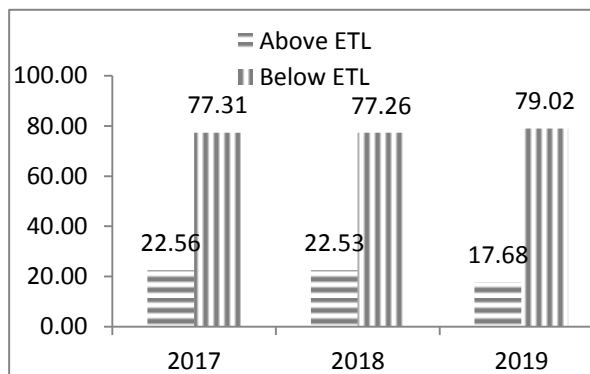


PEST SITUATION ON COTTON CROP IN PUNJAB DURING 2ND WEEK OF AUGUST, 2019

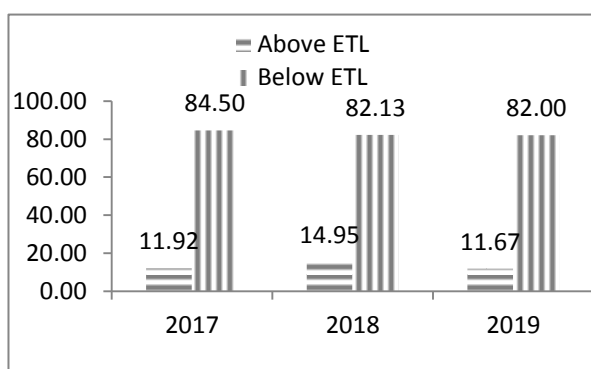
Whitefly: On overall Punjab basis 17.68% above ETL spots have been observed during current week as compared to 17.80% in last week and 22.53% during the same corresponding period of last year. And 79.02% below ETL spots have been observed during current week as compared to 79.37% in last week and 77.26% 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	58.1	32	R.Y.KHAN	15.7
2	HASILPUR	48.2	33	ALI PUR	15.2
3	MULTAN	38.1	34	MIAN CHANNU	15.1
4	BAHAWAL NAGAR	32.0	35	MINCHAN ABAD	15.0
5	BAHAWAL PUR	31.5	36	DEPALPUR	14.8
6	MAILSI	31.4	37	MANKERA	14.3
7	CHISHTIAN	30.9	38	JAHANIAN	13.6
8	JAM PUR	30.9	39	RENALA KHURD	13.3
9	SHUJABAD	28.8	40	18-HAZARI	13.3
10	KABIR WALA	28.4	41	LAYYAH	11.5
11	RAJAN PUR	26.3	42	PEER MEHAL	11.1
12	DUYAPUR	26.2	43	D.G.KHAN	10.7
13	KEHROR PACCA	25.3	44	KOT CHUTTA	10.5
14	ROJHAN	23.2	45	CHOBARA	10.3
15	KHAN PUR	22.7	46	A.P.EAST	10.0
16	SAHIWAL	22.2	47	CHICHA WATNI	9.7
17	YAZMAN	21.6	48	SADIQ ABAD	9.4
18	KHANEWAL	20.8	49	KAROR L.E.	9.0
19	PAK PATTAN	20.6	50	ARIF WALA	8.6
20	LODHRAN	20.5	51	A.P.SIAL	8.0
21	HAROON ABAD	20.4	52	SUMUNDRI	8.0
22	SILLANWALI/ SAHIWAL	20.0	53	GOJRA	6.3
23	ISA KHEL	20.0	54	KOT ADDU	6.1
24	BURE WALA	19.6	55	JHANG	6.0
25	KALLOR KOT	19.2	56	T.T.SINGH	5.8
26	LIAQUAT PUR	18.8	57	TANDLIANWALA	5.0
27	MIANWALI	18.8	58	MUZUFAR GARH	2.6
28	VEHARI	18.6	59	TAUNSA	2.5
29	BHAKKAR	18.4	60	SHORKOT	2.2
30	OKARA	18.2	61	JATOI	2.0
31	FORT ABBAS	17.5			

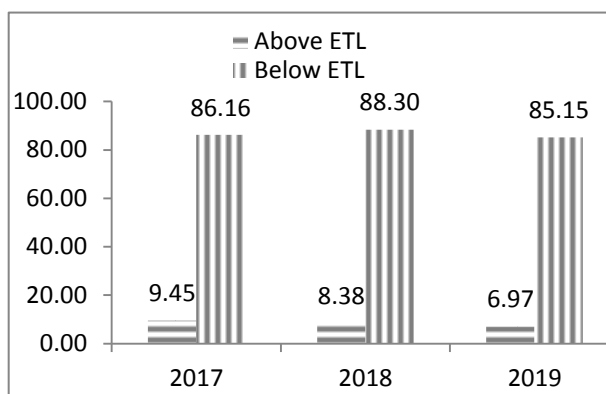
Jassid: On overall Punjab basis 11.67% above ETL spots has been observed as compared to 15.23% in last week and same week of last year 14.95%. And 82.00% below ETL spots have been observed during current week as compared to 80.12% in last week and 82.13% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of jassid

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	DARYA KHAN	100	32	MIANWALI	12.5
2	HASILPUR	42.9	33	KOT ADDU	12.1
3	FORT ABBAS	27.5	34	SUMUNDRI	12.0
4	RENALA KHURD	26.7	35	D.G.KHAN	10.7
5	CHISHTIAN	25.5	36	SAHIWAL	9.7
6	BAHAWAL NAGAR	24.0	37	PEER MEHAL	9.7
7	BHAKKAR	23.7	38	SHUJABAD	9.6
8	JALAL PUR P.W	23.3	39	MIAN CHANNU	9.6
9	OKARA	22.7	40	GOJRA	9.4
10	DEPALPUR	22.2	41	ALI PUR	9.1
11	KHAN PUR	21.2	42	SHORKOT	8.9
12	PAK PATTAN	20.6	43	18-HAZARI	8.9
13	MINCHAN ABAD	20.0	44	TAUNSA	8.6
14	SILLANWALI/ SAHIWAL	20.0	45	ARIF WALA	8.6
15	ISA KHEL	20.0	46	DUYAPUR	8.3
16	R.Y.KHAN	19.6	47	JHANG	8.0
17	KALLOR KOT	19.2	48	MUZUFAR GARH	7.7
18	YAZMAN	17.6	49	A.P.EAST	6.6666667
19	BAHAWAL PUR	16.4	50	PIPLAN	6.7
20	LIAQUAT PUR	16.3	51	BURE WALA	5.8823529
21	JAM PUR	16.2	52	KHANEWAL	5.7
22	CHICHA WATNI	14.5	53	KOT CHUTTA	5.3
23	MULTAN	14.3	54	TANDLIANWALA	5.0
24	HAROON ABAD	14.3	55	KABIR WALA	4.5
25	MANKERA	14.3	56	ROJHAN	4.3
26	JATOI	14.0	57	LODHRAN	3.6
27	T.T.SINGH	13.0	58	KEHROR PACCA	3.4
28	LAYYAH	12.8	59	JAHANIAN	3.0
29	CHOBARA	12.8	60	A.P.SIAL	2.0
30	KAROR L.E.	12.8	61	VEHARI	1.7
31	SADIQ ABAD	12.5			

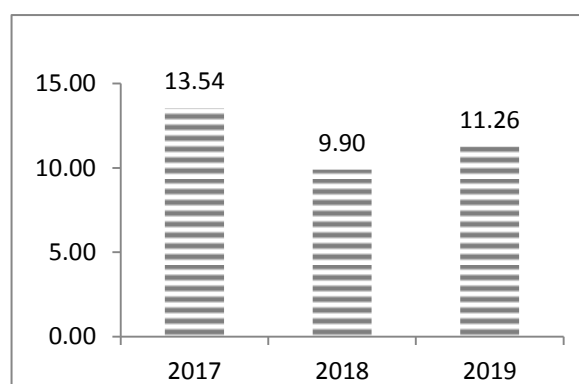
Thrips: On overall Punjab basis 6.97% above ETL spots have been observed as compared to 6.81% in last week and same week of last year i.e. 8.38%. And 85.15% below ETL spots have been observed during current week as compared to 87.23% in last week and 88.30% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of thrips

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	HASILPUR	25.0	22	CHOBARA	5.1
2	RAJAN PUR	25.0	23	A.P.EAST	5.0
3	DUYAPUR	21.4	24	FORT ABBAS	5.0
4	JALAL PUR P.W	20.9	25	MINCHAN ABAD	5.0
5	SHUJABAD	20.5	26	LIAQUAT PUR	5.0
6	MULTAN	17.9	27	TAUNSA	4.9
7	ROJHAN	17.4	28	JAHANIAN	4.5
8	KEHROR PACCA	17.2	29	JAM PUR	4.4
9	BAHAWAL PUR	16.4	30	MIAN CHANNU	4.1
10	LODHRAN	14.5	31	SUMUNDRI	4.0
11	HAROOON ABAD	12.2	32	D.G.KHAN	3.6
12	KHAN PUR	12.1	33	VEHARI	3.4
13	ALI PUR	10.6	34	KOT ADDU	3.0
14	KOT CHUTTA	10.5	35	KABIR WALA	3.0
15	MAILSI	9.8	36	A.P.SIAL	2.0
16	SADIQ ABAD	9.4	37	YAZMAN	2.0
17	BAHAWAL NAGAR	8.0	38	KHANEWAL	1.9
18	R.Y.KHAN	7.8	39	GOJRA	1.6
19	PAK PATTAN	5.9	40	T.T.SINGH	1.4
20	ARIF WALA	5.7	41	KAROR L.E.	1.3
21	CHISHTIAN	5.5	42	TANDLIANWALA	0.8

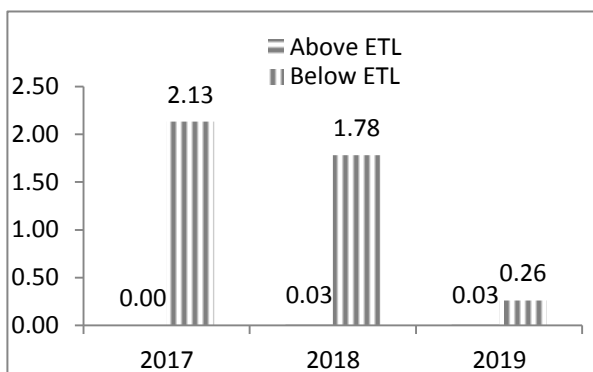
Mealy Bug: On overall Punjab basis 11.26% spots (all considered above ETL) of Mealy Bug have been observed as compared to 9.49% in last week and 9.90% spots during the same corresponding period of the last year.



Tehsil wise percentage of hot spots of mealy bug

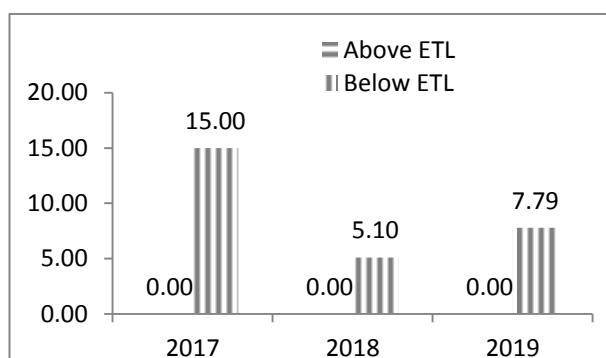
S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	HASILPUR	67.9	24	DUYAPUR	8.3
2	RAJAN PUR	42.5	25	BURE WALA	7.8
3	BAHAWAL PUR	39.7	26	LAYYAH	7.7
4	R.Y.KHAN	35.3	27	CHOBARA	7.7
5	JALAL PUR P.W	30.2	28	JAHANIAN	7.6
6	CHISHTIAN	27.3	29	LIAQUAT PUR	7.5
7	MULTAN	25.0	30	LODHRAN	7.2
8	KHAN PUR	22.7	31	SAHIWAL	6.9
9	A.P.EAST	21.7	32	KAROR L.E.	6.4
10	SHUJABAD	17.8	33	HAROON ABAD	6.1
11	JAM PUR	17.6	34	MUZUFAR GARH	5.1
12	JATOI	16.0	35	VEHARI	5.1
13	T.T.SINGH	15.9	36	MINCHAN ABAD	5.0
14	MAILSI	15.7	37	GOJRA	4.7
15	KOT CHUTTA	14.0	38	TANDLIANWALA	4.2
16	SADIQ ABAD	12.5	39	MIAN CHANNU	4.1
17	MIANWALI	12.5	40	JHANG	4.0
18	ROJHAN	11.6	41	YAZMAN	3.9
19	KOT ADDU	10.6	42	BHAKKAR	2.6
20	ALI PUR	10.6	43	KEHROR PACCA	2.3
21	KABIR WALA	10.4	44	SHORKOT	2.2
22	BAHAWAL NAGAR	10.0	45	KHANEWAL	1.9
23	CHICHA WATNI	9.7			

Mites: On overall Punjab basis 0.03% 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 0.26% below ETL spots have been observed during current week as compared to 0.67% in last week and 1.78% during the same corresponding period of last year.



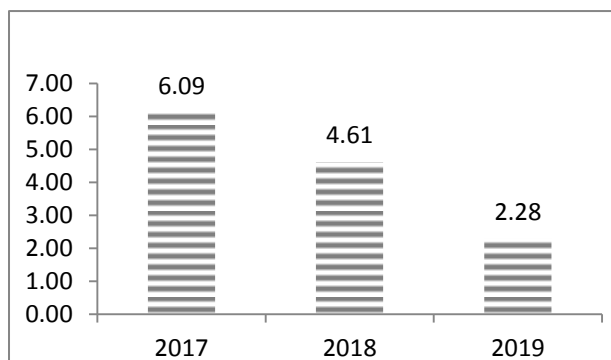
S. NO.	TEHSIL	%AGE
1	BAHAWAL PUR	1.4

Dusky Cotton Bug: 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 7.09% below ETL spots have been observed during current week as compared to 7.30% in last week and 5.13% during the same



corresponding period of last year.

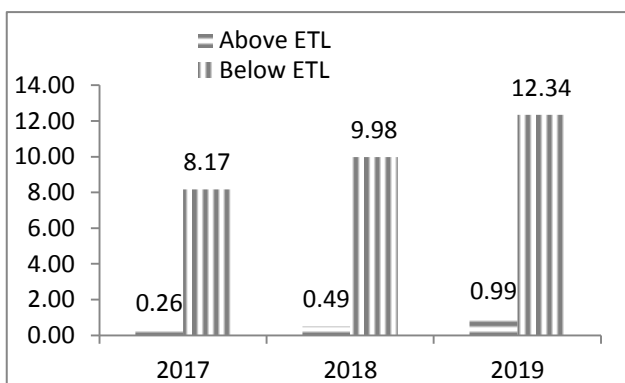
Armyworm: On overall Punjab basis 2.28% spots (all considered above ETL) of Armyworm have been observed as compared to 1.64% in last week and 4.61%spots during the same corresponding period of the last year.



Tehsil wise percentage of hot spots of army worm

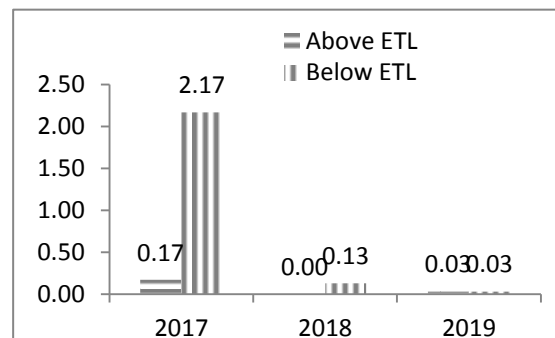
S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	RENALA KHURD	13.3	19	MULTAN	2.4
2	HASILPUR	12.5	20	JATOI	2.0
3	DEPALPUR	11.1	21	JHANG	2.0
4	R.Y.KHAN	9.8	22	A.P.SIAL	2.0
5	OKARA	9.1	23	KHANEWAL	1.9
6	KOT ADDU	9.1	24	D.G.KHAN	1.8
7	CHISHTIAN	7.3	25	KOT CHUTTA	1.8
8	JAM PUR	5.9	26	SADIQ ABAD	1.6
9	CHICHA WATNI	4.8	27	JAHANIAN	1.5
10	JALAL PUR P.W	4.7	28	KABIR WALA	1.5
11	KHAN PUR	4.5	29	ROJHAN	1.4
12	ALI PUR	4.5	30	MIAN CHANNU	1.4
13	SHUJABAD	4.1	31	BAHAWAL PUR	1.4
14	KAROR L.E.	3.8	32	CHOBARA	1.3
15	LIAQUAT PUR	3.8	33	TAUNSA	1.2
16	LODHRAN	3.6	34	KEHROR PACCA	1.1
17	A.P.EAST	3.3	35	TANDLIANWALA	0.8
18	RAJAN PUR	2.5			

Pink Boll Worm: On overall Punjab basis 0.99% above ETL spots have been observed as compared to 0.78% in last week and 0.49% same corresponding period of the last year. And 12.34% below ETL spots have been observed as compared to 11.58% in last week and 9.98% during same corresponding period of last year.



S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	OKARA	18.2	10	BAHAWAL PUR	2.7
2	DEPALPUR	7.4	11	BURE WALA	2.0
3	SAHIWAL	5.6	12	CHISHTIAN	1.8
4	HASILPUR	5.4	13	VEHARI	1.7
5	ALI PUR	4.5	14	JAM PUR	1.5
6	MIAN CHANNU	4.1	15	T.T.SINGH	1.4
7	BAHAWAL NAGAR	4.0	16	PEER MEHAL	1.4
8	CHICHA WATNI	3.2	17	MULTAN	1.2
9	SHUJABAD	2.7			

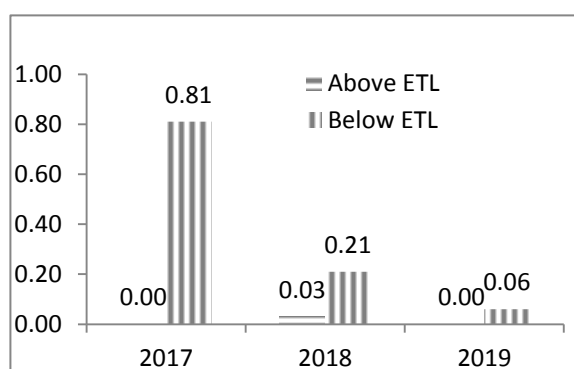
American Bollworm: On overall Punjab basis 0.03% above ETL spots have been observed as compared to 0.00% in last week and 0.00% during same corresponding period of last year. And 0.03% below ETL spots have been observed as compared to 0.15% in last week and 0.13% during same corresponding period of last year.



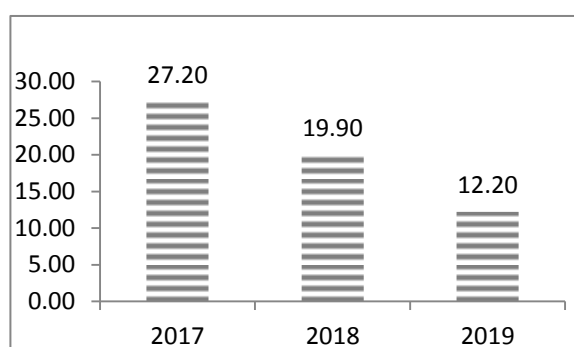
Tehsil wise percentage of hot spots of American boll worm

S. NO.	TEHSIL	%AGE
1	JAM PUR	1.5

Spotted Bollworm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.04% in last week and 0.03% during same corresponding period of last year & 0.06% below ETL spots have been observed as compared to 0.11% in last week and 0.21% during same corresponding period of last year.



CLCuV: On overall Punjab basis 12.20% spots (all considered above ETL) of CLCV have been observed as compared to 8.38% in last week and 19.93% during the same corresponding period of the last year.



Tehsil wise percentage of hot spots of cotton leaf curl virus

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	JALAL PUR P.W	62.8	22	LODHRAN	10.8
2	MULTAN	60.7	23	JAHANIAN	10.6
3	KOT ADDU	59.1	24	GOJRA	9.4
4	SHUJABAD	43.8	25	ALI PUR	7.6
5	JATOI	38.0	26	MIANWALI	6.3
6	KABIR WALA	32.8358209	27	MAILSI	5.9
7	VEHARI	28.8	28	SAHIWAL	5.6
8	BURE WALA	25.5	29	CHISHTIAN	5.5

9	MUZUFAR GARH	23.1	30	BHAKKAR	5.3
10	KHAN PUR	21.2	31	LAYYAH	5.1
11	LIAQUAT PUR	20.0	32	FORT ABBAS	5.0
12	HASILPUR	19.6	33	RAJAN PUR	5.0
13	R.Y.KHAN	19.6	34	SHORKOT	4.4
14	BAHAWAL PUR	17.8	35	A.P.SIAL	4.0
15	SADIQ ABAD	17.2	36	KAROR L.E.	3.8
16	ARIF WALA	17.1	37	DUYAPUR	2.4
17	KEHROR PACCA	16.1	38	ROJHAN	1.4
18	JAM PUR	14.7	39	T.T.SINGH	1.4
19	KHANEWAL	13.2	40	CHOBARA	1.3
20	MIAN CHANNU	12.3	41	TAUNSA	1.2
21	PAK PATTAN	11.8	42	TANDLIANWALA	0.8

FORECAST FOR THE NEXT WEEK

Meteorological data of the current week 2019-2018

Districts	2019				2018			
	Temperature		R.H%	Rainfall (mm)	Temperature °C		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	34.50	28.80	75.20	25.00	35.00	29.10	71.40	0.00
Khanewal	34.86	26.71	78.14	19.00	38.60	28.70	56.00	0.00
Vehari	32.20	27.60	75.40	27.00	36.10	30.10	50.00	0.00
Lodhran	36.60	27.00	67.60	10.00	35.30	27.60	63.20	4.00
Sahiwal	36.00	28.00	70.00	3.00	35.60	27.40	64.40	0.00
Pakpattan	33.45	27.18	68.00	32.00	32.36	26.09	69.00	0.00
Okara	37.00	30.20	72.00	4.00	38.00	28.50	79.00	0.00
Bahawalpur	37.63	28.78	63.31	30.70	36.79	27.04	64.36	41.60
Bahawalnagar	40.88	27.25	54.00	0.50	38.69	28.00	58.06	0.00
R.Y.Khan	41.00	29.75	74.50	0.00	39.75	27.50	77.50	0.00
D.G.Khan	37.14	28.86	68.86	18.00	40.43	26.86	51.64	0.00
M.Garh	35.17	30.40	70.35	13.50	37.08	30.02	71.60	4.00
Rajanpur	39.4	29.18	65.60	16.00	39.16	28.24	66.60	44.24
Layyah	35.80	26.50	46.00	35.50	41.00	29.90	42.40	0.00
TOT/AVG	36.54	28.30	67.78	234.20	37.42	28.22	63.23	93.84

Weather forecast for next 7 day in cotton zone

Division	Dated	16/8	17/8	19/8	20/8	21/8	22/8	23/8
Multan	Max.Temp.	34	36	36	38	41	40	40
	Min.Temp.	27	27	28	30	29	29	31
	Humidity %	59	49	46	36	25	10	12
Sahiwal	Max.Temp.	33	34	37	39	40	39	38
	Min.Temp.	27	25	25	26	26	28	29
	Humidity %	59	49	40	34	30	13	14
Bahawalpur	Max.Temp.	34	36	37	39	41	40	41
	Min.Temp.	27	28	28	28	28	29	27
	Humidity %	54	47	41	35	26	14	13
D.G. Khan	Max.Temp.	34	38	37	40	43	40	39
	Min.Temp.	28	28	29	29	31	30	30
	Humidity %	57	43	42	32	23	8	12
Average Cotton Region	Max.Temp.	38.00						
	Min.Temp.	28.11						
	Humidity %	32.96						

Source: timeanddate.com

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain moderate to hot and temperature may increase than previous week with chances of precipitation.

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. 36.54°C, Min. 28.30°C with R.humidity67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%. Keeping in view the temperature for current week and weather forecast of next week, it is predicted that population of this pest will increase during the coming week as the temperature remain favorable for the development of this pest.

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. 36.54 °C, Min. 28.30°C with R. humidity 67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%. Keeping in view above all, it is predicted that population of this pest will decrease during the coming week as the

temperature and rains will remain conducive for its rapid growth. The reason for more attack in the same week of last year is due to the timely sowing of crop.

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. 36.54 °C, Min. 28.30°C with R. humidity 67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%. 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. 36.54 °C, Min. 28.30°C with R. humidity 67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%. Keeping in view above all, it is predicted that population of this pest will 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. 36.54 °C, Min. 28.30°C with R. humidity 67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%. Keeping in view above all, it is predicted that population of this pest will remain on lower ebb during the coming week pertaining to hot and humid weather and rains.

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. 36.54 °C, Min. 28.30°C with R. humidity 67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

Pink Bollworm: Although PBW moths catches have been observed in pheromone installed traps in various cotton districts as given in the Table 13, Pest situation reveals that its population on (above ETL) has increased as compared to last week and same week of last year on cotton crop. This pest flourishes best at moderate climate with optimum temperature 32-40°C with relative humidity above 60-80%.

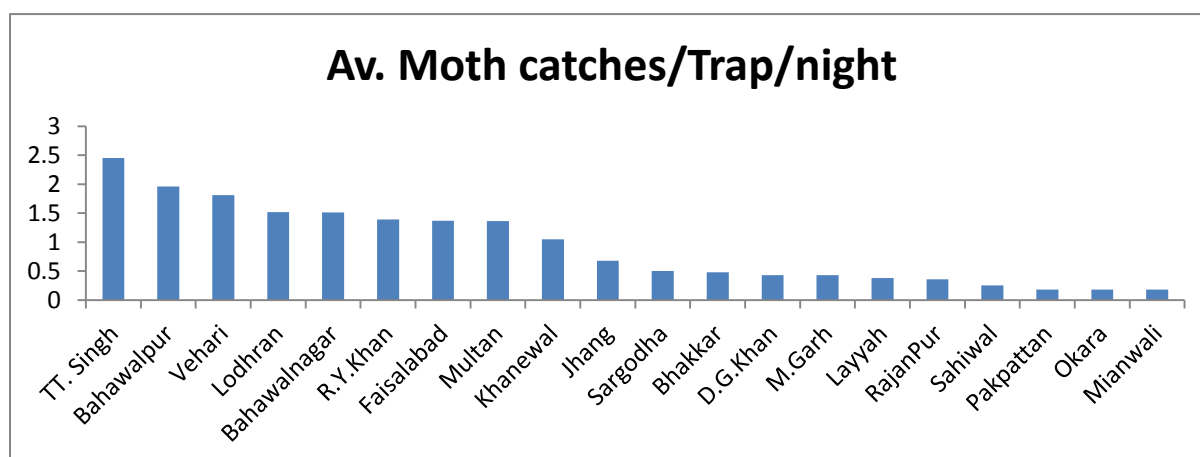
Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (Max temp. 36.54 °C, Min. 28.30°C with R. humidity 67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%.It is predicted that population of this pest will increase on cotton during the coming week as expected temperature range is favorable for the development of this pest. Moreover its increase in population than last year is due to:

- a. There was ban by imposing section 144 on early cotton last year. This practice was not exercised this year so as to promote grow more cotton campaign.
- b. The early sown cotton provide host for the suicidal generation of PBW moths and also become nursery of this pest and potential danger for the seasonal cotton.

Moth Catches in Pheromone Traps during 2nd Week of August, 2019

Moth Catches in Pheromone Traps During 2 nd Week of August, 2019			
District	Traps Installed	Av. Moth catches/Trap/night	Av. No. of Moths other than PBW/ Trap/Night
Multan	6	1.36	0.0
Khanewal	8	1.05	0.00
Vehari	6	1.81	0.00
Lodhran	6	1.52	0.38
Sahiwal	4	0.25	0.00
Pakpattan	4	0.18	0.00
Okara	4	0.18	0.00
Bahawalpur	8	1.96	0.07
Bahawalnagar	10	1.51	0.17
R.Y.Khan	8	1.39	0.21
D.G.Khan	4	0.43	0.00
M.Garh	8	0.43	0.00
RajanPur	6	0.36	0.00
Layyah	6	0.38	0.00
Sargodha	2	0.50	0.00
Mianwali	4	0.18	0.00
Bhakkar	8	0.48	0.00
Faisalabad	5	1.37	0.00
TT. Singh	6	2.45	0.00
Jhang	4	0.68	0.00

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. 36.54 °C, Min. 28.30°C with R. humidity 67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%. Due to cultivation of more BT varieties, it is predicted that population of this pest will remain on low ebb on cotton crop in the coming week.

Moth catches on light traps during 2nd week of August, 2019

Moth Catches on Light Traps/Trap/week During 2nd Week of August, 2019				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	0	0	9
Khanewal	4	0	0	21
Vehari	3	3	0	14
Lodhran	3	4	3	6
Sahiwal	2	3	0	6
Pakpattan	2	2	0	5
Okara	3	4	0	10
Bahawalpur	4	2	1	8
Bahawalnagar	5	7	2	11
R.Y.Khan	4	6	4	7
D.G.Khan	3	0	0	0
M.Garh	4	0	0	8
RajanPur	3	0	0	0
Layyah	3	0	0	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. 36.54 °C, Min. 28.30°C with R. humidity 67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%. Due to cultivation of more BT varieties, it is predicted that above ETL population of this pest will remain minimum 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. The current weather conditions on overall Punjab basis (temp. Max36.54 °C, Min. 28.30°C with R. humidity 67.78%) & forecast for the next week temp. Max. 38.00°C, Min. 28.11°C with humidity 32.96%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

CLCuV:

CLCUV spots increased from last week and decreased from same week of last year on cotton crop. The incidence of this disease is expected to increase on cotton crop in next week due to increase in its potential vector i.e. whitefly.

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;
 - Spirotetramate 125 ml+ Biopower 250 ml per Acre
 - Pyriproxifen 400 ml per Acre
 - Buprofezin 600 gm per Acre
 - Flonicamid 80 gm per Acre
 - Diafenthuron 200 ml per Acre

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;
 - Flonicamid 60 gm per Acre
 - Fipronil+Imidacloprid 60 gm per Acre
 - Nitenpiram 200ml per Acre

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;
 - Fipronil+Imidacloprid 60 gm per Acre
 - Chlorfenpyr 125 ml per Acre

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 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;
 - Spintoram 120SC @ 80 ml per Acre
 - Chlorantraniliprole@50ml per Acre
 - Triazophos@1000ml per Acre
 - Bifenthrin @250ml per Acre
 - Gammacyhalothrin@100ml per Acre
 - Lambdacyhalothrin@333ml per Acre

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;
 - Imidacloprid 250gm per Acre
 - Acetamaprid 125 gm per Acre
 - Chlorpyrifos 800-1000ml per Acre

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;
 - Leufenuron 200ml per Acre
 - Flubendamide 50ml per Acre

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	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	On appearance
Aphid	Spray on visible damage on top terminals.
Dusky Cotton bug	10 per leaf/bud