

## PEST SITUATION ON COTTON CROP IN PUNJAB DURING 1<sup>ST</sup> WEEK OF JULY, 2020

Pest Situation of Cotton Pests								
Sr. No.	Pest Name	%age of spots						Remarks
		Current Week		Previous week		Corresponding week of Last Year		
		AETL	BETL	AETL	BETL	AETL	BETL	
1	Whitefly	5.21	76.67	1.90	64.92	4.16	78.21	May Increase
2	Jassid	11.18	71.79	5.66	66.63	7.86	69.26	May Increase
3	Thrips	4.33	75.07	2.05	67.77	1.40	76.93	May Increase
4	Mealy Bug	1.01	-	0.19	-	0.89	-	Sustain
5	Mites	0.04	2.52	0.00	1.37	0.00	0.62	May Increase
6	Dusky Cotton Bug	0.04	19.42	0.27	19.50	0.00	2.18	May Decrease
7	Pink Bollworm	0.25	10.42	0.76	8.82	0.31	7.28	May Decrease
8	American Bollworm	0.00	1.43	0.00	1.94	0.00	0.27	May Decrease
9	Spotted Bollworm	0.00	0.04	0.00	0.30	0.00	0.00	May Decrease
10	Armyworm	1.47	-	1.94	-	1.56	-	May Decrease
11	CLCuV	0.13	-	0.00	-	1.36	-	May Increase

### Tehsil wise percentage of hot spots of Whitefly

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	HASILPUR	22.9	21	FORT ABBAS	6.5
2	CHICHA WATNI	21.4	22	OKARA	6.3
3	DEPALPUR	20.0	23	KOT ADDU	6.3
4	SAHIWAL	18.8	24	LODHRAN	6.1
5	KABIR WALA	16.7	25	KEHROR PACCA	6.1
6	MINCHAN ABAD	14.6	26	SADIQ ABAD	5.0
7	PAK PATTAN	12.9	27	KHAN PUR	4.0
8	BURE WALA	12.5	28	A.P SIAL	3.7
9	ARIF WALA	12.5	29	MIANWALI	3.3
10	JHANG	10.0	30	PIR MAHAL	2.9
11	BAHAWAL NAGAR	9.1	31	DUYAPUR	2.9
12	MULTAN	8.9	32	JATOI	2.4
13	CHISHTIAN	8.3	33	CHOBARA	2.4
14	KAROR L.E.	8.3	34	KHANEWAL	2.2
15	SUMUNDRI	7.7	35	JAHANIAN	2.2
16	VEHARI	7.5	36	MIAN CHANNU	2.2
17	MAILSI	7.5	37	MUZUFAR GARH	2.1
18	LAYYAH	7.5	38	ALI PUR	2.0
19	SHUJABAD	6.8	39	TANDLIANWALA	2.0
20	RENALA KHURD	6.7	40	BAHAWAL PUR	2.0

### Tehsil wise percentage of hot spots of Jassid

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	MULTAN	33.3	29	OKARA	9.4
2	BAHAWAL PUR	33.3	30	KHANEWAL	8.9
3	MUZUFAR GARH	29.2	31	JAHANIAN	8.9
4	SHUJABAD	25.0	32	MIAN CHANNU	8.9
5	JALAL PUR P.W	20.0	33	ROJHAN	8.7
6	R.Y.KHAN	19.1	34	D.G.KHAN	8.5
7	SAHIWAL	18.8	35	CHISHTIAN	8.3
8	A.P.EAST	18.0	36	DARYA KHAN	8.3
9	HASILPUR	16.7	37	LODHRAN	8.2
10	JAM PUR	16.0	38	SUMUNDRI	7.7
11	YAZMAN	15.6	39	VEHARI	7.5
12	KALLOR KOT	15.4	40	SADIQ ABAD	7.5
13	ARIF WALA	15.0	41	JATOI	7.3
14	LIAQUAT PUR	15.0	42	RAJAN PUR	7.3
15	KOT CHUTTA	14.3	43	RENALA KHURD	6.7
16	ALI PUR	14.0	44	ISA KHEL	6.7
17	TAUNSA	13.6	45	PIR MAHAL	5.9
18	PAK PATTAN	12.9	46	KAROR L.E.	5.6
19	BURE WALA	12.5	47	LAYYAH	5.0
20	KOT ADDU	12.5	48	MINCHAN ABAD	4.9
21	KABIR WALA	11.9	49	T.T.SINGH	4.2
22	CHICHA WATNI	10.7	50	MIANWALI	3.3
23	KEHROR PACCA	10.2	51	GOJRA	2.9
24	MAILSI	10.0	52	DUYAPUR	2.9
25	HAROON ABAD	10.0	53	CHOBARA	2.4
26	KHAN PUR	10.0	54	BAHAWAL NAGAR	2.3
27	JHANG	10.0	55	FORT ABBAS	2.2
28	TANDLIANWALA	10.0			

### Tehsil wise percentage of hot spots of Thrips

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	KABIR WALA	19.0	20	RAJAN PUR	4.9
2	CHISHTIAN	16.7	21	SHUJABAD	4.5
3	CHICHA WATNI	16.1	22	JAHANIAN	4.4
4	JHANG	15.0	23	FORT ABBAS	4.3
5	BAHAWAL PUR	13.7	24	SAHIWAL	4.2
6	MINCHAN ABAD	12.2	25	18-HAZARI	4.2
7	BAHAWAL NAGAR	11.4	26	MIANWALI	3.3
8	HASILPUR	10.4	27	PIPLAN	3.3
9	KEHROR PACCA	10.2	28	PAK PATTAN	3.2
10	HAROON ABAD	10.0	29	OKARA	3.1
11	JAM PUR	10.0	30	MAILSI	2.5
12	KHANEWAL	8.9	31	ARIF WALA	2.5
13	SHORKOT	7.7	32	JATOI	2.4
14	ISA KHEL	6.7	33	MIAN CHANNU	2.2
15	PIR MAHAL	5.9	34	MUZUFAR GARH	2.1
16	DUYAPUR	5.7	35	KOT ADDU	2.1
17	KAROR L.E.	5.6	36	LODHRAN	2.0
18	VEHARI	5.0	37	ROJHAN	1.4
19	BURE WALA	5.0			

### Tehsil wise percentage of hot spots of Mealy bug

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	SAHIWAL	16.7	8	JATOI	2.4
2	CHICHA WATNI	7.1	9	YAZMAN	2.2
3	JHANG	5.0	10	HASILPUR	2.1
4	PIR MAHAL	2.9	11	LODHRAN	2.0
5	DUYAPUR	2.9	12	KEHROR PACCA	2.0
6	MAILSI	2.5	13	JAM PUR	2.0
7	LIAQUAT PUR	2.5	14	BAHAWAL PUR	2.0

### Tehsil wise percentage of hot spots of Mites

Sr#	TEHSIL	%AGE
1	BAHAWALPUR	2.0

### Tehsil wise percentage of hot spots of Dusky Cotton Bug

Sr#	TEHSIL	%AGE
1	LODHRAN	2.0

### Tehsil wise percentage of hot spots of Army Worm

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	SAHIWAL	12.5	11	ARIF WALA	2.5
2	MULTAN	8.9	12	LIAQUAT PUR	2.5
3	MIAN CHANNU	8.9	13	MINCHAN ABAD	2.4
4	A.P SIAL	7.4	14	CHOBARA	2.4
5	PAK PATTAN	6.5	15	KABIR WALA	2.4
6	KAROR L.E.	5.6	16	KHANEWAL	2.2
7	JHANG	5.0	17	JAHANIAN	2.2
8	SHUJABAD	4.5	18	MUZUFAR GARH	2.1
9	PIR MAHAL	2.9	19	KOT ADDU	2.1
10	VEHARI	2.5	20	BAHAWAL PUR	2.0

### Tehsil wise percentage of hot spots of Pink Bollworm

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	HASILPUR	4.2	4	LODHRAN	2.0
2	MAILSI	2.5	5	KEHROR PACCA	2.0
3	JAHANIAN	2.2			

### Tehsil wise percentage of hot spots of American boll worm

No hot spot found.

### Tehsil wise percentage of hot spots of Spotted boll worm

No hot spot found.

## Tehsil wise percentage of hot spots of CLCuV

Sr#	TEHSIL	%AGE
1	R.Y.KHAN	6.4

## FORECAST FOR THE NEXT WEEK

### Meteorological data of the current week 2019-2020

Districts	2020				2019			
	Temperature		R.H%	Rainfall (mm)	Temperature		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
MULTAN	41.00	29.80	69.00	21.00	41.86	32.14	53.07	0.00
KHANEWAL	41.00	31.33	52.33	2.00	42.86	33.86	57.00	0.00
VEHARI	41.33	29.78	65.50	1.00	42.57	30.71	62.29	0.00
LODHRAN	40.86	29.86	67.14	2.00	42.71	32.29	47.07	0.00
SAHIWAL	39.80	29.60	56.00	38.00	41.20	25.00	56.00	0.00
Pakpattan	44.80	31.20	52.80	0.00	43.00	26.80	49.60	0.00
Okara	41.00	29.51	56.00	7.00	40.00	27.02	54.00	0.00
Bahawalpur	42.00	29.78	49.19	1.80	41.56	30.20	47.79	3.37
Bahawalnagar	42.07	29.14	48.93	1.30	39.29	27.93	56.14	0.00
R.Y.Khan	43.88	31.13	46.00	0.00	43.19	28.86	72.29	0.00
D.G. Khan	43.29	30.43	55.57	11	43.71	31.29	52.36	0.00
Muzaffar Garh	43.00	31.57	46.57	1.00	35.23	25.72	47.04	0.00
Rajanpur	42.4	31.3	63.00	0.00	43.70	29.3	65.00	0.00
Layyah	40.50	28.17	40.83	9.00	41.17	31.67	42.50	0.00
<b>TOT/AVG</b>	<b>41.92</b>	<b>30.19</b>	<b>54.92</b>	<b>95.10</b>	<b>41.57</b>	<b>29.48</b>	<b>54.44</b>	<b>3.37</b>

## Weather forecast for next 7 day in cotton zone

Division	Dated	7/7	8/7	9/7	10/7	11/7	12/7	13/7
Multan	Max.Temp.	41	40	43	44	42	42	38
	Min.Temp.	32	32	32	32	30	30	29
	Humidity %	28	32	27	26	34	31	22
Sahiwal	Max.Temp.	39	38	41	43	38	41	35
	Min.Temp.	30	29	30	33	30	28	30
	Humidity %	37	37	30	29	47	34	23
Bahawalpur	Max.Temp.	41	40	42	43	41	41	38
	Min.Temp.	32	32	31	32	31	29	28
	Humidity %	26	35	29	30	35	31	25
D.G. Khan	Max.Temp.	40	41	44	46	44	42	38
	Min.Temp.	32	32	33	32	31	30	29
	Humidity %	28	31	26	22	25	30	21
Average Cotton Region	Max.Temp.	40.93						
	Min.Temp.	30.75						
	Humidity %	29.68						

Source: [timeanddate.com](http://timeanddate.com)

### Summary of weather forecast

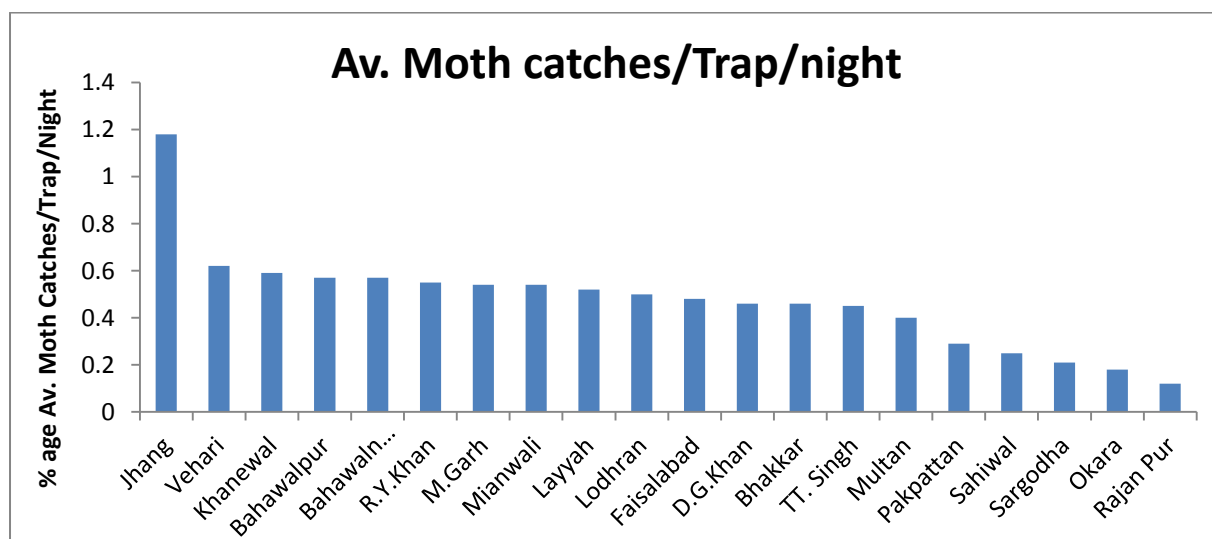
Overall weather for seven days in cotton zone during next week will remain hot and humid.

<b>Pest Forecast for Next 15 days</b>				
Avg. Temperature for next 15 days = 35.84				
Avg. Relative Humidity for next 15 days= 29.68 %				
<b>Sr. No.</b>	<b>Pest Name</b>	<b>Opt. Temperature</b>	<b>Relative Humidity</b>	<b>Pest Prediction</b>
1	Whitefly	35-42 °C	<50%	Increase
2	Jassid	35-40 °C	>70%	Increase
3	Thrips	35-40 °C	<60%	Increase
4	Mealy Bug	35-40 °C	<60-80%	Sustain
5	Mites	28-40 °C	<40-50%	Increase
6	Dusky Cotton Bug	28-40 °C	<50-80%	Decrease
7	Pink Bollworm	32-40 °C	<60-80%	Decrease
8	American Bollworm	32-40 °C	<50-70%	Decrease
9	Spotted Bollworm	30-40 °C	<60-100%	Decrease
10	Armyworm	30-40 °C	>70-100%	Decrease
11	CLCuV	-	-	-

## Moth Catches in Pheromone Traps during 1st Week of July, 2020

Moth Catches in Pheromone Traps During 1 <sup>st</sup> Week of July, 2020			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	17	0.40
Khanewal	8	33	0.59
Vehari	6	26	0.62
Lodhran	6	21	0.50
Sahiwal	4	7	0.25
Pakpattan	4	8	0.29
Okara	4	5	0.18
Bahawalpur	8	32	0.57
Bahawalnagar	10	40	0.57
R.Y.Khan	8	31	0.55
D.G.Khan	4	13	0.46
M.Garh	8	30	0.54
Rajan Pur	6	5	0.12
Layyah	6	22	0.52
Sargodha	2	3	0.21
Mianwali	4	15	0.54
Bhakkar	8	26	0.46
Faisalabad	6	20	0.48
TT. Singh	6	19	0.45
Jhang	4	33	1.18

*Note. 3 moth catches on 3 consecutive nights in a trap is considered as ETL*



## Moth catches on light traps during 1<sup>st</sup> week of July, 2020

Moth Catches on Light Traps/Trap/week During 1 <sup>st</sup> Week of July, 2020				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	2	0	9
Khanewal	4	7	0	20
Vehari	3	4	0	15
Lodhran	3	9	0	15
Sahiwal	2	5	3	11
Pakpattan	2	4	0	14
Okara	3	5	0	7
Bahawalpur	4	7	1	9
Bahawalnagar	5	9	3	12
R.Y.Khan	4	3	3	9
D.G.Khan	3	8	5	6
M.Garh	4	4	4	2
Rajan Pur	3	0	0	1
Layyah	3	0	0	2
<b>Note. 3 moth catches of a pest on 3 consecutive nights in a trap is considered as ETL</b>				

## 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**

<b>Crops</b>	<b>Vegetables</b>	<b>Ornamentals</b>	<b>Weeds</b>	<b>Orchards</b>
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 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 <sup>nd</sup> 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