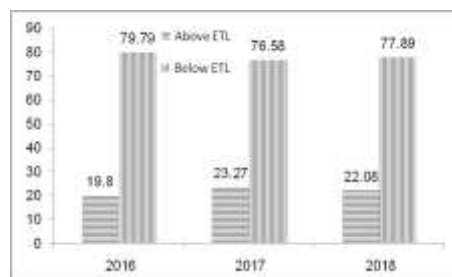


PEST SITUATION ON COTTON CROP IN PUNJAB DURING 4TH WEEK OF AUGUST, 2018

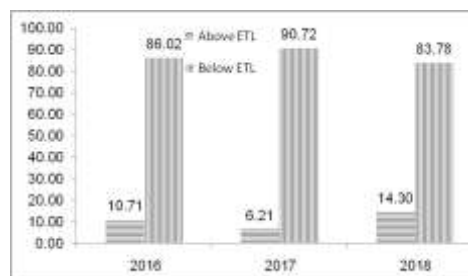
Whitefly: On overall Punjab basis 22.08% spots above ETL have been observed during current week as compared to 23.47% % in last week and 23.27% during the same corresponding period of last year & 77.89% spots below ETL have been observed during current week as compared to 76.42% in last week and 76.58% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of whitefly

Sr.	TEHSIL	%AGE	AREA	Sr.	TEHSIL	%AGE	AREA
1	MULTAN	29.7	123	30	KHAN PUR	22.4	81
2	SHUJABAD	31.8	213	31	LIAQUAT PUR	15.7	60
3	JALAL PUR P.W	32.4	137	32	SADIQ ABAD	14.0	79
4	KHANEWAL	11.9	67	33	D.G.KHAN	44.0	255
5	JAHANIAN	9.1	21	34	TAUNSA	16.3	74
6	KABIR WALA	12.7	52	35	MUZUFAR GARH	16.1	49
7	MIAN CHANNU	24.0	173	36	KOT ADDU	13.8	45
8	VEHARI	15.9	63	37	ALI PUR	26.3	146
9	MAILSI	34.1	87	38	JATOI	6.7	13
10	BURE WALA	19.0	43	39	LAYYAH	20.5	78
11	LODHRAN	17.0	77	40	CHOBARA	11.1	20
12	DUYAPUR	16.1	91	41	KAROR L.E.	21.3	66
13	KEHROR PACCA	18.7	92	42	RAJAN PUR	37.5	132
14	SAHIWAL	19.5	129	43	JAM PUR	38.6	196
15	CHICHA WATNI	29.4	202	44	ROJHAN	35.6	96
16	PAK PATTAN	28.6	70	45	JHANG	15.7	55
17	ARIF WALA	15.0	11	46	SHORKOT	20.5	37
18	OKARA	22.1	78	47	T.T.SINGH	25.0	61
19	DEPALPUR	10.8	14	48	GOJRA	8.3	10
20	BAHAWAL PUR	42.3	231	49	KAMALIA	15.6	21
21	A.P.EAST	51.8	236	50	FAISAL ABAD	7.9	15
22	YAZMAN	26.0	159	51	SARGODHA	20.0	17
23	HASILPUR	42.4	317	52	MIANWALI	15.0	46
24	BAHAWAL NAGAR	18.6	89	53	PIPLAN	15.7	50
25	HAROON ABAD	11.1	22	54	BHAKKAR	11.1	8
26	FORT ABBAS	18.2	91	55	MANKERA	10.0	3
27	MINCHAN ABAD	17.0	76	56	DARYA KHAN	18.2	4
28	CHISHTIAN	16.4	47				
29	R.Y.KHAN	13.3	66				

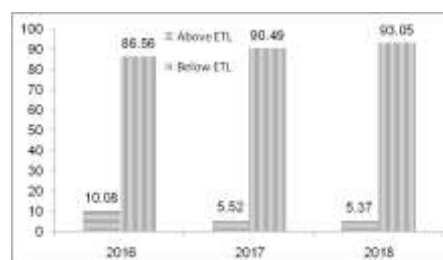
Jassid: On overall Punjab basis 14.30% ABETL has been observed as compared to 13.56% in last week and same week of last year 6.21% & BETL 83.78% spots have been observed during current week as compared to 83.50% in last week and 90.72% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of Jassid

Sr.	TEHSIL	%AGE	AREA	Sr.	TEHSIL	%AGE	AREA
1	MULTAN	14.9	66	29	R.Y.KHAN	18.3	65
2	SHUJABAD	12.1	37	30	KHAN PUR	19.0	53
3	JALAL PUR P.W	12.2	46	31	LIAQUAT PUR	17.6	57
4	KHANEWAL	7.5	34	32	SADIQ ABAD	15.8	94
5	JAHANIAN	6.8	15	33	D.G.KHAN	8.8	36
6	KABIR WALA	15.2	52	34	TAUNSA	13.8	67
7	MIAN CHANNU	16.0	104	35	MUZUFAR GARH	2.3	11
8	VEHARI	5.8	27	36	KOT ADDU	3.1	25
9	BURE WALA	13.8	29	37	ALI PUR	4.0	24
10	LODHRAN	2.0	13	38	JATOI	26.7	76
11	DUYAPUR	8.1	46	39	LAYYAH	13.7	84
12	KEHROR PACCA	2.2	20	40	CHOBARA	11.1	33
13	SAHIWAL	21.8	81	41	KAROR L.E.	29.8	72
14	CHICHA WATNI	8.7	46	42	RAJAN PUR	4.8	26
15	PAK PATTAN	21.4	28	43	JAM PUR	2.4	5
16	ARIF WALA	5.0	3	44	ROJHAN	11.1	29
17	OKARA	29.4	101	45	JHANG	12.9	27
18	DEPALPUR	18.9	23	46	SHORKOT	4.5	4
19	BAHAWAL PUR	18.3	116	47	T.T.SINGH	20.2	41
20	A.P.EAST	46.4	197	48	GOJRA	11.7	14
21	YAZMAN	32.0	179	49	KAMALIA	13.3	21
22	HASILPUR	50.0	308	50	FAISAL ABAD	19.0	35
23	BAHAWAL NAGAR	14.0	69	51	SUMUNDRI, TANDLIANWALA	16.7	4
24	HAROON ABAD	11.1	22	52	SARGODHA	65.0	45
25	FORT ABBAS	25.0	111	53	MIANWALI	10.0	32
26	MINCHAN ABAD	19.1	78	54	PIPLAN	5.7	21
27	CHISHTIAN	21.8	88	55	BHAKKAR	5.6	5
28	DARYA KHAN	9.1	2	56	MANKERA	20.0	5

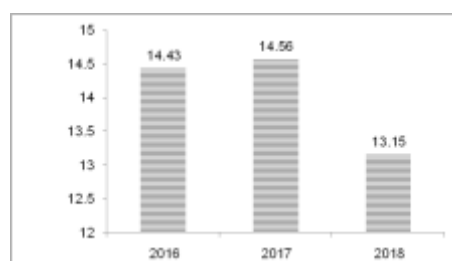
Thrips: On overall Punjab basis 5.37% AETL has been observed as compared to 6.31% in last week and same week of last year i.e. 5.52% & BETL 93.05% spots have been observed during current week as compared to 90.95% in last week and 90.49% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of thrips

Sr.	TEHSIL	%AGE	AREA EFFECTED	Sr.	TEHSIL	%AGE	AREA EFFECTED
1	MULTAN	9.5	44.0	22	R.Y.KHAN	15.0	76.0
2	SHUJABAD	16.7	92.0	23	KHAN PUR	13.8	53.0
3	JALAL PUR P.W	8.1	39.0	24	LIAQUAT PUR	17.6	23.0
4	JAHANIAN	2.3	6.0	25	SADIQ ABAD	17.5	112.0
5	KABIR WALA	1.3	2.0	26	D.G.KHAN	7.7	55.0
6	MIAN CHANNU	4.0	38.0	27	TAUNSA	5.0	22.0
7	BURE WALA	13.8	21.0	28	ALI PUR	7.1	31.0
8	LODHRAN	3.0	13.0	29	JATOI	5.0	9.0
9	DUYAPUR	3.2	22.0	30	LAYYAH	4.1	8.0
10	KEHROR PACCA	2.2	6.0	31	CHOBARA	2.8	5.0
11	PAK PATTAN	10.7	33.0	32	KAROR L.E.	12.8	26.0
12	ARIF WALA	5.0	3.0	33	JAM PUR	4.8	24.0
13	DEPALPUR	2.7	10.0	34	JHANG	2.9	13.0
14	BAHAWAL PUR	14.1	85.0	35	SHORKOT	6.8	14.0
15	A.P.EAST	7.1	29.0	36	T.T.SINGH	1.2	1.0
16	HASILPUR	13.0	77.0	37	GOJRA	1.7	2.0
17	BAHAWAL NAGAR	4.7	23.0	38	KAMALIA	2.2	3.0
18	HAROON ABAD	7.4	10.0	39	SARGODHA	5.0	1.0
18	FORT ABBAS	11.4	42.0	40	MIANWALI	15.0	44.0
20	MINCHAN ABAD	4.3	37.0	41	PIPLAN	10.0	34.0
21	CHISHTIAN	5.5	20.0				

Mealy Bug: On overall Punjab basis 13.15% spots of Mealy Bug have been observed as compared to 12.73% in last week and 14.56% spots during the same corresponding period of the last year.

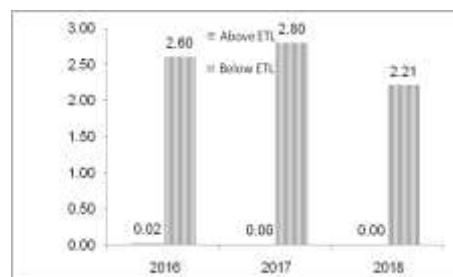


Tehsil wise percentage of hot spots of mealy bug

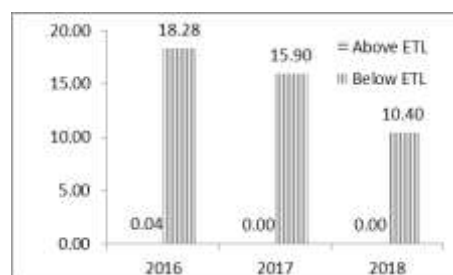
Sr.	TEHSIL	%AGE	AREA EFFECTED	Sr.	TEHSIL	%AGE	AREA EFFECTED
1	MULTAN	50.0	233	27	HAROON ABAD	11.1	20
2	SHUJABAD	7.6	57	28	FORT ABBAS	2.3	12
3	JALAL PUR P.W	13.5	47	29	MINCHAN ABAD	8.5	41
4	KHANEWAL	4.5	17	30	CHISHTIAN	21.8	88
5	JAHANIAN	9.1	30	31	R.Y.KHAN	26.7	160
6	KABIR WALA	7.6	32	32	KHAN PUR	29.3	102
7	MIAN CHANNU	22.0	101	33	LIAQUAT PUR	13.7	94
8	VEHARI	2.9	6	34	SADIQ ABAD	8.8	46
9	MAILSI	20.5	47	35	D.G.KHAN	4.4	41
10	BURE WALA	10.3	73	36	MUZUFAR GARH	10.3	36
11	LODHRAN	13.0	58	37	KOT ADDU	1.5	10
12	DUYAPUR	6.5	65	38	ALI PUR	4.0	50
13	KEHROR PACCA	4.4	21	39	JATOI	28.3	75
14	SAHIWAL	8.0	21	40	LAYYAH	2.7	45
15	CHICHA WATNI	21.4	158	41	CHOBARA	2.8	7
16	PAK PATTAN	14.3	70	42	KAROR L.E.	2.1	20
17	OKARA	2.9	12	43	RAJAN PUR	31.7	158
18	DEPALPUR	13.5	27	44	JAM PUR	20.5	110
19	BAHAWAL PUR	36.6	192	45	ROJHAN	24.4	65
20	A.P.EAST	44.6	217	46	JHANG	2.9	12
21	YAZMAN	22.0	89	47	SHORKOT	4.5	6

22	HASILPUR	33.7	256	48	T.T.SINGH	15.5	47
23	BAHAWAL NAGAR	7.0	53	49	GOJRA	6.7	15
24	MIANWALI	3.3	8	50	KAMALIA	8.9	18
25	PIPLAN	1.4	5	51	FAISAL ABAD	4.8	8
26	BHAKKAR	5.6	4	52	SUMUNDRI, TANDLIANWALA	8.3	2

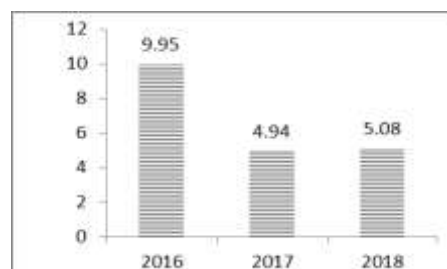
Mites: On overall Punjab basis 0.00% spots above ETL have been observed during current week as compared to 0.00% in last week and 0.00% during the same corresponding period of last year & 2.21% spots below ETL have been observed during current week as compared to 2.74% in last week and 2.80% during the same corresponding period of last year.



Dusky Cotton Bug: On overall Punjab basis 0.00% spots above ETL 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 & 10.4% spots below ETL have been observed during current week as compared to 7.7% in last week and 15.9% during the same corresponding period of last year.



Armyworm: On overall Punjab basis 5.08% spots of Armyworm have been observed as compared to 3.38% in last week and 4.94% spots during the same corresponding period of the last year.

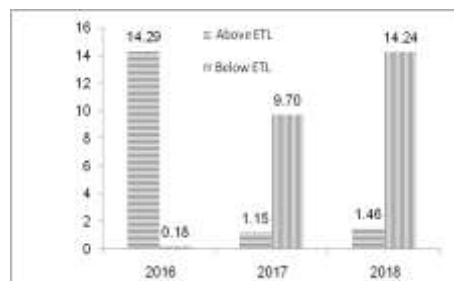


Tehsil wise percentage of hot spots of Army worm

Sr.	TEHSIL	%AGE	AREA EFFECTED	Sr.	TEHSIL	%AGE	AREA EFFECTED
1	MULTAN	4.1	13	20	MINCHAN ABAD	4.3	12
2	SHUJABAD	4.5	35	21	CHISHTIAN	5.5	33
3	JALAL PUR P.W	2.7	13	22	R.Y.KHAN	15.0	75
4	KHANEWAL	3.0	12	23	KHAN PUR	6.9	29
5	JAHANIAN	2.3	5	24	LIAQUAT PUR	3.9	16
6	KABIR WALA	5.1	18	25	SADIQ ABAD	10.5	49
7	MIAN CHANNU	8.0	67	26	D.G.KHAN	1.1	9
8	MAILSI	4.5	4	27	MUZUFAR GARH	1.1	2
9	BURE WALA	8.6	51	28	KOT ADDU	18.5	59
10	LODHRAN	5.0	24	29	JATOI	8.3	30
11	DUYAPUR	1.6	5	30	RAJAN PUR	6.7	27

12	KEHROR PACCA	1.1	6	31	JAM PUR	1.2	5
13	SAHIWAL	9.2	46	32	T.T.SINGH	27.4	52
14	CHICHA WATNI	13.5	87	33	GOJRA	6.7	8
15	PAK PATTAN	7.1	41	34	KAMALIA	4.4	9
16	OKARA	5.9	12	35	FAISAL ABAD	27.0	17
17	DEPALPUR	8.1	17	36	BHAKKAR	2.8	2
18	BAHAWAL PUR	21.1	118	37	HASILPUR	3.3	18
19	YAZMAN	4.0	31	38	BAHAWAL NAGAR	4.7	7

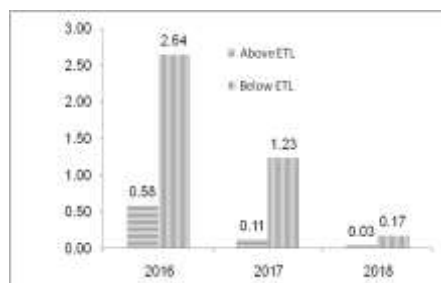
Pink Boll Worm: On overall Punjab basis 1.46% spots of PBW Above ETL have been observed as compared to 0.83% in last week and 1.15% same corresponding period of the last year & 14.24% spots of PBW below ETL have been observed as compared to 12.73% in last week and 9.70% during same corresponding period of last year.



Tehsil wise percentage of hot spots of Pink Boll worm

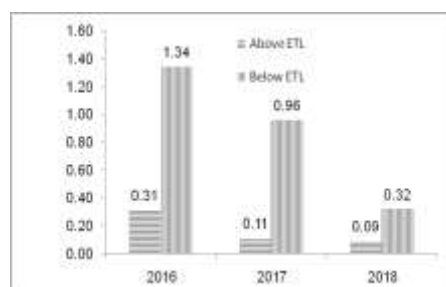
Sr.	TEHSIL	%AGE	AREA	Sr.	TEHSIL	%AGE	AREA EFFECTED
1	MULTAN	4.1	13	16	OKARA	1.5	3
2	JALAL PUR P.W	2.7	11	17	BAHAWAL PUR	7.0	28
3	JAHANIAN	2.3	6	18	YAZMAN	2.0	12
4	MIAN CHANNU	2.0	22	19	HASILPUR	1.1	20
5	VEHARI	1.4	10	20	BAHAWAL NAGAR	2.3	5
6	MAILSI	4.5	14	21	FORT ABBAS	2.3	7
7	BURE WALA	3.4	24	22	CHISHTIAN	3.6	14
8	LODHRAN	2.0	13	23	R.Y.KHAN	3.3	16
9	DUYAPUR	1.6	5	24	KHAN PUR	1.7	2
10	KEHROR PACCA	2.2	11	25	LIAQUAT PUR	2.0	5
11	SAHIWAL	1.1	3	26	KOT ADDU	3.1	20
12	CHICHA WATNI	4.0	27	27	ALI PUR	2.0	8
13	PAK PATTAN	7.1	14	28	RAJAN PUR	1.9	13
14	JHANG	1.4	2	29	T.T.SINGH	1.2	1
15	KAMALIA	2.2	1	30	GOJRA	1.7	1

American Bollworm: On overall Punjab basis 0.03% spots of ABW above ETL have been observed as compared to 0.00% in last week and 0.11% during same corresponding period of last year & 0.17% spots of ABW below ETL have been observed as compared to 0.36% in last week and 1.23% during same corresponding period of last year.



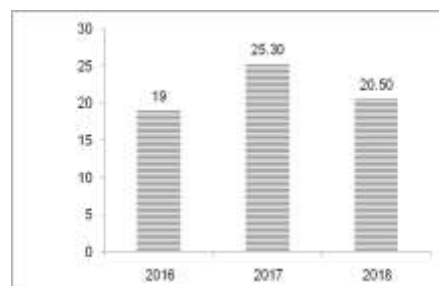
Sr.	TEHSIL	%AGE	AREA EFFECTED
1	T.T.SINGH	1.2	1

Spotted Bollworm: On overall Punjab basis 0.09% spots of SBW above ETL have been observed as compared to 0.03% in last week and 0.11% during same corresponding period of last year & 0.32% spots of SBW below ETL have been observed as compared to 0.11% in last week and 0.96% during same corresponding period of last year.



Sr.	TEHSIL	%AGE	AREA
1	FAISAL ABAD	4.8	11

CLCuV: On overall Punjab basis 20.5% spots of CLCV have been observed as compared to 21.3% in last week and 25.3% during the same corresponding period of the last year.



Tehsil wise percentage of hot spots of cotton leaf curl virus

Sr.	TEHSIL	%AGE	AREA EFFECTED	Sr.	TEHSIL	%AGE	AREA EFFECTED
1	MULTAN	48.6	202	27	SADIQ ABAD	12.3	93
2	SHUJABAD	21.2	207	28	D.G.KHAN	5.5	29
3	JALAL PUR P.W	37.8	152	29	TAUNSA	5.0	20
4	VEHARI	29.0	113	30	MUZUFAR GARH	37.9	126
5	MAILSI	40.09	157	31	KOT ADDU	58.5	167
6	BURE WALA	36.2	127	32	ALI PUR	37.4	184
7	LODHRAN	32.0	157	33	JATOI	33.3	104
8	DUYAPUR	16.1	79	34	LAYYAH	11.0	26

9	KEHROR PACCA	26.4	138	35	CHOBARA	15.3	35
10	SAHIWAL	17.2	54	36	KAROR L.E.	12.8	17
11	CHICHA WATNI	31.0	182	37	RAJAN PUR	17.3	108
12	PAK PATTAN	35.7	89	38	JAM PUR	14.5	58
13	ARIF WALA	40.0	25	39	ROJHAN	11.1	31
14	DEPALPUR	5.4	12	40	JHANG	18.6	67
15	BAHAWAL PUR	33.8	166	41	SHORKOT	29.5	53
16	A.P.EAST	46.4	170	42	T.T.SINGH	13.1	38
17	YAZMAN	20.0	67	43	GOJRA	25.0	27
18	HASILPUR	39.1	255	44	KAMALIA	13.3	22
19	BAHAWAL NAGAR	7.0	40	45	FAISAL ABAD	9.5	21
20	HAROON ABAD	5.6	6	46	SARGODHA	15.0	24
21	FORT ABBAS	6.8	24	47	MIANWALI	10.0	34
22	MINCHAN ABAD	6.4	12	48	PIPLAN	5.7	18
23	CHISHTIAN	9.1	23	49	BHAKKAR	2.8	1
24	R.Y.KHAN	15.0	51	50	MANKERA	5.0	1
25	KHAN PUR	22.4	64	51	DARYA KHAN	18.2	50
26	LIAQUAT PUR	31.4	109				

FORECAST FOR THE NEXT WEEK

Meteorological data of the current week 2018-2017

Districts	2018				2017			
	Temperature		R.H%	Rainfall (mm)	Temperature		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	37.33	28.83	77.42	0.0	36.67	28.50	73.42	0.0
Khanewal	36.90	28.37	61.43	0.0	38.84	29.37	57.14	0.0
Vehari	36.13	30.13	50.19	0.0	39.00	28.00	56.56	0.0
Lodhran	33.29	20.86	58.07	0.0	38.29	28.14	57.14	0.0
Sahiwal	37.20	28.10	63.50	0.0	38.11	26.03	64.25	5.0
Pakpattan	35.11	24.89	82.44	0.0	34.33	24.33	80.67	0.0
Okara	37.5	27.8	82	0.0	35.4	26.8	84	90.2
Bahawalpur	37.56	28.14	62.31	0.0	38.70	28.41	62.31	Drizzling
Bahawalnagar	40.29	29.07	55.71	0.0	39.57	27.14	59.79	0.0
R.Y.Khan	39.61	28.05	64.28	0.0	41.05	23.66	68.95	0.0
D.G.Khan	39.57	28.57	52.86	0.00	39.86	29.00	48.50	0.00
M.Garh	38.00	28.00	66.00	0.00	38.40	29.40	62.00	0.00
Rajanpur	38.80	29.36	47.40	0.00	39.56	26.44	62.50	0.00
Layyah	39.83	28.83	47.00	0.00	39.00	27.33	47.83	0.00
AVERAGE	37.65	27.79	62.19	0.00	38.34	27.33	63.22	95.20

Weather forecast for next 7 day in cotton zone

Division	Dated	29/8	30/8	31/8	1/9	2/9	3/9	4/9
Multan	Max.Temp.	41	42	41	41	37	42	38
	Min.Temp.	29	30	30	29	29	28	29
	Humidity %	26	26	30	32	41	34	19
Sahiwal	Max.Temp.	40	42	41	38	37	41	36
	Min.Temp.	27	29	29	28	27	27	28
	Humidity %	34	29	32	40	42	35	22
Bahawalpur	Max.Temp.	40	41	40	40	39	42	38
	Min.Temp.	29	30	30	28	28	28	27
	Humidity %	28	28	33	33	37	32	19
D.G. Khan	Max.Temp.	40	42	40	40	40	40	37
	Min.Temp.	30	30	30	30	30	29	30
	Humidity %	31	23	29	30	34	37	19
Average Cotton Region	Max.Temp.	39.86						
	Min.Temp.	28.86						
	Humidity %	30.54						

Summary of weather forecast

There is forecast of mostly sunny weather for seven days in cotton zone during next week. So, it is forecasted that sustained temperature for next week in cotton zone (Southern Punjab) may provide the favorable environment for proliferation of some insect pests on cotton crop.

Forecast of Sucking Pests:

Whitefly: This pest flourish best in hot dry climate with optimum temperature 35-42 °C with relative humidity below 50%. Maximum lethal temperature for this pest is 45-51 °C. The current weather conditions on overall Punjab basis (temp. Max. 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp. Max. 39.86 °C, Min. 28.86°C with humidity 30.54%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

Jassid: This pest flourish 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. 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp.

Max. 39.86 °C, Min. 28.86°C with humidity 30.54%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

Thrips: This pest flourish 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. 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp. Max. 39.86 °C, Min. 28.86°C with humidity 30.54%. 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. 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp. Max. 39.86 °C, Min. 28.86°C with humidity 30.54%. Keeping in view above all, it is predicted that population of this pest may 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. 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp. Max. 39.86 °C, Min. 28.86°C with humidity 30.54%. Keeping in view above all, it is predicted that population of this pest will decrease during the coming week.

Dusky Cotton Bug: This pest flourishes best in moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp. Max. 39.86 °C, Min. 28.86°C

with humidity 30.54%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

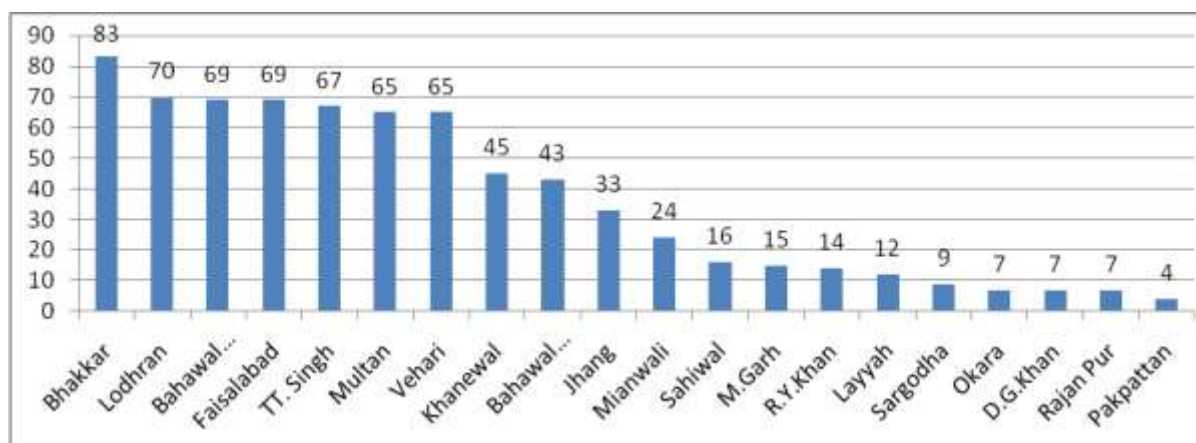
Pink Bollworm: This pest flourishes best at moderate climate with optimum temperature 32-40 °C with relative humidity above 60-80%. Maximum lethal temperature for this pest is 45-53 °C. The current weather conditions on overall Punjab basis (temp. 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp. Max. 39.86 °C, Min. 28.86°C with humidity 30.54%. It is predicted that from midst of August population of this pest will increase on cotton.

Moth Catches in Pheromone Traps during 4th Week of August, 2018

Moth Catches in Pheromone Traps During 4 th Week of August, 2018			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	65	1.55
Khanewal	8	45	0.80
Vehari	6	65	1.55
Lodhran	6	70	1.67
Sahiwal	5	16	0.57
Pakpattan	4	4	0.14
Okara	4	7	0.25
Bahawalpur	8	43	0.77
Bahawalnagar	10	69	0.99
R.Y.Khan	8	14	0.25
D.G.Khan	4	7	0.25
M.Garh	8	15	0.27
Rajan Pur	6	7	0.17
Layyah	6	12	0.29
Sargodha	1	9	0.64
Mianwali	2	24	0.86
Bhakkar	4	83	1.48
Faisalabad	5	69	1.97
TT. Singh	6	67	1.60
Jhang	4	33	1.18

Note. 3 moth catches on 3 consecutive nights in a trap is considered as ETL

District wise PBW moth catches graph



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. 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp. Max. 39.86 °C, Min. 28.86°C with humidity 30.54%. As early cotton sowing was banned in the Punjab by implementing Section 144 and cultivation of more BT varieties, so keeping in view above all, it is predicted that population of this pest will sustain on cotton crop.

Moth catches on light traps during 4th week of August, 2018

Moth Catches on Light Traps/Trap/week During 4 th Week of August, 2018				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	3.7	0.0	5.0
Khanewal	4	0.0	0.0	2.5
Vehari	3	0.0	0.0	3.3
Lodhran	3	1.0	1.7	4.7
Sahiwal	2	2.0	0.0	2.5
Pakpattan	2	0.0	0.0	2.5
Okara	2	0.0	0.0	0.0
Bahawalpur	4	0.5	0.0	1.3
Bahawalnagar	5	1.2	0.6	3.8
R.Y.Khan	4	1.5	1.5	2.5
D.G.Khan	2	0.0	0.0	2.5
M.Garh	4	0.0	0.0	4.3
Rajan Pur	3	0.3	1.3	1.3
Layyah	3	0.0	0.0	2.0

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. 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp. Max. 39.86 °C, Min. 28.86°C with humidity 30.54%. Due to cultivation of more BT varieties, it is predicted that population of this pest will remain almost same 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 37.65 °C, Min. 27.79 °C with R. humidity 62.19%) & forecast for the next week temp. Max. 39.86 °C, Min. 28.86°C with humidity 30.54%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

CLCuV: On overall Punjab basis spots of CLCV have been slightly decreased as compared to in last week and decreased when compare with same corresponding period of the last year. The slight decrease in its incidence as compared to last week & same week of last year is due to relative decrease in its potential vector i.e. whitefly population. The incidence of this disease is expected to increase on cotton crop 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.

- Control weeds in and outside the field especially near water channels and fallow lands.

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	Mulbery		
	Peas	Papaya		
	Potato			
	Onion			
	Spinach			

JASSID MANAGEMENT

- Eradicate weeds.
- Conduct Pest Scouting at least twice a week.
- 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

- Conduct Pest Scouting regularly at least twice a week.
- Avoid intercropping of cotton crop with vegetables.
- Control weeds in and outside the field.

MEALY BUG MANAGEMENT

- Visit the fields daily to detect the infestation for effective management of mealy bug well in time.

2. Keep field and water courses etc. free from weeds especially Itsit & Hazaardani.
3. To avoid its shifting from one place to another, keep the horticultural nurseries free from its infestation. Spray such infested nurseries before shifting the plants.
4. Uproot and keep the infested plants gently in plastic bags and bury in the soil outside the field.
5. Avoid water stress to the plants.
6. Avoid repeated visits of workers from infested fields to healthy fields.

Alternate host plants of cotton mealy bug

Crops	Vegetables	Ornamentals	Weeds	Orchards
Sunflower	Okra	China Rose	Hazar Dani	Citrus
Tobacco	Brinjal	Huddle	Amarantus	Mulbery
Jantar	Tomato	Cotton Rose	Bhakra	Ficus
Sesame	Chillies	Gulchain	Mako	Ber
	Pumpkin	Lantana	Sueda	
		Din Ka Raja	Itsit	
		Rat Ki Rani	Karund	
		Anthorium	Aksen	
		Gul-e-Daudi	Bathu	
		Gainda	Puth Kanda	
			Kanghi	

MANAGEMENT OF 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.
4. Hand picking and destruction of egg masses at initial stage as initially its attack starts in patches and is clearly visible.

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	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 nd 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