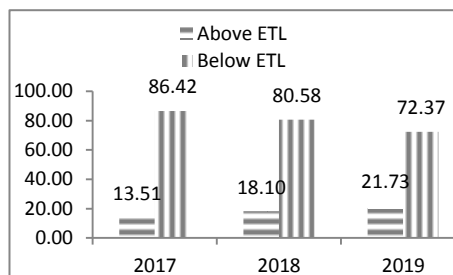


PEST SITUATION ON COTTON CROP IN PUNJAB DURING 1ST WEEK OF OCTOBER, 2019

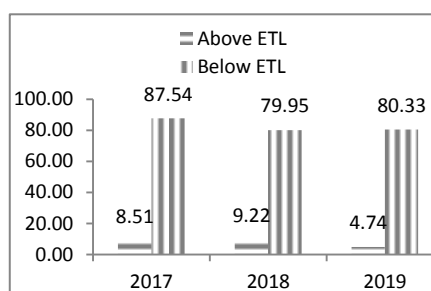
Whitefly: On overall Punjab basis 21.73% above ETL spots have been observed during current week as compared to 28.22% in last week and 18.10% during the same corresponding period of last year. And 72.37% below ETL spots have been observed during current week as compared 68.53% in last week and 80.58% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of whitefly

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	JAM PUR	87.9	31	BURE WALA	12.5
2	RAJAN PUR	71.0	32	JAHANIAN	10.0
3	HASILPUR	60.3	33	PIPLAN	10.0
4	ROJHAN	60.0	34	MAILSI	9.8
5	BAHAWAL PUR	59.4	35	FORT ABBAS	9.6
6	JALAL PUR P.W	50.0	36	MINCHAN ABAD	9.5
7	KOT CHUTTA	46.2	37	MIANWALI	8.6
8	SHUJABAD	45.2	38	CHOBARA	8.0
9	A.P.EAST	44.6	39	OKARA	7.7
10	MULTAN	42.6	40	VEHARI	7.5
11	R.Y.KHAN	39.6	41	MUZUFAR GARH	7.1
12	YAZMAN	38.7	42	ARIF WALA	6.9
13	KHAN PUR	29.8	43	KALLOR KOT	6.5
14	D.G.KHAN	27.5	44	LAYYAH	5.9
15	JATOI	26.4	45	PIR MAHAL	5.9
16	LIAQUAT PUR	26.0	46	BHAKKAR	5.9
17	SADIQ ABAD	26.0	47	A.P SIAL	5.6
18	DUYAPUR	23.1	48	MANKERA	5.3
19	MIAN CHANNU	21.6	49	JHANG	5.0
20	ALI PUR	20.0	50	CHICHA WATNI	4.7
21	LODHRAN	19.2	51	TANDLIANWALA	4.7
22	BAHAWAL NAGAR	18.2	52	KABIR WALA	4.2
23	KEHROR PACCA	17.9	53	PAK PATTAN	4.0
24	HAROON ABAD	17.5	54	KAROR L.E.	3.8
25	TAUNSA	16.7	55	SAHIWAL	3.6
26	KHANEWAL	16.2	56	RENALA KHURD	3.6
27	ISA KHEL	16.1	57	SUMUNDRI	3.4
28	DEPALPUR	15.4	58	18-HAZARI	3.3
29	KOT ADDU	14.1	59	SHORKOT	2.5
30	CHISHTIAN	14.0			

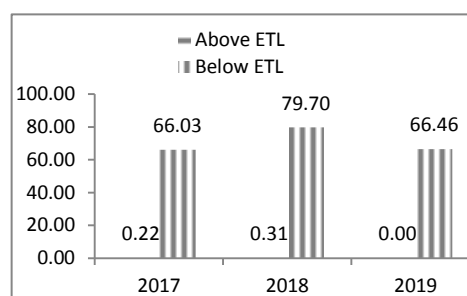
Jassid: On overall Punjab basis 4.74% above ETL spots has been observed as compared to 4.86% in last week and same week of last year 9.22%. And 80.33% below ETL spots have been observed during current week as compared to 82.06% in last week and 79.95% during the same corresponding period of last year.



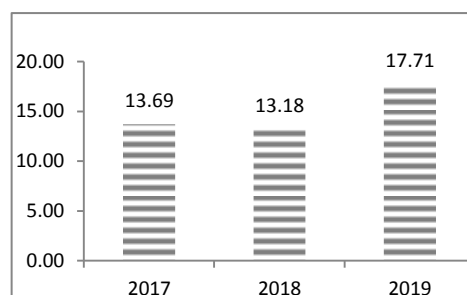
Tehsil wise percentage of hot spots of Jassid

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	FORT ABBAS	28.8	20	KAROR L.E.	5.7
2	BAHAWAL NAGAR	25.0	21	HAROON ABAD	5.0
3	CHISHTIAN	22.0	22	GOJRA	4.4
4	SILLANWALI/ SAHIWAL	20.0	23	OKARA	3.8
5	HASILPUR	17.2	24	RENALA KHURD	3.6
6	DEPALPUR	15.4	25	KHAN PUR	3.5
7	CHICHA WATNI	14.1	26	SUMUNDRI	3.4
8	R.Y.KHAN	12.5	27	18-HAZARI	3.3
9	MINCHAN ABAD	11.9	28	BHAKKAR	2.9
10	BAHAWAL PUR	10.9	29	MIANWALI	2.9
11	SAHIWAL	9.1	30	A.P SIAL	2.8
12	PAK PATTAN	8.0	31	BURE WALA	2.5
13	LIAQUAT PUR	8.0	32	JHANG	2.5
14	LAYYAH	7.8	33	SHORKOT	2.5
15	T.T.SINGH	7.5	34	MAILSI	2.4
16	ARIF WALA	6.9	35	MUZUFAR GARH	2.4
17	TANDLIANWALA	6.3	36	TAUNSA	2.1
18	PIPLAN	6.0	37	CHOBARA	2.0
19	PIR MAHAL	5.9	38	A.P.EAST	1.8

Thrips: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.39% in last week and same week of last year i.e. 0.31%. And 66.46% below ETL spots have been observed during current week as compared to 72.11% in last week and 79.70% during the same corresponding period of last year.



Mealy Bug: On overall Punjab basis 17.71% spots (all considered above ETL) of Mealy Bug have been observed as compared to 19.05% in last week and 13.18% spots during the same corresponding period of the last year.

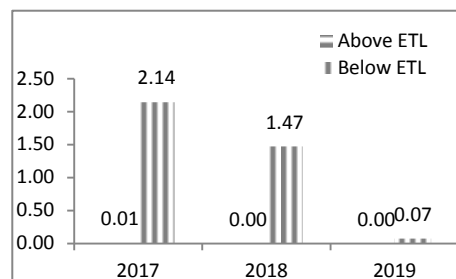


Tehsil wise percentage of hot spots of mealy bug

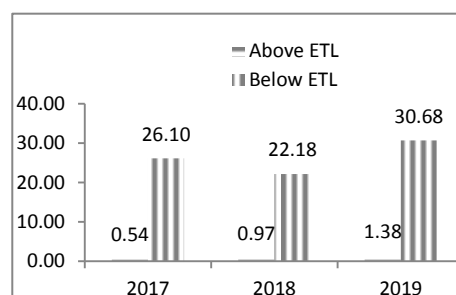
Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	HASILPUR	79.3	30	PIPLAN	12.0
2	BAHAWAL PUR	53.1	31	MUZUFAR GARH	11.9
3	RAJAN PUR	40.3	32	MANKERA	10.5
4	VEHARI	40.0	33	HAROON ABAD	10.0
5	ROJHAN	40.0	34	D.G.KHAN	10.0
6	KHAN PUR	38.6	35	LAYYAH	9.8
7	MAILSI	36.6	36	CHOBARA	8.0
8	MULTAN	36.2	37	DEPALPUR	7.7
9	A.P.EAST	33.9	38	BURE WALA	7.5
10	SHUJABAD	33.3	39	GOJRA	6.7
11	CHISHTIAN	32.0	40	ISA KHEL	6.5
12	R.Y.KHAN	31.3	41	PIR MAHAL	5.9
13	YAZMAN	27.4	42	FORT ABBAS	5.8
14	LIAQUAT PUR	26.0	43	KOT CHUTTA	5.8
15	JAM PUR	24.2	44	KAROR L.E.	5.7
16	LODHRAN	23.1	45	T.T.SINGH	5.7
17	ALI PUR	22.0	46	KHANEWAL	5.4
18	DUYAPUR	21.2	47	JALAL PUR P.W	5.0

19	KEHROR PACCA	19.6	48	SHORKOT	5.0
20	KABIR WALA	18.8	49	MINCHAN ABAD	4.8
21	KOT ADDU	18.8	50	SAHIWAL	3.6
22	SADIQ ABAD	18.0	51	RENALA KHURD	3.6
23	BAHAWAL NAGAR	15.9	52	SUMUNDRI	3.4
24	TAUNSA	14.6	53	KALLOR KOT	3.2
25	ARIF WALA	13.8	54	CHICHA WATNI	3.1
26	MIAN CHANNU	13.5	55	TANDLIANWALA	3.1
27	JAHANIAN	12.5	56	BHAKKAR	2.9
28	JATOI	12.5	57	MIANWALI	2.9
29	PAK PATTAN	12.0	58	JHANG	2.5

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 0.07% below ETL spots have been observed during current week as compared to 0.03% in last week and 1.47% during the same corresponding period of last year.



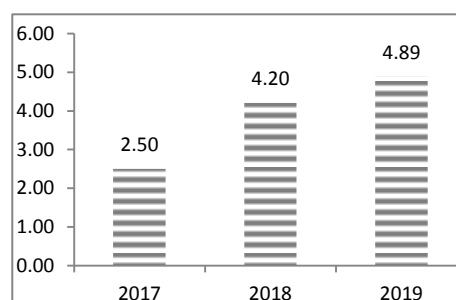
Dusky Cotton Bug: On overall Punjab basis 1.38% above ETL spots have been observed during current week as compared to 0.49% in last week and 0.97% during the same corresponding period of last year. And 30.68% below ETL spots have been observed during current week as compared to 27.96% in last week and 22.18% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of Dusky Cotton Bug

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	HASILPUR	32.8	3	BHAKKAR	2.9
2	BAHAWAL PUR	28.1			

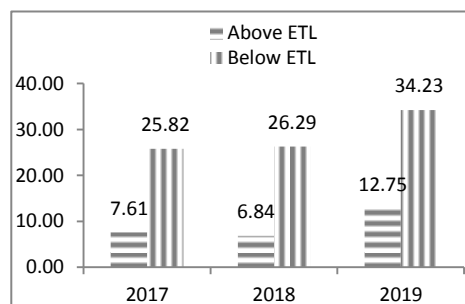
Armyworm: On overall Punjab basis 4.89% spots (all considered above ETL) of Armyworm have been observed as compared to 4.11% in last week and 4.20% spots during the same corresponding period of the last year.



Tehsil wise percentage of hot spots of Army worm

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	BAHAWAL PUR	35.9	17	FORT ABBAS	5.8
2	KHAN PUR	15.8	18	KAROR L.E.	5.7
3	R.Y.KHAN	14.6	19	T.T.SINGH	5.7
4	KEHROR PACCA	14.3	20	MIAN CHANNU	5.4
5	MULTAN	12.8	21	JALAL PUR P.W	5.0
6	A.P.EAST	12.5	22	MAILSI	4.9
7	ALI PUR	10.0	23	MUZUFAR GARH	4.8
8	LODHRAN	9.6	24	CHISHTIAN	4.0
9	DUYAPUR	9.6	25	LIAQUAT PUR	4.0
10	SHUJABAD	9.5	26	ISA KHEL	3.2
11	CHICHA WATNI	9.4	27	PIR MAHAL	2.9
12	SAHIWAL	9.1	28	SHORKOT	2.5
13	BAHAWAL NAGAR	9.1	29	MINCHAN ABAD	2.4
14	HASILPUR	8.6	30	GOJRA	2.2
15	SADIQ ABAD	8.0	31	CHOBARA	2.0
16	KOT ADDU	6.3	32	KOT CHUTTA	1.9

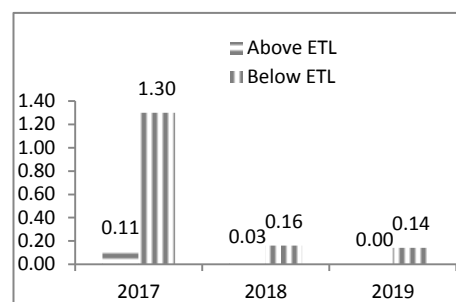
Pink Bollworm: On overall Punjab basis 12.75% above ETL spots have been observed as compared to 9.26% in last week and 6.84% same corresponding period of the last year. And 34.23% below ETL spots have been observed as compared to 29.53% in last week and 26.29% during same corresponding period of last year.



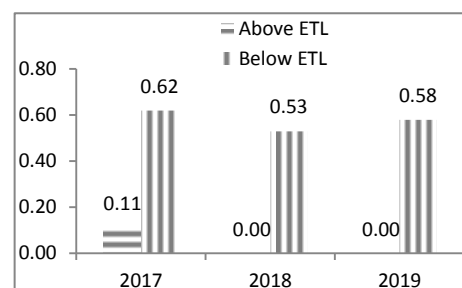
Tehsil wise percentage of hot spots of Pink Bollworm

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	BAHAWAL PUR	46.9	27	KALLOR KOT	9.7
2	HASILPUR	41.4	28	MIANWALI	8.6
3	VEHARI	37.5	29	PAK PATTAN	8.0
4	MAILSI	36.6	30	OKARA	7.7
5	LODHRAN	32.7	31	DEPALPUR	7.7
6	MIAN CHANNU	32.4	32	A.P.EAST	7.1
7	BURE WALA	30.0	33	ARIF WALA	6.9
8	DUYAPUR	28.8	34	18-HAZARI	6.7
9	R.Y.KHAN	27.1	35	YAZMAN	6.5
10	KEHROR PACCA	26.8	36	ISA KHEL	6.5
11	KABIR WALA	22.9	37	TANDLIANWALA	6.3
12	CHISHTIAN	22.0	38	CHOBARA	6.0
13	SHUJABAD	21.4	39	PIPLAN	6.0
14	JAHANIAN	20.0	40	KAROR L.E.	5.7
15	KHAN PUR	19.3	41	MUZUFAR GARH	4.8
16	KHANEWAL	18.9	42	KOT ADDU	4.7
17	CHICHA WATNI	18.8	43	BAHAWAL NAGAR	4.5
18	SAHIWAL	18.2	44	JATOI	4.2
19	LIAQUAT PUR	18.0	45	LAYYAH	3.9
20	ALI PUR	18.0	46	T.T.SINGH	3.8
21	PIR MAHAL	17.6	47	RENALA KHURD	3.6
22	SADIQ ABAD	16.0	48	JALAL PUR P.W	2.5
23	BHAKKAR	11.8	49	ROJHAN	2.5
24	MULTAN	10.6	50	MINCHAN ABAD	2.4
25	MANKERA	10.5	51	GOJRA	2.2
26	HAROOON ABAD	10.0	52	FORT ABBAS	1.9

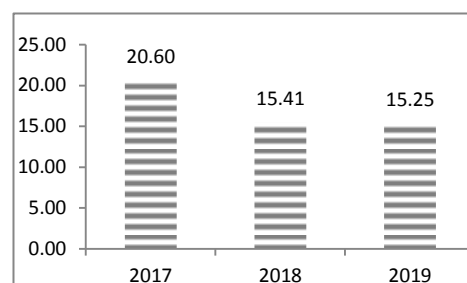
American Bollworm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.07% in last week and 0.03% during same corresponding period of last year. And 0.14% below ETL spots have been observed as compared to 0.49% in last week and 0.16% during same corresponding period of last year.



Spotted Bollworm: On overall Punjab basis 0.00% above ETL spots have been observed as compared to 0.00% in last week and 0.00% during same corresponding period of last year & 0.58% below ETL spots have been observed as compared to 0.36% in last week and 0.53% during same corresponding period of last year.



CLCuV: On overall Punjab basis 15.25% spots (all considered above ETL) of CLCV have been observed as compared to 15.90% in last week and 15.41% during the same corresponding period of the last year.



Tehsil wise percentage of hot spots of cotton leaf curl virus

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	VEHARI	72.5	25	FORT ABBAS	15.4
2	KABIR WALA	47.9	26	JALAL PUR P.W	15.0
3	BURE WALA	47.5	27	PIR MAHAL	14.7
4	MULTAN	42.6	28	ARIF WALA	13.8
5	MAILSI	39.0	29	LAYYAH	13.7
6	HASILPUR	36.2	30	BAHAWAL NAGAR	13.6
7	KEHROR PACCA	33.9	31	KALLOR KOT	12.9
8	SHUJABAD	33.3	32	BHAKKAR	11.8
9	LODHRAN	30.8	33	OKARA	11.5
10	KHANEWAL	29.7	34	JATOI	11.1
11	BAHAWAL PUR	29.7	35	RENALA KHURD	10.7
12	SADIQ ABAD	28.0	36	A.P.EAST	10.7
13	MIAN CHANNU	27.0	37	HAROON ABAD	10.0
14	LIAQUAT PUR	26.0	38	CHISHTIAN	10.0
15	JAHANIAN	25.0	39	CHOBARA	10.0
16	MUZUFAR GARH	23.8	40	YAZMAN	8.1
17	R.Y.KHAN	22.9	41	KAROR L.E.	7.5
18	DUYAPUR	21.2	42	T.T.SINGH	7.5
19	KHAN PUR	21.1	43	JAM PUR	6.1
20	ALI PUR	20.0	44	MINCHAN ABAD	4.8
21	SILLANWALI/ SAHIWAL	20.0	45	CHICHA WATNI	4.7
22	PAK PATTAN	16.0	46	GOJRA	4.4
23	MANKERA	15.8	47	RAJAN PUR	1.6
24	DEPALPUR	15.4			

FORECAST FOR THE NEXT WEEK

Meteorological data of the current week 2019-2018

Districts	2019				2018			
	Temperature		R.H%	Rainfall (mm)	Temperature		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	34.00	26.00	81.00	28.30	29.71	20.71	68.14	0.00
Khanewal	35.29	26.00	77.71	2.00	37.34	24.54	48.57	0.00
Vehari	32.50	25.25	71.13	18.00	32.43	25.29	48.43	0.00
Lodhran	33.71	25.29	73.00	17.00	39.00	24.71	49.21	0.00
Sahiwal	34.00	23.00	82.00	30.00	33.00	24.00	81.00	0.00
Pakpattan	33.75	26.63	78.00	42.00	36.00	25.25	76.00	0.00
Okara	37.50	26.00	86.00	22.00	39.50	26.50	89.00	0.00
Bahawalpur	33.08	22.98	69.72	13.70	36.62	23.24	56.44	41.60
Bahawalnagar	33.38	23.50	72.31	4.00	38.44	26.94	58.25	0.00
R.Y.Khan	36.83	23.50	79.78	6.10	40.83	22.83	78.89	0.00
D.G.Khan	33.57	24.14	58.43	27.00	37.14	24.14	50.64	0.00
M.Garh	32.43	26.13	47.43	16.25	36.28	25.11	55.49	0.00
Rajanpur	36.36	21.26	66.70	21.00	35.84	24.06	46.60	0.00
Layyah	30.33	20.00	79.83	53.00	39.50	23.30	63.50	0.00
TOT/AVG	34.05	24.26	73.07	300.35	36.55	24.33	62.16	41.60

Weather forecast for next 7 day in cotton zone

Division	Dated	8/10	9/10	10/10	11/10	12/10	13/10	14/10
Multan	Max.Temp.	34	36	36	37	37	38	35
	Min.Temp.	19	22	23	22	23	23	23
	Humidity %	33	27	25	24	24	19	12
Sahiwal	Max.Temp.	34	35	36	37	37	38	35
	Min.Temp.	18	19	20	21	21	20	23
	Humidity %	29	25	24	22	23	20	12
Bahawalpur	Max.Temp.	34	36	37	37	37	38	35
	Min.Temp.	17	21	21	21	24	23	21
	Humidity %	34	28	25	24	23	20	14
D.G. Khan	Max.Temp.	35	36	37	38	38	38	35
	Min.Temp.	20	21	21	22	21	22	24
	Humidity %	33	28	24	23	22	17	12
Average Cotton Region	Max. Temp.	36.29						
	Min. Temp.	21.29						
	Humidity %	23.07						

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 increase 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. 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp.

Max. 36.29°C, Min. 21.29°C with humidity 23.07%. Keeping in view the temperature for current week and weather forecast of next week, it is predicted that population of this pest will decrease 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. 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp. Max. 36.29°C, Min. 21.29°C with humidity 23.07%. 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. 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp. Max. 36.29°C, Min. 21.29°C with humidity 23.07%. 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. 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp. Max. 36.29°C, Min. 21.29°C with humidity 23.07%. 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. 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp. Max. 36.29°C, Min. 21.29°C with humidity 23.07%. 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. 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp. Max. 36.29°C, Min. 21.29°C with humidity 23.07%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

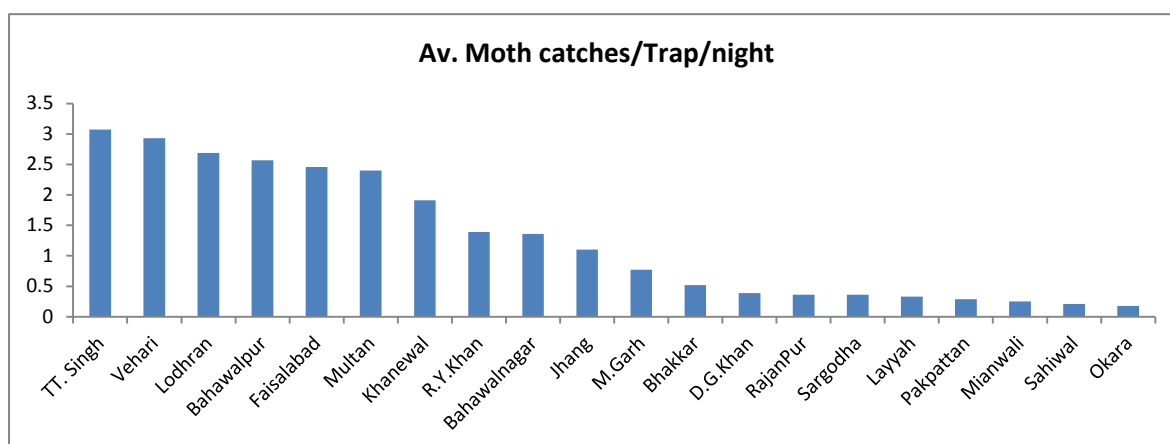
Pink Bollworm: This pest flourishes best at moderate climate with optimum temperature 32-40°C with relative humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (Max temp. 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp. Max. 36.29°C, Min. 21.29°C with humidity 23.07%. 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 1st Week of October, 2019

Moth Catches in Pheromone Traps During 1 st Week of October, 2019			
District	Traps Installed	Av. Moth catches/Trap/night	Av. No. of Moths other than PBW/ Trap/Night
Multan	6	2.40	0.0
Khanewal	8	1.91	0.07
Vehari	6	2.93	0.10
Lodhran	6	2.69	0.43
Sahiwal	4	0.21	0.00
Pakpattan	4	0.29	0.00
Okara	4	0.18	0.00
Bahawalpur	8	2.57	0.11
Bahawalnagar	10	1.36	0.17
R.Y.Khan	8	1.39	0.43
D.G.Khan	4	0.39	0.00
M.Garh	8	0.77	0.00
RajanPur	6	0.36	0.00
Layyah	6	0.33	0.00
Sargodha	2	0.36	0.00
Mianwali	4	0.25	0.00
Bhakkar	8	0.52	0.00
Faisalabad	5	2.46	0.00
TT. Singh	6	3.07	0.00
Jhang	4	1.10	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. 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp. Max. 36.29°C, Min. 21.29°C with humidity 23.07%. 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 1st week of October, 2019

Moth Catches on Light Traps/Trap/week During 1 st Week of October, 2019				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1	0	9
Khanewal	4	0	0	14
Vehari	3	0	0	2
Lodhran	3	4	5	13
Sahiwal	2	4	0	5
Pakpattan	2	0	0	6
Okara	3	0	0	3
Bahawalpur	4	4	4	7
Bahawalnagar	5	13	4	17
R.Y.Khan	4	6	6	11
D.G.Khan	3	0	0	0
M.Garh	4	1	0	10
RajanPur	3	0	0	1
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. 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp. Max. 36.29°C, Min. 21.29°C with humidity 23.07%. 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 34.05°C, Min. 26.76°C with R. humidity 73.07%) & forecast for the next week temp. Max. 36.29°C, Min. 21.29°C with humidity 23.07%. 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 decrease 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
 - Flunicamid 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;
 - Flunicamid 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