

## PEST SITUATION ON COTTON CROP IN PUNJAB DURING 1st WEEK OF SEPTEMBER, 2022

**Whitefly:** On overall Punjab basis 34.54 above ETL spots have been observed during current week as compared to 31.70% in last week and 40.83% during the same corresponding period of last year. And 64.70% below ETL spots have been observed during current week as compared to 67.67% in last week and 58.77% 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	JALAL PUR P.W	90.0	32	KOT ADDU	28.8
2	KOT CHUTTA	83.9	33	JATOI	28.3
3	SHUJABAD	75.0	34	DUYAPUR	28.3
4	MULTAN	74.0	35	BURE WALA	28.2
5	D.G.KHAN	62.5	36	KEHROR PACCA	26.2
6	RAJAN PUR	62.5	37	MAILSI	26.1
7	ROJHAN	62.5	38	ISA KHEL	25.0
8	MUZUFAR GARH	56.0	39	DARYA KHAN	25.0
9	BAHAWAL PUR	55.6	40	ARIF WALA	23.5
10	TAUNSA	55.1	41	KAROR L.E.	22.9
11	KABIR WALA	51.7	42	VEHARI	22.4
12	R.Y.KHAN	50.0	43	DEPALPUR	21.4
13	KHANEWAL	49.2	44	MANKERA	19.4
14	FORT ABBAS	48.9	45	PAK PATTAN	17.9
15	A.P.EAST	45.8	46	PIPLAN	17.0
16	ALI PUR	45.5	47	MIANWALI	16.7
17	JAM PUR	45.0	48	18-HAZARI	15.4
18	CHISHTIAN	43.9	49	A.P SIAL	14.7
19	BAHAWAL NAGAR	43.8	50	RENALA KHURD	12.0
20	MIAN CHANNU	43.1	51	CHICHA WATNI	10.0
21	LIAQUAT PUR	41.1	52	SHORKOT	8.3
22	HAROON ABAD	40.5	53	T.T.SINGH	7.8
23	KHAN PUR	37.5	54	OKARA	7.7
24	LAYYAH	37.5	55	KALLOR KOT	6.7
25	LODHRAN	36.2	56	PIR MAHAL	6.1
26	SADIQ ABAD	36.0	57	SUMUNDRI	4.8
27	JAHANIAN	35.9	58	GOJRA	2.9
28	HASILPUR	34.0	59	SAHIWAL	2.5
29	YAZMAN	32.7	60	BHAKKAR	2.5
30	MINCHAN ABAD	32.5	61	TANDLIANWALA	1.9
31	CHOBARA	32.5			

**Jassid:** On overall Punjab basis 15.62% above ETL spots has been observed as compared to 15.06% in last week and same week of last year 5.48%. And 82.98% below ETL spots have been observed during current week as compared to 83.76% in last week and 94.16% 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	TAUNSA	53.1	32	JATOI	13.2
2	LAYYAH	37.5	33	MINCHAN ABAD	12.5
3	BURE WALA	35.9	34	MIANWALI	12.5
4	FORT ABBAS	35.6	35	ISA KHEL	12.5
5	CHISHTIAN	31.6	36	RENALA KHURD	12.0
6	ALI PUR	30.9	37	T.T.SINGH	11.8
7	VEHARI	30.6	38	GOJRA	11.4
8	BAHAWAL NAGAR	29.2	39	SHORKOT	11.1
9	D.G.KHAN	26.6	40	HAROON ABAD	10.8
10	CHOBARA	25.0	41	R.Y.KHAN	9.6
11	KAROR L.E.	25.0	42	A.P.EAST	8.3
12	MAILSI	23.9	43	FAISALABAD	8.3
13	MANKERA	22.2	44	MIAN CHANNU	7.8
14	KHAN PUR	21.4	45	OKARA	7.7
15	KOT ADDU	21.2	46	PIR MAHAL	6.1
16	SAHIWAL	20.0	47	SADIQ ABAD	6.0
17	CHICHA WATNI	20.0	48	A.P SIAL	5.9
18	KOT CHUTTA	19.6	49	BAHAWAL PUR	5.6
19	ROJHAN	18.8	50	JHANG	5.6
20	DARYA KHAN	18.8	51	KABIR WALA	5.2
21	PAK PATTAN	17.9	52	JAHANIAN	5.1
22	ARIF WALA	17.6	53	SHUJABAD	5.0
23	BHAKKAR	17.5	54	KHANEWAL	4.8
24	TANDLIANWALA	17.0	55	MULTAN	4.0
25	RAJAN PUR	16.7	56	KALLOR KOT	3.3
26	MUZUFAR GARH	16.0	57	JALAL PUR P.W	2.5
27	18-HAZARI	15.4	58	JAM PUR	2.5
28	PIPLAN	14.9	59	DUYAPUR	2.2
29	KEHROR PACCA	14.3	60	HASILPUR	2.1
30	LIAQUAT PUR	14.3	61	YAZMAN	2.0
31	SUMUNDRI	14.3	62	LODHRAN	1.7

**Thrips:** On overall Punjab basis 0.61% above ETL spots has been observed as compared to 0.48% in last week and same week of last year i.e. 1.05%. And 82.94% below ETL spots have been observed during current week as compared to 88.47% in last week and 97.62% 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	ALI PUR	14.5	5	PIPLAN	2.1
2	SHUJABAD	5.0	6	KOT ADDU	1.9
3	MIANWALI	4.2	7	KHAN PUR	1.8
4	LAYYAH	3.6			

**Mealy Bug:** On overall Punjab basis 11.82% spots (all considered above ETL) of Mealy Bug have been observed as compared to 12.80% in last week and 42.97% 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	BAHAWAL PUR	48.1	26	MINCHAN ABAD	10.0
2	SHUJABAD	40.0	27	MIAN CHANNU	9.8
3	JALAL PUR P.W	32.5	28	MIANWALI	8.3
4	MULTAN	32.0	29	FAISALABAD	8.3
5	CHISHTIAN	29.8	30	18-HAZARI	7.7
6	LAYYAH	26.8	31	PAK PATTAN	7.1
7	FORT ABBAS	26.7	32	PIR MAHAL	6.1
8	ALI PUR	25.5	33	MUZUFAR GARH	6.0
9	YAZMAN	24.5	34	ARIF WALA	5.9
10	JATOI	22.6	35	R.Y.KHAN	5.8
11	HAROON ABAD	21.6	36	GOJRA	5.7
12	BAHAWAL NAGAR	20.8	37	JAHANIAN	5.1
13	TAUNSA	18.4	38	CHOBARA	5.0
14	KHAN PUR	17.9	39	JAM PUR	5.0
15	DUYAPUR	17.4	40	MAILSI	4.3
16	KAROR L.E.	16.7	41	KOT ADDU	3.8
17	A.P.EAST	16.7	42	OKARA	3.8
18	SADIQ ABAD	16.0	43	KALLOR KOT	3.3
19	D.G.KHAN	15.6	44	KEHROR PACCA	2.4
20	KOT CHUTTA	14.3	45	PIPLAN	2.1
21	LODHRAN	13.8	46	VEHARI	2.0
22	HASILPUR	12.8	47	LIAQUAT PUR	1.8
23	ROJHAN	12.5	48	KABIR WALA	1.7
24	RAJAN PUR	12.5	49	KHANEWAL	1.6
25	T.T.SINGH	11.8			

**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 1.82% below ETL spots have been observed during current week as compared to 1.31% in last week and 4.39% 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 2.36% above ETL spots have been observed during current week as compared to 2.61% in last week and 0.00% during the same corresponding period of last year. And 55.55% below ETL spots have been observed during current week as compared to 52.42% in last week and 33.17% 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	26.0	10	KABIR WALA	3.4
2	T.T.SINGH	19.6	11	KALLOR KOT	3.3
3	SHUJABAD	17.5	12	KHANEWAL	3.2
4	JALAL PUR P.W	12.5	13	MANKERA	2.8
5	PIR MAHAL	12.1	14	JAHANIAN	2.6
6	GOJRA	11.4	15	BURE WALA	2.6

7	VEHARI	10.2	16	CHOBARA	2.5
8	MAILSI	4.3	17	KEHROR PACCA	2.4
9	MIAN CHANNU	3.9			

**Armyworm:** On overall Punjab basis 9.31% spots (all considered above ETL) of Armyworm have been observed as compared to 6.46% in last week and 2.66% 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	42.6	21	KEHROR PACCA	11.9
2	YAZMAN	38.8	22	KAROR L.E.	10.4
3	MULTAN	36.0	23	LIAQUAT PUR	8.9
4	JAM PUR	30.0	24	LODHRAN	8.6
5	SHUJABAD	27.5	25	DEPALPUR	7.1
6	R.Y.KHAN	26.9	26	KOT ADDU	5.8
7	D.G.KHAN	26.6	27	DUYAPUR	4.3
8	ROJHAN	25.0	28	MIANWALI	4.2
9	FORT ABBAS	22.2	29	RENALA KHURD	4.0
10	TAUNSA	20.4	30	T.T.SINGH	3.9
11	KHAN PUR	17.9	31	KOT CHUTTA	3.6
12	A.P.EAST	16.7	32	KABIR WALA	3.4
13	HASILPUR	14.9	33	KHANEWAL	3.2
14	ALI PUR	12.7	34	PIR MAHAL	3.0
15	JALAL PUR P.W	12.5	35	MINCHAN ABAD	2.5
16	CHOBARA	12.5	36	BHAKKAR	2.5
17	LAYYAH	12.5	37	PIPLAN	2.1
18	RAJAN PUR	12.5	38	JATOI	1.9
19	SADIQ ABAD	12.0	39	CHISHTIAN	1.8
20	MUZUFAR GARH	12.0	40	KALLOR KOT	1.3

**Pink Boll Worm:** On overall Punjab basis 10.79% above ETL spots have been observed as compared to 4.75% in last week and 12.78% same corresponding period of the last year. And 25.87% below ETL spots have been observed as compared to 23.22% in last week and 38.09% during same corresponding period of last year.

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

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	DUYAPUR	50.0	23	BHAKKAR	12.5
2	BAHAWAL PUR	33.3	24	ISA KHEL	12.5
3	KHANEWAL	31.7	25	JATOI	11.3
4	HASILPUR	29.8	26	HAROON ABAD	10.8
5	JALAL PUR P.W	27.5	27	KHAN PUR	10.7
6	JAHANIAN	25.6	28	CHISHTIAN	10.5
7	SADIQ ABAD	24.0	29	VEHARI	10.2
8	MULTAN	22.0	30	CHOBARA	10.0
9	LODHRAN	20.7	31	MANKERA	8.3
10	SHUJABAD	20.0	32	KOT CHUTTA	7.1
11	D.G.KHAN	18.8	33	KALLOR KOT	6.7
12	YAZMAN	18.4	34	MIAN CHANNU	5.9
13	ALI PUR	18.2	35	FORT ABBAS	4.4
14	R.Y.KHAN	17.3	36	PIPLAN	4.3

15	A.P.EAST	16.7	37	KAROR L.E.	4.2
16	KEHROR PACCA	16.7	38	MIANWALI	4.2
17	KABIR WALA	13.8	39	TAUNSA	4.1
18	MAILSI	13.0	40	KOT ADDU	3.8
19	ROJHAN	12.5	41	OKARA	3.8
20	LIAQUAT PUR	12.5	42	LAYYAH	3.6
21	DUYAPUR	50.0	43	PAK PATTAN	3.6
22	BAHAWAL PUR	33.3	44	BURE WALA	2.6

**American Bollworm:** On overall Punjab basis 0.11% above ETL spots have been observed as compared to 0.12 in last week and 0.12% during same corresponding period of last year. And 1.44% below ETL spots have been observed as compared to 1.23% in last week and 0.36% during same corresponding period of last year.

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

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	R.Y.KHAN	3.8	2	PIPLAN	2.1

**Spotted Bollworm:** On overall Punjab basis 0.30% above ETL spots have been observed as compared to 0.12% in last week and 0.19% during same corresponding period of last year & 0.84% below ETL spots have been observed as compared to 0.99% in last week and 2.22% during same corresponding period of last year.

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

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	R.Y.KHAN	5.8	3	YAZMAN	4.1
2	KOT CHUTTA	5.4			

**CLCuV:** On overall Punjab basis 40.27% spots (all considered above ETL) of CLCV have been observed as compared to 40.77% in last week and 26.84% 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	MULTAN	100.0	31	MANKERA	37.2
2	SHUJABAD	100.0	32	R.Y.KHAN	37.1
3	JALAL PUR P.W	92.6	33	KHAN PUR	29.5
4	KOT CHUTTA	78.5	34	BAHAWAL NAGAR	24.8
5	TAUNSA	82.5	35	JATOI	21.6
6	HASILPUR	71.6	36	DARYA KHAN	48.9
7	VEHARI	74.9	37	ALI PUR	36.8
8	D.G.KHAN	70.8	38	JAHANIAN	28.9
9	KABIR WALA	58.5	39	KOT ADDU	29.4
10	RAJAN PUR	51.1	40	KEHROR PACCA	35.0
11	BAHAWAL PUR	59.1	41	PIPLAN	22.3
12	MUZUFAR GARH	57.0	42	ISA KHEL	17.6
13	MAILSI	52.4	43	MINCHAN ABAD	35.3
14	LODHRAN	51.7	44	PIR MAHAL	23.5
15	CHOBARA	60.2	45	LIAQUAT PUR	21.3
16	LAYYAH	50.9	46	SAHIWAL	18.3

17	ROJHAN	56.5	47	CHICHA WATNI	10.5
18	KAROR L.E.	47.4	48	18-HAZARI	27.1
19	FORT ABBAS	46.8	49	YAZMAN	13.5
20	BHAKKAR	43.1	50	ARIF WALA	34.2
21	A.P.EAST	51.3	51	MIANWALI	12.5
22	T.T.SINGH	45.7	52	PAK PATTAN	30.6
23	SADIQ ABAD	41.0	53	GOJRA	11.3
24	DUYAPUR	45.7	54	JAM PUR	9.3
25	BURE WALA	39.1	55	RENALA KHURD	10.6
26	KALLOR KOT	50.0	56	A.P SIAL	9.9
27	KHANEWAL	46.5	57	OKARA	3.2
28	MIAN CHANNU	49.8	58	SHORKOT	2.0
29	CHISHTIAN	39.1	59	SUMUNDRI	2.6
30	HAROON ABAD	45.3			

## 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	38.0	27.1	67.6	0.0	35.1	26.3	67.1	0.0
Khanewal	36.7	26.9	71.1	0.4	36.7	27.7	62.4	2.0
Vehari	35.9	25.9	62.3	0.0	36.2	27.5	62.2	6.0
Lodhran	35.4	24.6	78.7	1.3	35.7	23.7	71.5	3.0
Sahiwal	36.9	28.0	70.5	14.0	37.0	25.0	72.0	9.5
Pakpattan	36.2	28.2	69.6	4.0	39.0	28.0	68.0	3.0
Okara	36.0	28.4	70.2	6.0	37.0	27.0	69.0	5.0
Bahawalpur	34.4	25.7	78.5	29.2	39.4	27.4	58.4	0.0
Bahawalnagar	36.2	26.6	64.0	0.0	36.3	26.2	67.4	0.8
R.Y.Khan	35.1	25.6	67.0	26.1	35.0	24.6	46.9	0.0
D.G. Khan	35.71	27.86	63.89	0.00	37.86	27.29	51.50	30.00
Muzaffar Garh	32.30	21.40	78.00	3.00	37.50	28.83	42.63	3.00
Rajapur	33.2	22.6	74.10	0.00	39.60	27.6	47.20	0.00
Layyah	34.00	23.00	88.00	0.00	41.29	27.00	70.10	8.33
<b>TOT/AVG</b>	<b>35.43</b>	<b>25.85</b>	<b>71.68</b>	<b>84.0</b>	<b>37.40</b>	<b>26.72</b>	<b>61.16</b>	<b>70.6</b>

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

Division	Dated	6/9	7/9	8/9	9/9	10/9	11/9	12/9
Multan	Max.Temp.	36	38	38	39	39	39	40
	Min.Temp.	27	27	26	26	28	29	30
	Humidity %	45	38	35	34	38	38	35
Sahiwal	Max.Temp.	37	37	38	38	37	38	38
	Min.Temp.	26	26	25	25	26	27	27
	Humidity %	42	46	35	39	45	44	43
Bahawalpur	Max.Temp.	36	37	38	39	39	39	40
	Min.Temp.	27	27	27	26	29	30	31
	Humidity %	40	40	37	34	39	38	35
D.G. Khan	Max.Temp.	36	38	38	38	38	40	41
	Min.Temp.	28	28	28	27	27	29	31
	Humidity %	50	40	37	35	38	38	31
Average Cotton Region	Max.Temp.	38.18						
	Min.Temp.	27.5						
	Humidity %	38.89						

*Source: [timeanddate.com](http://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. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C with humidity 38.89%. Keeping in view above all, it is predicted that population of this pest will sustain 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. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C with humidity 38.89%. 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. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C with humidity 38.89%. Keeping in view above all, 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. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C with humidity 38.89%. 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. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C with humidity 38.89%. 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. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C with humidity 38.89%. Keeping in view above all, it is predicted that population of this pest can increase during coming week.

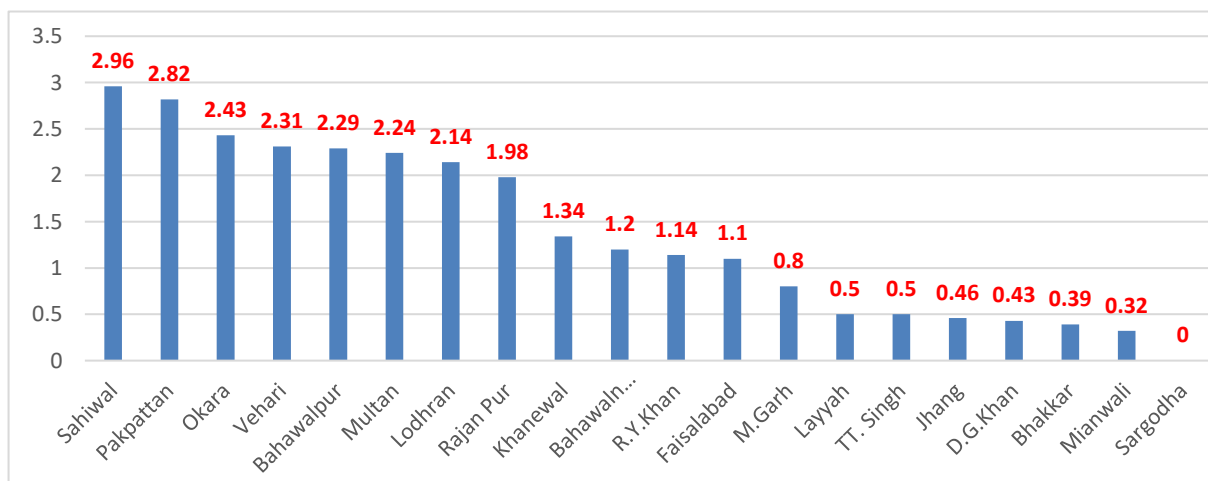
**Pink Bollworm:** This pest flourishes best at moderate climate with optimum temperature 32-40 °C with relative humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. . The current weather conditions on overall Punjab basis (temp. Max. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C with humidity 38.89%. It is predicted that population of this pest will increase on cotton crop.



### Moth Catches in Pheromone Traps during 1st Week of September, 2022

Moth Catches in Pheromone Traps During 1st Week of September 2022			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	94	2.24
Khanewal	8	75	1.34
Vehari	6	97	2.31
Lodhran	6	90	2.14
Sahiwal	4	83	2.96
Pakpattan	4	79	2.82
Okara	4	68	2.43
Bahawalpur	8	128	2.29
Bahawalnagar	10	84	1.20
R.Y.Khan	8	64	1.14
D.G.Khan	6	18	0.43
M.Garh	8	45	0.80
Rajan Pur	6	83	1.98
Layyah	6	21	0.50
Sargodha	0	0	0.00
Mianwali	4	9	0.32
Bhakkar	8	22	0.39
Faisalabad	6	46	1.10
TT. Singh	6	21	0.50
Jhang	4	13	0.46

*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. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C with humidity 38.89%.

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

### **Moth catches on light traps during 1st week of September, 2022**

<b>Moth Catches on Light Traps/Trap/week During 1st Week of September, 2022</b>				
<b>District</b>	<b>Traps Installed</b>	<b>A.B.W</b>	<b>S.B.W</b>	<b>Armyworm</b>
Multan	3	1.6	0.0	4.9
Khanewal	4	1.1	0.0	8.1
Vehari	3	0.0	0.0	1.6
Lodhran	3	3.6	0.0	4.4
Sahiwal	2	1.9	0.0	2.0
Pakpattan	2	1.6	0.0	1.7
Okara	3	1.7	0.0	2.0
Bahawalpur	4	1.3	1.0	5.4
Bahawalnagar	5	1.0	1.1	3.0
R.Y.Khan	4	0.3	0.3	0.7
D.G.Khan	3	1.1	1.7	3.1
M.Garh	4	0.9	0.7	1.4
Rajan Pur	3	1.0	0.6	0.9
Layyah	3	0.0	0	1.0
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. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C with humidity 38.89%. 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. 35.43 °C, Min. 25.85 °C with R. humidity 71.68%) & forecast for the next week temp. Max. 38.18 °C, Min. 27.05°C

with humidity 38.89%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

### **CLCuV:**

Hot spots has been observed of this disease & many times increased as compared to same week of last year on cotton crop. 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.

### **Alternate host plants of whitefly**

<b>Crops</b>	<b>Vegetables</b>	<b>Orchards</b>	<b>Weeds/ Ornamentals</b>	<b>Trees</b>
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.

- 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**

<b>S#</b>	<b>Common Name</b>	<b>Brand Name</b>	<b>Dose/Acre</b>
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**

- Keep Cotton fields free from all kinds of weeds.
- Eradicate other alternate host plants of CLCuV and dispose them off carefully.
- Thinning out and destruction of Virus affected plants.
- Remove CLCuV effected plants in less than 60 DAS (Days after sowing) crop.
- Hoeing after each irrigation or rain at watter condition till canopies permit.
- 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.
- Irrigate the fields when needed keeping in view weather conditions e.g. temperature, rainfall, soil water holding capacity and plant need.
- Balanced use of Fertilizer i.e. N.P.K.
- 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