

## PEST SITUATION ON COTTON CROP IN PUNJAB DURING 1<sup>ST</sup> WEEK OF SEPTEMBER, 2021

**Whitefly:** On overall Punjab basis 40.83 above ETL spots have been observed during current week as compared to 37.88% in last week and 29.02% during the same corresponding period of last year. And 58.77% below ETL spots have been observed during current week as compared to 61.92% in last week and 69.83% 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	RAJAN PUR	89.1	31	SAHIWAL	31.3
2	ROJHAN	79.3	32	PAK PATTAN	30.8
3	JAM PUR	74.2	33	KEHROR PACCA	29.2
4	JALAL PUR P.W	72.5	34	DARYA KHAN	28.6
5	BAHAWAL PUR	69.6	35	KALLOR KOT	27.3
6	JATOI	66.0	36	DUYAPUR	26.4
7	MULTAN	58.5	37	KOT ADDU	26.3
8	CHICHA WATNI	57.5	38	LAYYAH	25.9
9	SHUJABAD	55.6	39	BAHAWAL NAGAR	25.0
10	MIAN CHANNU	54.0	40	KAROR L.E.	25.0
11	D.G.KHAN	54.0	41	SHORKOT	25.0
12	MUZUFAR GARH	54.0	42	CHISHTIAN	24.0
13	VEHARI	50.0	43	CHOBARA	23.1
14	TAUNSA	50.0	44	PIPLAN	22.7
15	A.P.EAST	47.2	45	HAROON ABAD	22.5
16	R.Y.KHAN	46.0	46	ARIF WALA	21.7
17	SADIQ ABAD	43.8	47	OKARA	20.0
18	HASILPUR	41.5	48	A.P SIAL	20.0
19	MAILSI	40.6	49	ISA KHEL	20.0
20	KHAN PUR	38.0	50	MIANWALI	19.2
21	18-HAZARI	37.5	51	PIR MAHAL	16.7
22	JAHANIAN	36.6	52	JHANG	15.8
23	KABIR WALA	35.9	53	MINCHAN ABAD	15.0
24	KOT CHUTTA	35.7	54	BHAKKAR	11.1
25	LODHRAN	34.6	55	RENALA KHURD	8.7
26	YAZMAN	34.0	56	DEPALPUR	8.3
27	KHANEWAL	32.5	57	SUMUNDRI	8.3
28	BURE WALA	32.1	58	GOJRA	7.4
29	FORT ABBAS	32.0	59	T.T.SINGH	5.4
30	LIAQUAT PUR	32.0	60	TANDLIANWALA	3.7

**Jassid:** On overall Punjab basis 5.48% above ETL spots has been observed as compared to 7.80% in last week and same week of last year 11.62%. And 94.16% below ETL spots have been observed during current week as compared to 91.65% in last week and 84.97% 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	BHAKKAR	44.4	21	MIANWALI	11.5
2	SHORKOT	31.3	22	CHISHTIAN	10.0
3	JHANG	26.3	23	MANKERA	10.0
4	18-HAZARI	25.0	24	KALLOR KOT	9.1
5	ARIF WALA	21.7	25	DEPALPUR	8.3
6	A.P SIAL	20.0	26	T.T.SINGH	8.1
7	PIPLAN	18.2	27	HAROON ABAD	7.5

8	CHICHA WATNI	17.5	28	MINCHAN ABAD	7.5
9	LAYYAH	16.7	29	GOJRA	7.4
10	SUMUNDRI	16.7	30	HASILPUR	7.3
11	PAK PATTAN	15.4	31	CHOBARA	6.2
12	OKARA	15.0	32	FORT ABBAS	6.0
13	TANDLIANWALA	14.8	33	JAM PUR	4.8
14	SADIQ ABAD	14.6	34	BAHAWAL NAGAR	4.5
15	DARYA KHAN	14.3	35	KHAN PUR	4.0
16	KAROR L.E.	13.5	36	BAHAWAL PUR	2.2
17	PIR MAHAL	13.3	37	R.Y.KHAN	2.0
18	RENALA KHURD	13.0	38	LIAQUAT PUR	2.0
19	KABIR WALA	12.8	39	KOT ADDU	1.8
20	SAHIWAL	12.5	40	RAJAN PUR	0.8

**Thrips:** On overall Punjab basis 1.05% above ETL spots has been observed as compared to 2.71% in last week and same week of last year i.e.4.32%. And 97.62% below ETL spots have been observed during current week as compared to 95.18% in last week and 90.81% 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	18-HAZARI	25.0	8	BAHAWAL PUR	4.3
2	JHANG	10.5	9	A.P.EAST	3.8
3	PIPLAN	9.1	10	FORT ABBAS	2.0
4	MIANWALI	7.7	11	R.Y.KHAN	2.0
5	SADIQ ABAD	6.3	12	KHAN PUR	2.0
6	KAROR L.E.	5.8	13	LIAQUAT PUR	2.0
7	LAYYAH	5.6	14	CHOBARA	1.5

**Mealy Bug:** On overall Punjab basis 42.97% spots (all considered above ETL) of Mealy Bug have been observed as compared to 38.31% in last week and 22.70% spots during the same corresponding period of the last year.

#### Tehsil wise percentage of hot spots of Mealybug

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	JALAL PUR P.W	87.5	29	KHAN PUR	40.0
2	MULTAN	86.8	30	FORT ABBAS	38.0
3	KABIR WALA	82.1	31	LODHRAN	34.6
4	RAJAN PUR	80.7	32	BAHAWAL NAGAR	29.5
5	HASILPUR	80.5	33	GOJRA	25.9
6	MIAN CHANNU	78.0	34	SAHIWAL	25.0
7	SHUJABAD	75.6	35	T.T.SINGH	24.3
8	BURE WALA	75.0	36	ARIF WALA	21.7
9	MAILSI	71.9	37	KAROR L.E.	21.2
10	DUYAPUR	69.8	38	LAYYAH	20.4
11	BAHAWAL PUR	65.2	39	KOT ADDU	19.3
12	YAZMAN	63.8	40	CHOBARA	18.5
13	KHANEWAL	62.5	41	HAROON ABAD	17.5
14	R.Y.KHAN	56.0	42	PIR MAHAL	16.7
15	D.G.KHAN	56.0	43	JHANG	15.8
16	VEHARI	55.0	44	PAK PATTAN	15.4
17	JAM PUR	53.2	45	TANDLIANWALA	14.8
18	JAHANIAN	51.2	46	18-HAZARI	12.5
19	TAUNSA	50.0	47	KOT CHUTTA	11.6
20	LIAQUAT PUR	48.0	48	BHAKKAR	11.1
21	KEHROR PACCA	47.9	49	PIPLAN	9.1
22	A.P.EAST	47.2	50	RENALA KHURD	8.7
23	MUZUFAR GARH	46.0	51	DEPALPUR	8.3
24	CHISHTIAN	44.0	52	SUMUNDRI	8.3
25	JATOI	44.0	53	MIANWALI	7.7

26	SADIQ ABAD	43.8	54	MINCHAN ABAD	7.5
27	CHICHA WATNI	42.5	55	SHORKOT	6.3
28	ROJHAN	41.4	56	OKARA	5.0

**Mites:** On overall Punjab basis no prevalence of above ETL spots has been observed. However 4.39% below ETL spots have been observed during current week as compared to 2.39% in last week and 1.25% during the same corresponding period of last year.

**Dusky Cotton Bug:** On overall Punjab basis 0.36% above ETL spots have been observed during current week as compared to 0.20% in last week and 0.14% during the same corresponding period of last year. And 33.17% below ETL spots have been observed during current week as compared to 28.35% in last week and 20.98% 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	MULTAN	11.3	3	KEHROR PACCA	2.1
2	BAHAWAL PUR	4.3			

**Armyworm:** On overall Punjab basis 2.66% spots (all considered above ETL) of Armyworm have been observed as compared to 1.96% in last week and 4.22% 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	BAHAWAL PUR	19.6	14	KOT ADDU	3.5
2	JATOI	16.0	15	KABIR WALA	2.6
3	JHANG	15.8	16	KHANEWAL	2.5
4	MULTAN	11.3	17	VEHARI	2.5
5	PIPLAN	9.1	18	JAHANIAN	2.4
6	MIANWALI	7.7	19	JAM PUR	2.4
7	A.P.EAST	7.5	20	SADIQ ABAD	2.1
8	HASILPUR	7.3	21	CHISHTIAN	2.0
9	SHUJABAD	6.7	22	LIAQUAT PUR	2.0
10	R.Y.KHAN	6.0	23	D.G.KHAN	2.0
11	MUZUFAR GARH	6.0	24	KAROR L.E.	1.9
12	LODHRAN	5.8	25	DUYAPUR	1.9
13	JALAL PUR P.W	5.0			

**Pink Boll Worm:** On overall Punjab basis 12.78% above ETL spots have been observed as compared to 8.71% in last week and 4.43% same corresponding period of the last year. And 38.09% below ETL spots have been observed as compared to 32.75% in last week and 22.87% during same corresponding period of last year.

#### **Tehsil wise percentage of hot spots of PBW**

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	JALAL PUR P.W	32.5	26	ARIF WALA	13.0
2	MIAN CHANNU	32.0	27	VEHARI	12.5
3	KABIR WALA	28.2	28	CHICHA WATNI	12.5
4	BAHAWAL PUR	26.1	29	D.G.KHAN	12.0
5	BURE WALA	25.0	30	MUZUFAR GARH	12.0
6	KHANEWAL	22.5	31	HAROON ABAD	10.0
7	CHISHTIAN	22.0	32	SAHIWAL	9.4
8	RAJAN PUR	21.0	33	LAYYAH	9.3
9	KEHROR PACCA	20.8	34	RENALA KHURD	8.7
10	DUYAPUR	20.8	35	TAUNSA	8.3
11	R.Y.KHAN	20.0	36	KAROR L.E.	7.7
12	JAHANIAN	19.5	37	GOJRA	7.4
13	SADIQ ABAD	18.8	38	HASILPUR	7.3
14	KHAN PUR	18.0	39	KOT ADDU	7.0
15	LIAQUAT PUR	18.0	40	PIR MAHAL	6.7
16	SHUJABAD	17.8	41	SHORKOT	6.3
17	ROJHAN	17.2	42	JHANG	5.3
18	A.P.EAST	17.0	43	KOT CHUTTA	4.5
19	MAILSI	15.6	44	YAZMAN	4.3
20	LODHRAN	15.4	45	JATOI	4.0
21	PAK PATTAN	15.4	46	JAM PUR	3.2
22	CHOBARA	15.4	47	T.T.SINGH	2.7
23	OKARA	15.0	48	MINCHAN ABAD	2.5
24	FORT ABBAS	14.0	49	MULTAN	0.6
25	BAHAWAL NAGAR	13.6			

**American Bollworm:** On overall Punjab basis 0.12% above ETL spots have been observed as compared to 0.08 in last week and 0.03% during same corresponding period of last year. And 0.36% below ETL spots have been observed as compared to 0.20% in last week and 0.41% during same corresponding period of last year.

#### **Tehsil wise percentage of hot spots of ABW**

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	D.G.KHAN	2.0	2	JAM PUR	1.6

**Spotted Bollworm:** On overall Punjab basis 1.09% above ETL spots have been observed as compared to 0.71% in last week and 0.03% during same corresponding period of last year & 2.22% below ETL spots have been observed as compared to 1.53% in last week and 0.57% during same corresponding period of last year.

#### **Tehsil wise percentage of hot spots of SBW**

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	JAM PUR	12.1	3	KOT CHUTTA	5.4
2	D.G.KHAN	8.0	4	R.Y.KHAN	4.0

**CLCuV:** On overall Punjab basis 26.84% spots (all considered above ETL) of CLCuV have been observed as compared to 26.59% in last week and 15.17% 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	MUZUFAR GARH	86.0	29	MANKERA	20.0
2	BURE WALA	85.7	30	MIANWALI	19.2
3	KABIR WALA	79.5	31	A.P.EAST	18.9
4	KOT ADDU	77.2	32	LIAQUAT PUR	18.0
5	VEHARI	72.5	33	KHAN PUR	16.0
6	JATOI	56.0	34	LODHRAN	15.4
7	MAILSI	53.1	35	DARYA KHAN	14.3
8	KEHROR PACCA	52.1	36	PIPLAN	13.6
9	D.G.KHAN	52.0	37	KOT CHUTTA	13.4
10	MIAN CHANNU	48.0	38	PIR MAHAL	13.3
11	TAUNSA	47.9	39	SHORKOT	12.5
12	JALAL PUR P.W	47.5	40	DUYAPUR	11.3
13	MULTAN	47.2	41	BHAKKAR	11.1
14	CHICHA WATNI	42.5	42	A.P SIAL	10.0
15	JAHANIAN	41.5	43	HASILPUR	9.8
16	T.T.SINGH	40.5	44	BAHAWAL NAGAR	9.1
17	CHOBARA	40.0	45	KALLOR KOT	9.1
18	KHANEWAL	37.5	46	ARIF WALA	8.7
19	SHUJABAD	35.6	47	SAHIWAL	6.3
20	GOJRA	33.3	48	SADIQ ABAD	6.3
21	R.Y.KHAN	32.0	49	CHISHTIAN	6.0
22	KAROR L.E.	28.8	50	OKARA	5.0
23	JHANG	26.3	51	HAROON ABAD	5.0
24	LAYYAH	25.9	52	RENALA KHURD	4.3
25	18-HAZARI	25.0	53	FORT ABBAS	4.0
26	PAK PATTAN	23.1	54	ROJHAN	3.4
27	JAM PUR	21.0	55	RAJAN PUR	3.4
28	FAISALABAD	20.0	56	BAHAWAL PUR	2.2

## FORECAST FOR THE NEXT WEEK

### Meteorological data of the current week 2020-2021

Districts	2021				2020			
	Temperature		R.H%	Rainfall (mm)	Temperature °C		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
MULTAN	35.14	26.29	67.07	0.00	34.00	29.10	84.85	69.00
KHANEWAL	36.71	27.71	62.43	2.00	32.00	26.00	84.29	109.00
VEHARI	35.67	23.67	71.50	3.00	34.78	27.67	76.44	36.00
LODHRAN	36.16667	27.5	62.167	6.00	32.43	27.29	83.50	55.30
Sahiwal	37.00	25.00	72.00	9.50	33.24	25.52	83.40	27.00
Pakpattan	39.00	28.00	68.00	3.00	32.70	26.70	66.60	63.00
Okara	37.00	27.00	69.00	5.00	33.00	28.30	80.00	34.00
Bahawalpur	37.41	26.00	64.31	0.00	33.83	25.66	75.00	75.20
Bahawalnagar	37.97	27.20	56.33	0.00	36.63	25.22	62.00	0.00
R.Y.Khan	38.71	26.71	54.14	0.00	35.00	25.57	45.00	100.00
D.G. Khan	37.86	27.29	51.50	30.00	38.00	30.14	71.14	5.00
Muzaffar Garh	37.50	28.83	42.63	3.00	34.25	26.25	69.50	2.00
Rajanpur	38	26.5	45.40	0.00	40.30	30.3	56.80	0.00
Layyah	41.29	27.00	63.91	8.33	37.00	26.75	64.91	9.36
<b>TOT/AVG</b>	<b>37.53</b>	<b>26.76</b>	<b>60.74</b>	<b>4.99</b>	<b>34.80</b>	<b>27.18</b>	<b>71.67</b>	<b>41.77</b>

**Weather forecast for next 7 day in cotton zone**

Division	Dated	7/9	8/9	10/9	11/9	12/9	13/9	14/9
<b>Multan</b>	Max.Temp.	41	35	37	35	40	42	41
	Min.Temp.	30	31	28	28	28	28	30
	Humidity %	31	50	45	46	51	39	24
<b>Sahiwal</b>	Max.Temp.	38	33	33	34	36	39	41
	Min.Temp.	29	28	27	26	27	26	29
	Humidity %	45	60	60	54	45	39	23
<b>Bahawalpur</b>	Max.Temp.	41	36	37	36	37	41	42
	Min.Temp.	30	31	29	29	28	30	28
	Humidity %	33	47	44	45	43	38	29
<b>D.G. Khan</b>	Max.Temp.	43	38	38	37	36	40	41
	Min.Temp.	29	31	28	28	29	29	29
	Humidity %	30	43	44	48	47	42	25
<b>Average Cotton Region</b>	<b>Max.Temp.</b>	<b>38.14</b>						
	<b>Min.Temp.</b>	<b>28.68</b>						
	<b>Humidity %</b>	<b>41.79</b>						

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

**Summary of weather forecast**

Overall weather for seven days in cotton zone during next week will remain hot, dry& shiny also.

**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. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week temp. Max. 38.14 °C, Min. 28.682°C with humidity 41.79%. Keeping in view the climatic conditions, **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 The current weather conditions on overall Punjab basis (temp. Max. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week temp. Max. 38.14 °C, Min. 28.682°C with humidity 41.79%. Keeping in view the prevailing conditions, **it is predicted that population of this pest will decrease 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. Max. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week temp. Max. 38.14 °C, Min. 28.682°C with humidity 41.79%. Keeping in view the climatic conditions, **it is predicted that population of this pest will decrease 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. Max. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week

temp. Max. 38.14 °C, Min. 28.682°C with humidity 41.79%. Keeping in view, **it is predicted that population of this pest will increase 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. Max. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week temp. Max. 38.14 °C, Min. 28.682°C with humidity 41.79%. Keeping in view, **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. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week temp. Max. 38.14 °C, Min. 28.682°C with humidity 41.79%. Keeping in view, **it is predicted that population of this pest may increase during coming week.**

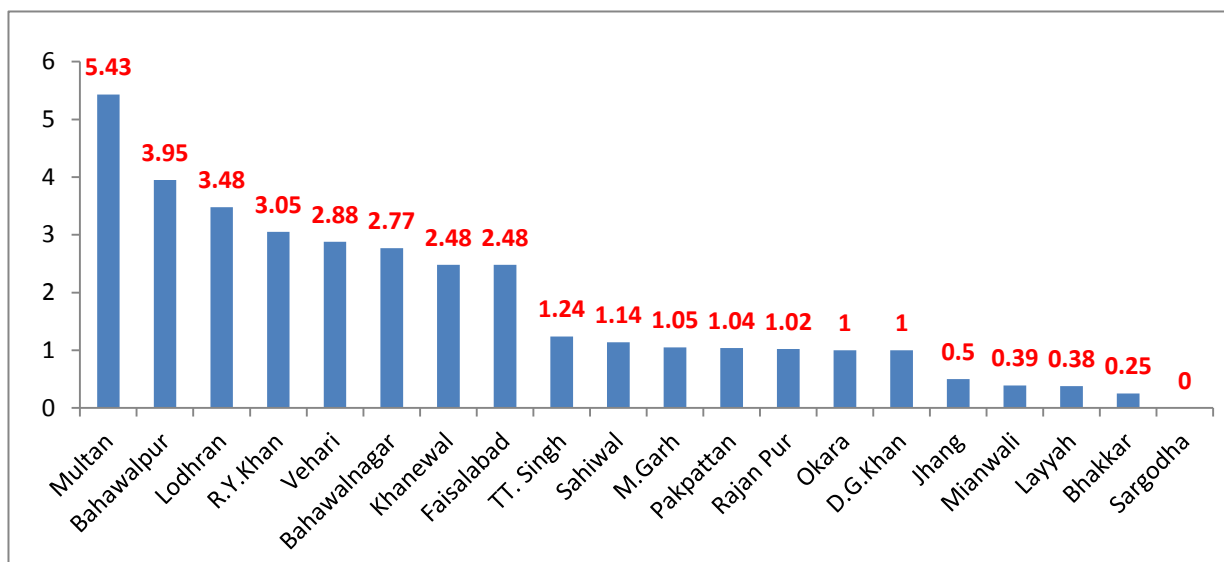
**Pink Bollworm:** This pest flourishes best at moderate climate with optimum temperature 32-40 °C with relative humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. Max. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week temp. Max. 38.14 °C, Min. 28.682°C with humidity 41.79%. **It is predicted that population of this pest will increase rapidly on cotton during the coming week .**



### Moth Catches in Pheromone Traps during 1<sup>st</sup>Week of September, 2021

Moth Catches in Pheromone Traps During 1 <sup>st</sup> Week of September 2021			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	228	5.43
Khanewal	8	139	2.48
Vehari	6	121	2.88
Lodhran	6	146	3.48
Sahiwal	4	32	1.14
Pakpattan	4	29	1.04
Okara	4	28	1.00
Bahawalpur	8	221	3.95
Bahawalnagar	10	194	2.77
R.Y.Khan	8	171	3.05
D.G.Khan	6	42	1.00
M.Garh	8	59	1.05
Rajan Pur	6	43	1.02
Layyah	6	16	0.38
Sargodha	0	0	0.00
Mianwali	4	11	0.39
Bhakkar	8	14	0.25
Faisalabad	6	104	2.48
TT. Singh	6	52	1.24
Jhang	4	28	0.50

*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%.humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C.The current weather conditions on overall Punjab basis (temp. Max. Max. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week temp. Max. 38.14 °C, Min. 28.682°C with humidity 41.79%. **It is predicted that population of this pest will sustain on cotton crop during the coming week.**

### **Moth catches on light traps during 1<sup>st</sup> week of September, 2021**

<b>Moth Catches on Light Traps/Trap/week During 1<sup>st</sup>Week of September, 2021</b>				
<b>District</b>	<b>Traps Installed</b>	<b>A.B.W</b>	<b>S.B.W</b>	<b>Armyworm</b>
Multan	3	1.1	0.0	3.7
Khanewal	4	1.9	0.0	7.6
Vehari	3	0.0	0.0	1.9
Lodhran	3	0.9	0.0	3.0
Sahiwal	2	0.1	0.0	0.1
Pakpattan	2	0.1	0.0	0.1
Okara	3	0.3	0.0	0.3
Bahawalpur	4	0.9	0.4	3.4
Bahawalnagar	5	1.1	0.6	2.1
R.Y.Khan	4	0.6	0.7	1.4
D.G.Khan	3	1.0	0.7	0.6
M.Garh	4	1.1	1.0	1.1
Rajan Pur	3	0.0	0.0	0.0
Layyah	3	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.Maximum lethal temperature for this pest is 45-53 °C.%.humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C.The current weather conditions on overall Punjab basis (temp. Max. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week temp. Max. 38.14 °C, Min. 28.682°C with humidity 41.79%. 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%. Maximum lethal temperature for this pest is 45-53 °C. It is % humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. Max. 37.53 °C, Min. 26.76 °C with R. humidity 6.74%) & forecast for the next week temp. Max. 38.14 °C, Min. 28.682 °C with humidity 41.79%. Keeping in view, **it is predicted that population of this pest will sustain during the coming week.**

**CLCuV: The incidence of this disease is expected to increase 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.
4. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Spirotetramate	125 ml
2	Pyriproxifen 10.8 EC	500 ml
3	Buprofezin	600 gm
4	Flonicamid 50 WG	60-80 gm
5	Diafenthuron	200 ml

## 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/card
4. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Flunicamid 50 WG	60 gm
2	Fipronil+Imidacloprid	60 gm
3	Nitenpiram 10 AS	200 ml
4	Dinotefuron 20 SG	100 gm
5	Dimethoate 40 EC	330-400 ml
6	Thiacloprid 480 SC	200 ml

## 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.
4. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Fipronil+Imidacloprid	60 gm
2	Chlorfenpyr	125 ml
3	Acephate 97% DF	250-300 gm

## 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	Mulbery
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 Pink Bollworm:

1. Use Sex Pheromone Traps for monitoring of PBW
2. Eradicate rosette flowers.
3. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Spintoram 120 SC	80 ml
2	Chlorantraniliprole	50ml
3	Triazophos	1000ml
4	Bifenthrin	250ml
5	Gammacyhalothrin	100ml
6	Lambdacyhalothrin	333ml

### MANAGEMENT OF DUSKY COTTON BUG

1. Eradicate weeds.
2. Conduct Pest Scouting at least twice a week.
3. Remove alternate host plants

4. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Fipronil 5% SC	480 ml
2	Acetamaprid	125 gm
3	Chlorpyrifos	800-1000ml

### 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.
5. Apply among the following recommended insecticide at ETL and repeat the spray with alternate insecticides if required;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Leufenuron	200ml
2	Flubendamide	50ml

### 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**

<b>Crops</b>	<b>Vegetables</b>	<b>Ornamentals</b>	<b>Weeds</b>
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**

<b>Insect pests</b>	<b>Economic threshold levels</b>
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