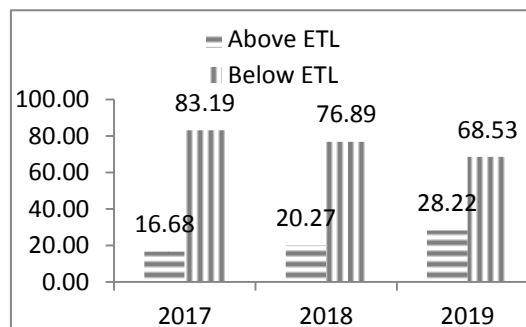


PEST SITUATION ON COTTON CROP IN PUNJAB DURING 4TH WEEK OF SEPTEMBER, 2019

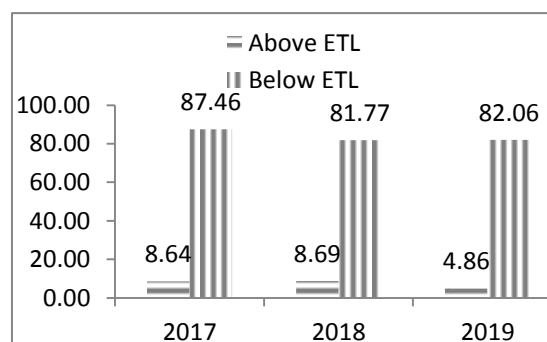
Whitefly: On overall Punjab basis 28.22% above ETL spots have been observed during current week as compared to 25.04% in last week and 21.73% during the same corresponding period of last year. And 68.53% below ETL spots have been observed during current week as compared to 71.10% in last week and 76.89% 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	JAM PUR	92.0	32	KHANEWAL	18.4
2	RAJAN PUR	88.6	33	LIAQUAT PUR	18.3
3	JALAL PUR P.W	77.5	34	MUZUFAR GARH	17.1
4	KOT CHUTTA	72.9	35	MINCHAN ABAD	16.3
5	SHUJABAD	70.0	36	JAHANIAN	15.4
6	ROJHAN	67.2	37	MANKERA	14.3
7	BAHAWAL PUR	63.0	38	KALLOR KOT	13.5
8	MULTAN	55.3	39	BURE WALA	12.5
9	D.G.KHAN	54.4	40	ISA KHEL	12.2
10	HASILPUR	46.6	41	A.P SIAL	12.0
11	MIAN CHANNU	46.2	42	ARIF WALA	11.8
12	ALI PUR	40.0	43	LAYYAH	11.3
13	A.P.EAST	39.3	44	MIANWALI	10.9
14	LODHRAN	38.5	45	PIPLAN	10.9
15	FORT ABBAS	32.5	46	KAROR L.E.	9.4
16	R.Y.KHAN	31.6	47	JARANWALA	9.1
17	CHISHTIAN	30.8	48	DEPALPUR	8.0
18	KOT ADDU	30.4	49	18-HAZARI	7.9
19	TAUNSA	30.0	50	VEHARI	7.5
20	KHAN PUR	29.5	51	BHAKKAR	7.4
21	DUYAPUR	28.8	52	PIR MAHAL	6.5
22	JATOI	27.7	53	JHANG	5.7
23	KABIR WALA	27.1	54	TANDLIANWALA	5.3
24	YAZMAN	25.6	55	SUMUNDRI	5.3
25	MAILSI	25.6	56	SHORKOT	5.0
26	KEHROR PACCA	25.0	57	RENALA KHURD	3.3
27	SADIQ ABAD	23.9	58	OKARA	2.5
28	HAROOON ABAD	22.5	59	SAHIWAL	1.9
29	PAK PATTAN	20.0	60	GOJRA	1.7
30	CHOBARA	20.0	61	T.T.SINGH	1.6
31	BAHAWAL NAGAR	19.5	62	CHICHA WATNI	1.3

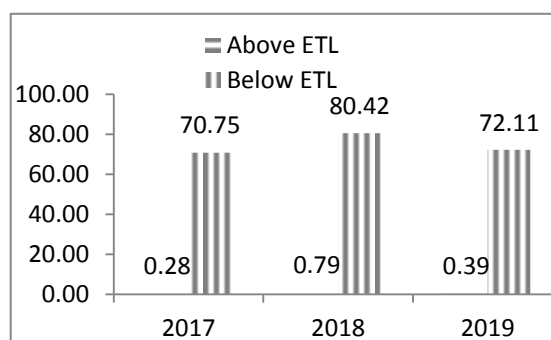
Jassid: On overall Punjab basis 4.86% above ETL spots has been observed as compared to 5.69% in last week and same week of last year 8.69%. And 82.06% below ETL spots have been observed during current week as compared to 83.42% in last week and 81.77% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of jassid

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	CHISHTIAN	21.2	22	CHOBARA	6.7
2	PAK PATTAN	20.0	23	KHAN PUR	6.6
3	BAHAWAL NAGAR	19.5	24	MIANWALI	5.5
4	HAROON ABAD	15.0	25	PIPLAN	5.5
5	SILLANWALI/ SAHIWAL	14.3	26	SUMUNDRI	5.3
6	FORT ABBAS	12.5	27	GOJRA	5.2
7	HASILPUR	12.1	28	SHUJABAD	5.0
8	LIAQUAT PUR	11.7	29	BURE WALA	5.0
9	MINCHAN ABAD	11.6	30	OKARA	5.0
10	JHANG	11.4	31	SHORKOT	5.0
11	T.T.SINGH	11.3	32	ISA KHEL	4.9
12	CHICHA WATNI	10.0	33	SADIQ ABAD	4.3
13	LAYYAH	9.4	34	TAUNSA	4.0
14	KAROR L.E.	9.4	35	A.P SIAL	4.0
15	JARANWALA	9.1	36	BAHAWAL PUR	3.7
16	ARIF WALA	8.8	37	RENALA KHURD	3.3
17	PIR MAHAL	8.7	38	18-HAZARI	2.6
18	DEPALPUR	8.0	39	VEHARI	2.5
19	SAHIWAL	7.5	40	KABIR WALA	2.1
20	R.Y.KHAN	7.0	41	BHAKKAR	1.9
21	MAILSI	7.0	42	TANDLIANWALA	1.3

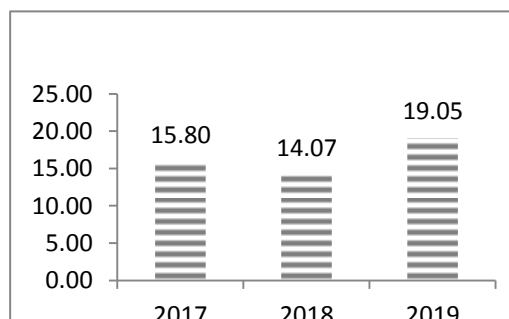
Thrips: On overall Punjab basis 0.39% above ETL spots have been observed as compared to 1.20% in last week and same week of last year i.e. 0.79%. And 72.11% below ETL spots have been observed during current week as compared to 85.64% in last week and 80.42% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of thrips

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	TAUNSA	14.0	7	MANKERA	4.8
2	HAROON ABAD	5.0	8	LIAQUAT PUR	3.3

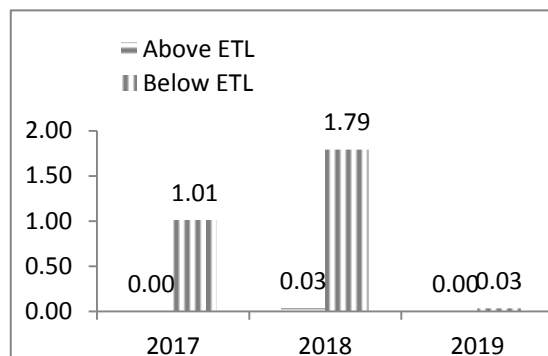
Mealy Bug: On overall Punjab basis 19.05% spots (all considered above ETL) of Mealy Bug have been observed as compared to 19.39% in last week and 14.07% spots during the same corresponding period of the last year.



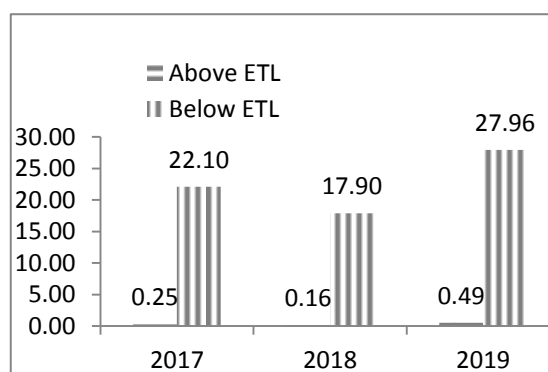
Tehsil wise percentage of hot spots of mealy bug

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	HASILPUR	72.4	30	BAHAWAL NAGAR	14.6
2	BAHAWAL PUR	61.1	31	MAILSI	14.0
3	MULTAN	55.3	32	CHOBARA	13.3
4	SHUJABAD	40.0	33	LAYYAH	13.2
5	ALI PUR	38.0	34	KHANEWAL	12.8
6	R.Y.KHAN	36.8	35	JAHANIAN	10.0
7	LODHRAN	36.5	36	BURE WALA	10.0
8	ROJHAN	35.9	37	PAK PATTAN	9.8
9	RAJAN PUR	35.4	38	MUZUFAR GARH	9.8
10	CHISHTIAN	34.6	39	ISA KHEL	9.5
11	KHAN PUR	34.4	40	MANKERA	9.3
12	KEHROR PACCA	30.4	41	MINCHAN ABAD	9.1
13	JALAL PUR P.W	30.0	42	MIANWALI	8.8
14	VEHARI	27.5	43	ARIF WALA	7.3
15	FORT ABBAS	27.5	44	PIPLAN	6.9
16	A.P.EAST	26.8	45	GOJRA	6.5
17	MIAN CHANNU	25.6	46	T.T.SINGH	5.7
18	DUYAPUR	25.0	47	JHANG	5.7
19	KOT ADDU	25.0	48	SAHIWAL	5.3
20	TAUNSA	24.0	49	SUMUNDRI	5.0
21	KABIR WALA	22.9	50	SHORKOT	4.7
22	HAROON ABAD	22.5	51	KAROR L.E.	4.3
23	JAM PUR	20.0	52	PIR MAHAL	4.0
24	KOT CHUTTA	19.6	53	DEPALPUR	3.3
25	SADIQ ABAD	19.6	54	RENALA KHURD	2.5
26	D.G.KHAN	19.3	55	CHICHA WATNI	2.5
27	YAZMAN	17.9	56	OKARA	1.9
28	JATOI	17.0	57	BHAKKAR	1.3
29	LIAQUAT PUR	16.7	58	TANLIANWALA	1.3

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 0.01% during the same corresponding period of last year. And 0.03% below ETL spots have been observed during current week as compared to 0.44% in last week and 1.79% during the same corresponding period of last year.



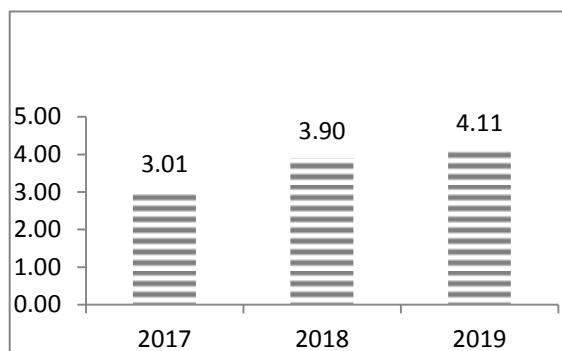
Dusky Cotton Bug: On overall Punjab basis 0.49% above ETL spots have been observed during current week as compared to 0.04% in last week and 0.16% during the same corresponding period of last year. And 27.96% below ETL spots have been observed during current week as compared to 24.53% in last week and 17.95% 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	HASILPUR	13.8	2	BAHAWAL PUR	13.0

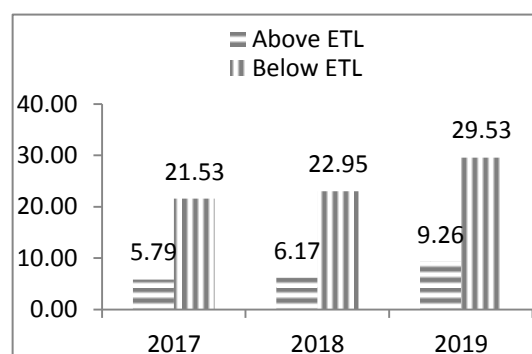
Armyworm: On overall Punjab basis 4.11% spots (all considered above ETL) of Armyworm have been observed as compared to 4.77% in last week and 3.90% spots during the same corresponding period of the last year.



Tehsil wise percentage of hot spots of army worm

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	BAHAWAL PUR	27.8	18	KHANEWAL	5.3
2	MULTAN	21.1	19	LIAQUAT PUR	5.0
3	MIAN CHANNU	15.4	20	MUZUFAR GARH	4.9
4	KEHROR PACCA	14.3	21	KAROR L.E.	4.7
5	DUYAPUR	13.5	22	MINCHAN ABAD	4.7
6	KHAN PUR	13.1	23	CHISHTIAN	3.8
7	KOT ADDU	12.5	24	HASILPUR	3.4
8	R.Y.KHAN	12.3	25	GOJRA	3.4
9	BAHAWAL NAGAR	12.2	26	VEHARI	2.5
10	LODHRAN	9.6	27	CHICHA WATNI	2.5
11	SHUJABAD	7.5	28	SHORKOT	2.5
12	JALAL PUR P.W	7.5	29	ISA KHEL	2.4
13	SADIQ ABAD	6.5	30	MAILSI	2.3
14	T.T.SINGH	6.5	31	PIR MAHAL	2.2
15	ALI PUR	6.0	32	SAHIWAL	1.9
16	JHANG	5.7	33	MIANWALI	1.8
17	PIPLAN	5.5	34	A.P.EAST	1.8

Pink Boll Worm: On overall Punjab basis 9.26% above ETL spots have been observed as compared to 7.76% in last week and 6.17% same corresponding period of the last year. And 29.53% below ETL spots have been observed as compared to 27.73% in last week and 22.95% during same corresponding period of last year.

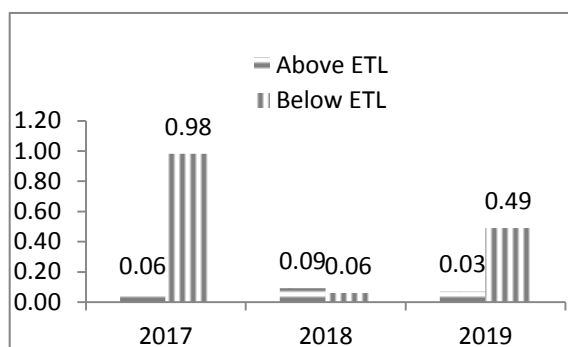


Tehsil wise percentage of hot spots of army worm

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	MIAN CHANNU	43.6	27	LODHRAN	7.7
2	BAHAWAL PUR	35.2	28	FORT ABBAS	7.5
3	VEHARI	35.0	29	BAHAWAL NAGAR	7.3
4	CHISHTIAN	28.8	30	ISA KHEL	7.3
5	KABIR WALA	22.9	31	MIANWALI	7.3
6	BURE WALA	22.5	32	PIPLAN	7.3
7	SHUJABAD	20.0	33	KAROR L.E.	6.3
8	SADIQ ABAD	19.6	34	ARIF WALA	5.9

9	R.Y.KHAN	19.3	35	JHANG	5.7
10	KHANEWAL	18.4	36	A.P.EAST	5.4
11	JAHANIAN	17.9	37	KOT ADDU	5.4
12	HASILPUR	17.2	38	TANDLIANWALA	5.3
13	ALI PUR	16.0	39	JALAL PUR P.W	5.0
14	LIAQUAT PUR	15.0	40	MUZUFAR GARH	4.9
15	KEHROR PACCA	14.3	41	T.T.SINGH	4.8
16	MAILSI	14.0	42	JATOI	4.3
17	CHICHA WATNI	13.8	43	DEPALPUR	4.0
18	DUYAPUR	13.5	44	GOJRA	3.4
19	PAK PATTAN	13.3	45	RENALA KHURD	3.3
20	SAHIWAL	13.2	46	18-HAZARI	2.6
21	KHAN PUR	13.1	47	OKARA	2.5
22	PIR MAHAL	10.9	48	MINCHAN ABAD	2.3
23	MANKERA	9.5	49	CHOBARA	2.2
24	BHAKKAR	9.3	50	LAYYAH	1.9
25	KALLOR KOT	8.1	51	YAZMAN	1.3
26	MULTAN	7.9	52	RAJAN PUR	1.3

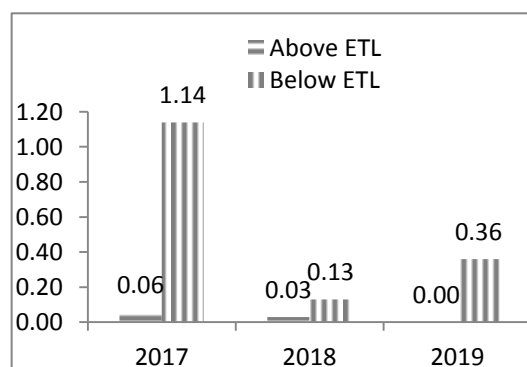
American Bollworm: On overall Punjab basis 0.03% above ETL spots have been observed as compared to 0.11% in last week and 0.09% during same corresponding period of last year. And 0.49% below ETL spots have been observed as compared to 0.36% in last week and 0.06% during same corresponding period of last year.



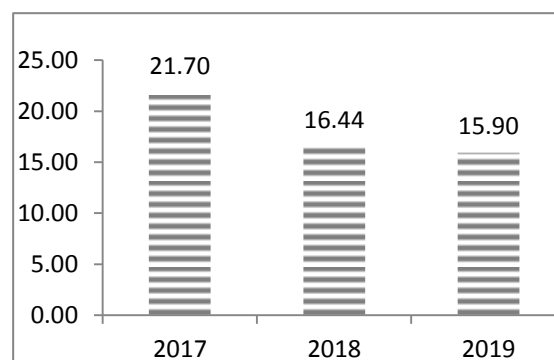
Tehsil wise percentage of hot spots of American boll worm

S. NO.	TEHSIL	%AGE	S.NO.	TEHSIL	%AGE
1	ISA KHEL	2.4	2	BHAKKAR	1.9

Spotted Bollworm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.00% in last week and 0.03% during same corresponding period of last year & 0.36% below ETL spots have been observed as compared to 0.36% in last week and 0.13% during same corresponding period of last year.



CLCuV: On overall Punjab basis 15.90% spots (all considered above ETL) of CLCV have been observed as compared to 19.13% in last week and 16.44% 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	KABIR WALA	79.2	26	YAZMAN	12.8
2	MIAN CHANNU	66.7	27	JALAL PUR P.W	12.5
3	VEHARI	65.0	28	A.P.EAST	12.5
4	KOT ADDU	58.9	29	HAROON ABAD	12.5
5	KHANEWAL	55.3	30	FORT ABBAS	12.5
6	SHUJABAD	45.0	31	BAHAWAL NAGAR	12.2
7	MULTAN	44.7	32	DEPALPUR	12.0
8	KEHROR PACCA	37.5	33	CHISHTIAN	11.5
9	MAILSI	34.9	34	PIR MAHAL	10.9
10	HASILPUR	31.0	35	GOJRA	10.3
11	LODHRAN	30.8	36	PAK PATTAN	10.0
12	MUZUFAR GARH	29.3	37	OKARA	10.0
13	JAHANIAN	28.2	38	RENALA KHURD	10.0
14	KHAN PUR	23.0	39	DUYAPUR	9.6
15	BURE WALA	22.5	40	KAROR L.E.	9.4
16	BAHAWAL PUR	22.2	41	BHAKKAR	9.3
17	SADIQ ABAD	21.7	42	TAUNSA	8.0
18	ALI PUR	20.0	43	JATOI	6.4
19	R.Y.KHAN	19.3	44	CHICHA WATNI	6.3
20	CHOBARA	17.8	45	T.T.SINGH	4.8
21	ARIF WALA	17.6	46	D.G.KHAN	3.5
22	LIAQUAT PUR	16.7	47	KOT CHUTTA	2.8
23	MANKERA	14.3	48	JAM PUR	2.7
24	KALLOR KOT	13.5	49	MINCHAN ABAD	2.3
25	LAYYAH	13.2	50	MIANWALI	1.8

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	34.86	27.14	77.20	0.00	36.25	23.75	78.50	0.00
Khanewal	35.57	27.29	66.43	0.00	37.26	24.96	62.86	0.00
Vehari	34.84	27.43	70.50	0.00	32.00	24.67	48.00	0.00
Lodhran	35.43	28.14	68.93	0.00	36.86	24.29	47.21	0.00
Sahiwal	35.13	24.87	70.83	0.00	34.17	21.10	65.00	0.00
Pakpattan	34.86	25.57	69.00	0.00	36.00	25.43	65.00	0.00
Okara	36.00	26.00	74.00	0.00	35.00	25.00	71.00	0.00
Bahawalpur	36.70	26.09	65.00	0.00	35.41	23.53	62.79	0.00
Bahawalnagar	37.00	25.50	64.14	0.00	35.79	24.43	60.57	0.00
R.Y.Khan	38.86	26.14	79.14	0.00	40.43	24.36	79.71	0.00
D.G.Khan	38.86	27.43	50.57	0.00	37.43	26.43	50.93	0.00
M.Garh	38.20	28.63	37.86	0.00	36.53	25.29	54.93	0.00
Rajanpur	38.76	29.42	65.40	0.00	38.64	26.32	50.30	0.00
Layyah	35.75	25.00	48.75	0.00	41.00	27.87	44.00	0.00
TOT/AVG	36.49	26.76	64.84	0.00	36.63	24.82	60.06	0.00

Weather forecast for next 7 day in cotton zone

Division	Dated	30/9	1/10	2/10	3/10	4/10	5/10	6/10
Multan	Max.Temp.	34	34	35	29	33	32	33
	Min.Temp.	24	26	24	23	23	22	24
	Humidity %	47	43	43	38	51	40	21
Sahiwal	Max.Temp.	34	34	36	36	30	32	33
	Min.Temp.	23	24	24	23	22	22	25
	Humidity %	44	43	37	36	50	45	17
Bahawalpur	Max.Temp.	34	35	37	35	31	31	31
	Min.Temp.	24	25	26	25	23	21	20
	Humidity %	45	42	39	43	47	46	24
D.G. Khan	Max.Temp.	35	35	36	37	31	34	31
	Min.Temp.	24	26	25	23	24	22	25
	Humidity %	43	41	40	33	49	37	23
Average Cotton Region	Max. Temp.	33.50						
	Min. Temp.	23.64						
	Humidity %	39.54						

Source: timeanddate.com

Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain moderate and temperature may slight decrease than previous week up to one degree Celsius.

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. 36.49°C, Min. 26.76°C with R. humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity 39.54%. 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 will 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. 36.49°C, Min. 26.76°C with R. humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity 39.54%. Keeping in view above all, it is predicted that population of this pest will decrease during the coming week. 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. 36.49°C, Min. 26.76°C with R. humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity 39.54%. Keeping in view above all, it is predicted that population of this pest will further 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. 36.49°C, Min. 26.76°C with R. humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity 39.54%. Keeping in view above all, it is predicted that population of this pest will further decrease 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. 36.49°C, Min. 26.76°C with R. humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity 39.54%. Keeping in view above all, it is predicted that population of this pest will remain on low 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. 36.49°C, Min. 26.76°C with R.

humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity 39.54%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

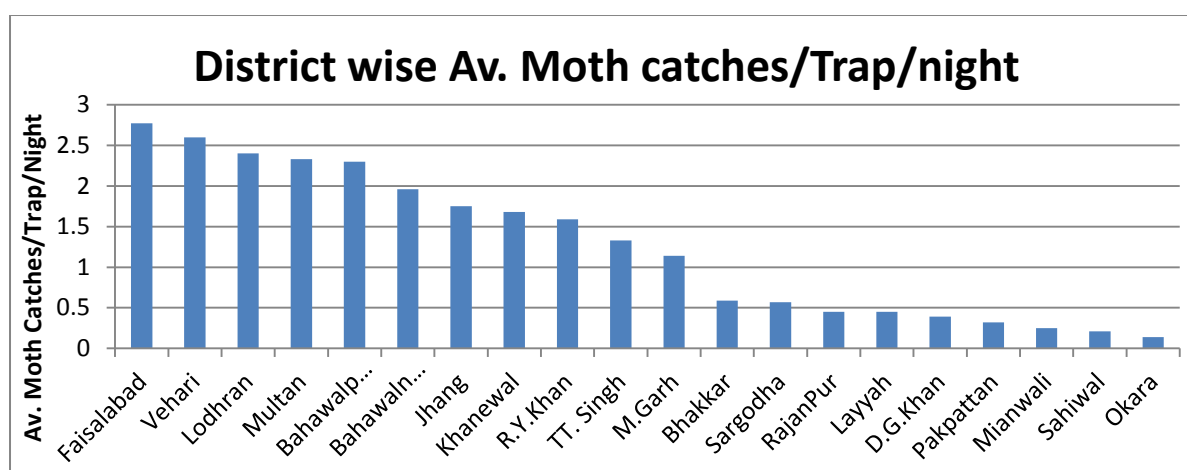
Pink Bollworm: This pest flourishes best at moderate climate with optimum temperature 32-40°C with relative humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (Max temp. 36.49°C, Min. 26.76°C with R. humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity 39.54%. 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 4th Week of September, 2019

Moth Catches in Pheromone Traps During 4 th Week of September, 2019			
District	Traps Installed	Av. Moth catches/Trap/night	Av. No. of Moths other than PBW/ Trap/Night
Multan	6	2.33	0.0
Khanewal	8	1.68	0.09
Vehari	6	2.60	0.12
Lodhran	6	2.40	0.50
Sahiwal	4	0.21	0.00
Pakpattan	4	0.32	0.00
Okara	4	0.14	0.00
Bahawalpur	8	2.30	0.07
Bahawalnagar	10	1.96	0.17
R.Y.Khan	8	1.59	0.39
D.G.Khan	4	0.39	0.00
M.Garh	8	1.14	0.00
RajanPur	6	0.45	0.00
Layyah	6	0.45	0.00
Sargodha	2	0.57	0.00
Mianwali	4	0.25	0.00
Bhakkar	8	0.59	0.00
Faisalabad	5	2.77	0.00
TT. Singh	6	1.33	0.00
Jhang	4	1.75	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. 36.49°C, Min. 26.76°C with R. humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity

39.54%. Due to cultivation of more BT varieties, it is predicted that population of this pest will remain on lower ebb on cotton crop in the coming week.

Moth catches on light traps during 4th week of September, 2019

Moth Catches on Light Traps/Trap/week During 4 th Week of September, 2019				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1	0	12
Khanewal	4	0	0	15
Vehari	3	0	0	6
Lodhran	3	5	4	11
Sahiwal	2	0	0	2
Pakpattan	2	0	0	4
Okara	3	0	0	2
Bahawalpur	4	4	4	7
Bahawalnagar	5	9	3	10
R.Y.Khan	4	7	7	16
D.G.Khan	3	0	0	0
M.Garh	4	4	0	17
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. 36.49°C, Min. 26.76°C with R. humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity 39.54%. Due to cultivation of more BT varieties, it is predicted that above ETL population of this pest will remain 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. The current weather conditions on overall Punjab basis (temp. Max 36.49°C, Min. 26.76°C with R. humidity 64.84%) & forecast for the next week temp. Max. 33.50°C, Min. 23.64°C with humidity 39.54%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

CLCuV: CLCUV spots decreased from last week and 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 Acr.

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	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