANIAN	10.3	13	TANDLIANWALA	4.0
3	LODHRAN	9.8	14	VEHARI	3.3
4	A.P SIAL	9.5	15	KABIR WALA	3.2

5	KHANEWAL	9.1	16	CHISHTIAN	3.2
6	SHUJABAD	7.5	17	SAHIWAL	2.9
7	KEHROR PACCA	7.3	18	JALAL PUR P.W	2.5
8	SUMUNDRI	5.3	19	DUNYA PUR	2.3
9	CHICHA WATNI	5.0	20	HASILPUR	2.3
10	MIANCHANNU	5.0	21	ALI PUR	1.9
11	18-HAZARI	5.0	22	BAHAWAL PUR	1.5

Mealy Bug: On overall Punjab basis 0.32% spots (all considered above ETL) of Mealy Bug have been observed as compared to 0.12% 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	GOJRA	3.4	4	MIANCHANNU	2.5
2	VEHARI	3.3	5	LODHRAN	2.4
3	SHUJABAD	2.5	6	DUNYA PUR	2.3

Mites: On overall Punjab basis 0.05% 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 2.96% below ETL spots have been observed during current week as compared to 1.83% in last week and 0.00% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of mites

S. NO.	TEHSIL	%AGE
1	BAHAWAL PUR	1.5

Dusky Cotton Bug: On overall Punjab basis 0.05% above ETL spots have been observed during current week as compared to 0.47% in last week and 0.07% during the same corresponding period of last year. And 22.72% below ETL spots have been observed during current week as compared to 21.57% in last week and 0.93% during the same corresponding period of last year.

Tehsil wise percentage of hot spots of dusky cotton bug

S. NO.	TEHSIL	%AGE
1	CHISHTIAN	3.2

Aphid: On overall Punjab basis 0.16% above ETL spots have been observed during current week as compared to 0.2% in last week and 0.00% during the same corresponding period of last year. And 2.00% below ETL spots have been observed during current week as compared to 1.80% 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	SAHIWAL	5.9	2	SHUJABAD	2.5

Armyworm: On overall Punjab basis 1.95% spots (all considered above ETL) of Armyworm have been observed as compared to 2.24% in last week and 0.29% 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	RENALA KHURD	13.3	10	SUMUNDRI	5.3
2	OKARA	13.0	11	SHUJABAD	5.0
3	MIANCHANNU	10.0	12	CHICHA WATNI	5.0
4	HASILPUR	9.1	13	18-HAZARI	5.0
5	PAK PATTAN	8.0	14	MULTAN	4.1
6	GOJRA	6.9	15	VEHARI	3.3
7	PIR MAHAL	6.5	16	JALAL PUR P.W	2.5
8	SAHIWAL	5.9	17	RAJAN PUR	1.8
9	T.T.SINGH	5.7	18	BAHAWAL PUR	1.5

Pink Boll Worm: On overall Punjab basis 0.16% above ETL spots have been observed as compared to 0.06% in last week and 0.239% same corresponding period of the last year. And 2.80% below ETL spots have been observed as compared to 3.24% in last week and 2.23% 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	ALI PUR	3.8	2	SHUJABAD	2.5

American Bollworm: On overall Punjab basis 0.05% 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 2.75% below ETL spots have been observed as compared to 2.12% in last week and 0.00% during same corresponding period of last year.

Tehsil wise percentage of hot spots of American boll worm

S. NO.	TEHSIL	%AGE
1	JAM PUR	4.2

Spotted Bollworm: 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 0.00% 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 0.11% spots (all considered above ETL) of CLCV have been observed as compared to 0.00% 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	JAM PUR	4.2	2	BAHAWAL NAGAR	2.9

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	39.9	26.7	60.1	0.0	39.8	26.6	62.1	3.0
Khanewal	39.7	28.0	52.7	0.0	40.3	26.9	51.0	0.0
Vehari	39.6	28.9	51.6	0.0	40.7	26.5	54.3	0.0
Lodhran	40.3	28.1	60.0	0.0	39.5	26.4	58.4	10.0
Sahiwal	38.8	24.2	45.0	0.5	38.0	24.0	50.0	9.0
Pakpattan	39.6	25.2	42.0	0.3	34.0	23.0	54.0	0.0
Okara	39.8	26.4	41.0	1.0	41.0	24.0	48.0	0.0
Bahawalpur	45.7	28.4	30.1	0.0	39.7	25.6	41.1	0.0
Bahawalnagar	44.7	27.6	33.2	0.0	38.5	26.3	35.5	0.0
R.Y.Khan	44.3	28.3	37.0	0.0	43.1	28.7	34.3	0.0
D.G. Khan	44.5	29.0	24.0	0.0	42.0	26.0	27.0	0.0
Muzaffar Garh	43.7	23.8	39.5	0.0	41.8	22.0	37.6	0.0
Rajanpur	45.3	29.8	32.7	0.0	39.5	27.2	40.3	0.0
Layyah	49.0	28.0	32.0	0.0	41.0	26.3	52.0	0.0
TOT/AVG	42.50	27.31	41.50	1.80	39.93	25.68	46.12	22.00

Weather forecast for next 7 day in cotton zone

Division	Dated	1/6	2/6	3/6	4/6	5/6	6/6	7/6
Multan	Max.Temp.	44	44	45	46	45	47	43
	Min.Temp.	28	27	28	29	31	32	31
	Humidity %	11	9	8	9	10	9	6
Sahiwal	Max.Temp.	44	44	45	45	45	42	41
	Min.Temp.	25	27	26	29	31	31	33
	Humidity %	11	7	8	8	10	12	7
Bahawalpur	Max.Temp.	44	44	45	43	43	45	45
	Min.Temp.	27	28	28	27	28	28	25
	Humidity %	10	7	9	11	17	16	6
D.G.Khan	Max.Temp.	44	44	46	47	46	46	45
	Min.Temp.	29	29	29	28	30	31	32
	Humidity %	9	9	8	9	11	4	4
Average Cotton Region	Max.Temp.	44.54						
	Min.Temp.	28.82						
	Humidity %	8.75						

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. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. 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. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. 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. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. 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. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. 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. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. 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. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. 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. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. Keeping in view above all, it is predicted that population of this pest may decrease during the coming week.

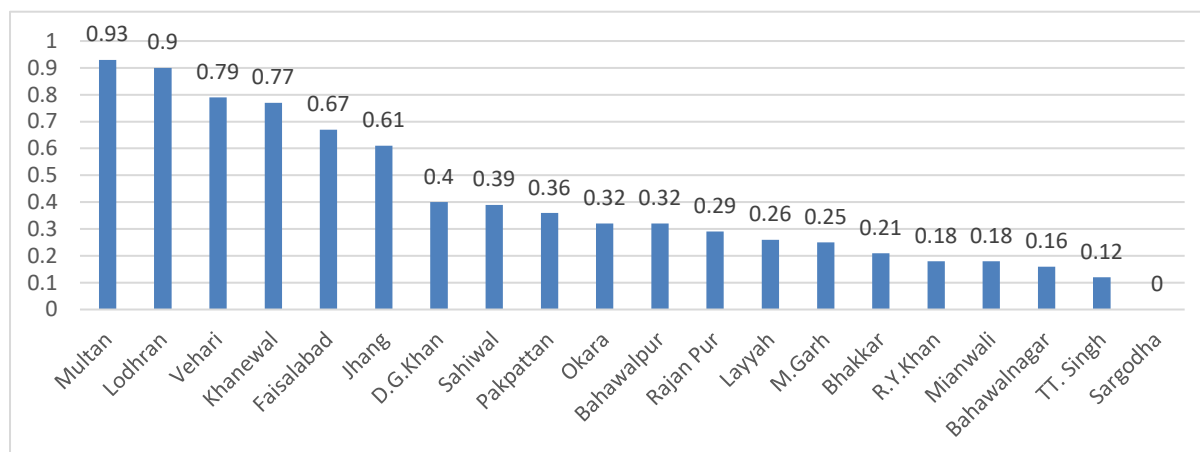
Pink Bollworm: This pest flourishes best at moderate climate with optimum temperature 32-40 °C with relative humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%.

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

Moth Catches in Pheromone Traps during 4rth Week of May, 2022

Moth Catches in Pheromone Traps During 4rth Week of May, 2022			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	39	0.93
Khanewal	8	43	0.77
Vehari	6	33	0.79
Lodhran	6	38	0.90
Sahiwal	4	11	0.39
Pakpattan	4	10	0.36
Okara	4	9	0.32
Bahawalpur	8	18	0.32
Bahawalnagar	10	11	0.16
R.Y.Khan	8	10	0.18
D.G.Khan	6	17	0.40
M.Garh	8	14	0.25
Rajan Pur	6	12	0.29
Layyah	6	11	0.26
Sargodha	2	0	0.00
Mianwali	4	5	0.18
Bhakkar	8	12	0.21
Faisalabad	6	28	0.67
TT. Singh	6	5	0.12
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. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. It is predicted that population of this pest will remain same on cotton crop during the coming week.

Moth catches on light traps during 4rth week of May, 2022

Moth Catches on Light Traps/Trap/night During 4rth Week of May, 2022				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	0.9	0.0	0.9
Khanewal	4	0.3	0.0	3.7
Vehari	3	0.3	0.0	1.7
Lodhran	3	1.2	0.0	1.3
Sahiwal	2	0.6	0.0	1.6
Pakpattan	2	0.4	0.0	1.6
Okara	3	0.6	0.0	1.9
Bahawalpur	4	1.9	0.4	2.9
Bahawalnagar	5	0.7	0.3	1.9
R.Y.Khan	4	0.9	0.6	1.2
D.G.Khan	3	0.7	0.4	0.7
M.Garh	4	0.7	0.7	1.0
Rajan Pur	3	1.7	0.7	3.3
Layyah	3	0.4	0.0	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. 42.50 °C, Min. 27.31 °C with R. humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. 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. 42.50 °C, Min. 27.31 °C with R.

humidity 41.50%) & forecast for the next week temp. Max. 44.54 °C, Min. 28.82°C with humidity 8.75%. 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