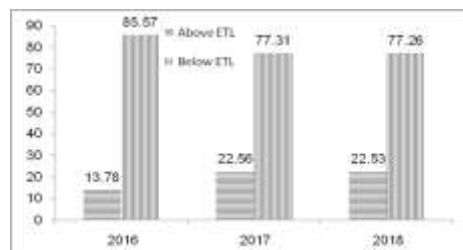


PEST SITUATION ON COTTON CROP IN PUNJAB DURING 2ND WEEK OF AUGUST, 2018

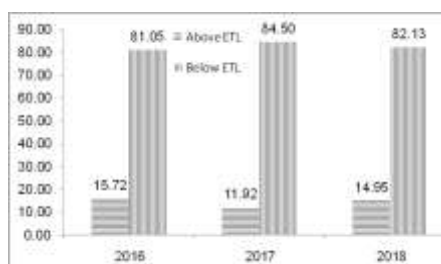
Whitefly: On overall Punjab basis 22.53% spots above ETL have been observed during current week as compared to 22.56% during the same corresponding period of last year & 77.26% spots below ETL have been observed during current week as compared to 77.31% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of whitefly

Sr.	TEHSIL	%AGE	AREA	Sr.	TEHSIL	%AGE	AREA
1	MULTAN	24.2	142	30	CHISHTIAN	24.6	125
2	SHUJABAD	21.2	137	31	R.Y.KHAN	13.7	31
3	JALAL PUR P.W	34.6	94	32	KHAN PUR	27.9	68
4	KHANEWAL	21.0	90	33	LIAQUAT PUR	24.0	89
5	JAHANIAN	12.8	44	34	SADIQ ABAD	21.2	93
6	KABIR WALA	25.6	98	35	D.G.KHAN	28.4	96
7	MIAN CHANNU	37.7	209	36	TAUNSA	17.5	82
8	VEHARI	23.1	63	37	MUZUFAR GARH	8.3	34
9	MAILSI	14.1	89	38	KOT ADDU	23.1	69
10	BURE WALA	22.4	59	39	ALI PUR	16.0	98
11	LODHRAN	16.1	79	40	JATOI	8.6	34
12	DUYAPUR	21.1	184	41	LAYYAH	10.7	48
13	KEHROR PACCA	17.1	63	42	CHOBARA	15.5	37
14	SAHIWAL	17.0	100	43	KAROR L.E.	17.7	51
15	CHICHA WATNI	28.5	189	44	RAJAN PUR	24.8	155
16	PAK PATTAN	27.6	59	45	JAM PUR	26.5	142
17	ARIF WALA	19.4	28	46	ROJHAN	27.8	136
18	OKARA	27.8	128	47	JHANG	15.3	46
19	DEPALPUR	31.7	71	48	SHORKOT	16.9	30
20	BAHAWAL PUR	33.3	239	49	T.T.SINGH	18.3	40
21	A.P.EAST	52.4	231	50	GOJRA	22.2	84
22	YAZMAN	28.6	131	51	KAMALIA	20.5	33
23	HASILPUR	43.4	255	52	FAISAL ABAD	3.8	1
24	BAHAWAL NAGAR	37.5	162	53	SUMUNDRI, TANDLIANWALA	17.0	54
25	HAROON ABAD	23.6	124	54	SARGODHA	15.4	3
26	FORT ABBAS	41.8	160	55	MIANWALI	18.3	71
27	MINCHAN ABAD	19.6	49	56	PIPLAN	11.4	20
28	MANKERA	21.1	9	57	BHAKKAR	21.9	12
29	DARYA KHAN	11.1	2				

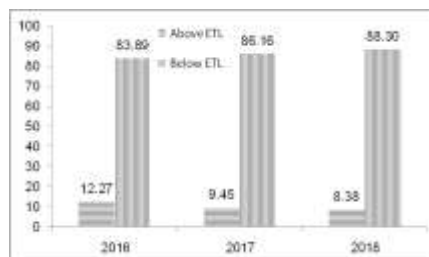
Jassid: On overall Punjab basis 14.95% ABETL has been observed as compared to same week of last year 11.92% & BETL 82.13% spots have been observed during current week as compared to 84.50% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of Jassid

Sr.	TEHSIL	%AGE	AREA	Sr.	TEHSIL	%AGE	AREA
1	MULTAN	14.7	76	30	CHISHTIAN	23.2	121
2	SHUJABAD	17.6	120	31	R.Y.KHAN	25.5	60
3	JALAL PUR P.W	17.3	40	32	KHAN PUR	18.6	22
4	KHANEWAL	8.6	39	33	LIQUAT PUR	22.0	110
5	JAHANIAN	4.3	19	34	SADIQ ABAD	30.8	163
6	KABIR WALA	3.5	18	35	D.G.KHAN	13.5	47
7	MIAN CHANNU	9.4	61	36	TAUNSA	6.3	35
8	VEHARI	6.2	6	37	MUZUFAR GARH	3.7	15
9	MAILSI	5.1	57	38	KOT ADDU	14.1	51
10	BURE WALA	17.6	54	39	ALI PUR	3.7	6
11	LODHRAN	10.3	49	40	JATOI	15.7	84
12	DUYAPUR	10.5	77	41	LAYYAH	10.7	54
13	KEHROR PACCA	5.7	23	42	CHOBARA	11.9	31
14	SAHIWAL	23.2	95	43	KAROR L.E.	16.5	49
15	CHICHA WATNI	14.6	93	44	RAJAN PUR	8.0	49
16	PAK PATTAN	17.2	76	45	JAM PUR	6.2	27
17	ARIF WALA	8.3	28	46	ROJHAN	3.8	16
18	OKARA	32.2	121	47	JHANG	9.7	23
19	DEPALPUR	22.0	28	48	SHORKOT	5.6	11
20	BAHAWAL PUR	14.9	101	49	T.T.SINGH	15.9	35
21	A.P.EAST	49.2	189	50	GOJRA	9.5	12
22	YAZMAN	30.2	187	51	KAMALIA	9.1	13
23	HASILPUR	39.5	244	52	FAISAL ABAD	11.5	5
24	BAHAWAL NAGAR	23.2	104	53	SUMUNDRI, TANDLIANWALA	6.4	20
25	HAROOON ABAD	18.2	58	54	SARGODHA	46.2	25
26	FORT ABBAS	36.4	138	55	MIANWALI	16.7	72
27	MINCHAN ABAD	21.6	54	56	PIPLAN	9.1	20
28	MANKERA	26.3	10	57	BHAKKAR	28.1	17
29	DARYA KHAN	33.3	7				

Thrips: On overall Punjab basis 8.38% AETL has been observed as compared to same week of last year i.e. 9.45% & BETL 88.30% spots have been observed during current week as compared to 86.16% 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	11.6	58.0	25	FORT ABBAS	40.0	163.0
2	SHUJABAD	7.1	24.0	26	MINCHAN ABAD	7.8	19.0
3	JALAL PUR P.W	9.6	31.0	27	CHISHTIAN	5.8	21.0
4	KHANEWAL	16.0	91.0	28	R.Y.KHAN	3.9	7.0
5	JAHANIAN	4.3	10.0	29	KHAN PUR	16.3	39.0
6	KABIR WALA	3.5	25.0	30	SADIQ ABAD	11.5	62.0
7	MIAN CHANNU	3.8	23.0	31	D.G.KHAN	10.8	39.0
8	VEHARI	6.2	26.0	32	TAUNSA	3.8	25.0
9	MAILSI	5.1	73.0	33	MUZUFAR GARH	1.9	6.0
10	BURE WALA	21.2	86.0	34	KOT ADDU	5.1	13.0
11	LODHRAN	3.4	10.0	35	ALI PUR	6.2	25.0
12	DUYAPUR	11.8	95.0	36	JATOI	5.7	23.0
13	KEHROR PACCA	12.9	45.0	37	LAYYAH	6.0	30.0
14	SAHIWAL	5.4	22.0	38	CHOBARA	6.0	17.0
15	CHICHA WATNI	6.3	43.0	39	KAROR L.E.	5.1	25.0
16	PAK PATTAN	17.2	23.0	40	RAJAN PUR	13.1	87.0
17	ARIF WALA	19.4	43.0	41	JAM PUR	12.4	70.0
18	DEPALPUR	2.4	10.0	42	ROJHAN	16.5	77.0
18	BAHAWAL PUR	21.8	177.0	43	JHANG	2.8	5.0
20	A.P.EAST	12.7	41.0	44	SHORKOT	5.6	8.0
21	YAZMAN	15.9	99.0	45	KAMALIA	4.5	6.0
22	HASILPUR	11.8	69.0	46	SUMUNDRI, TANDLIANWALA	2.1	7.0
23	BAHAWAL NAGAR	12.5	48.0	47	MIANWALI	3.3	20.0
24	HAROOON ABAD	3.6	9.0		PIPLAN	18.2	36.0
25	DEPALPUR	2.4	10.0		MANKERA	15.8	6.0

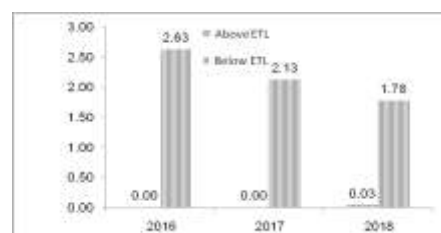
Mealy Bug: On overall Punjab basis 9.90% spots of Mealy Bug have been observed as compared to 13.54% spots during the same corresponding period of the last year.



Tehsil wise percentage of hot spots of mealy bug

Sr.	TEHSIL	%AGE	AREA EFFECTED	Sr.	TEHSIL	%AGE	AREA EFFECTED
1	MULTAN	36.8	198	25	R.Y.KHAN	23.5	57
2	SHUJABAD	9.4	77	26	KHAN PUR	23.3	78
3	JALAL PUR P.W	11.5	30	27	LIAQUAT PUR	10.0	57
4	KHANEWAL	7.4	37	28	SADIQ ABAD	25.0	137
5	JAHANIAN	10.6	82	29	MUZUFAR GARH	1.9	3
6	KABIR WALA	9.3	55	30	KOT ADDU	3.8	23
7	MIAN CHANNU	9.4	51	31	ALI PUR	3.7	17
8	VEHARI	4.6	10	32	JATOI	10.0	42
9	MAILSI	9.0	37	33	LAYYAH	2.4	7
10	BURE WALA	7.1	60	34	CHOBARA	2.4	4
11	LODHRAN	11.5	87	35	KAROR L.E.	1.3	3
12	DUYAPUR	10.5	76	36	RAJAN PUR	11.7	79
13	KEHROR PACCA	8.6	24	37	JAM PUR	8.0	47
14	SAHIWAL	7.1	40	38	ROJHAN	12.7	56
15	CHICHA WATNI	16.7	124	39	JHANG	1.4	2
16	ARIF WALA	2.8	3	40	SHORKOT	1.4	2
17	BAHAWAL PUR	19.5	137	41	T.T.SINGH	13.4	38
18	A.P.EAST	23.8	154	42	GOJRA	7.9	8
19	YAZMAN	41.3	175	43	KAMALIA	6.8	8
20	HASILPUR	44.7	229	44	FAISAL ABAD	3.8	2
21	BAHAWAL NAGAR	5.4	23	45	SUMUNDRI, TANDLIANWALA	1.1	1
22	HAROOB ABAD	10.9	31	46	MIANWALI	1.7	3
23	FORT ABBAS	1.8	4	47	BHAKKAR	3.1	1
24	MINCHAN ABAD	5.9	12	48	CHISHTIAN	18.8	104

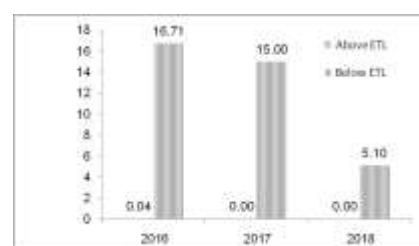
Mites: On overall Punjab basis 0.03% spots above ETL have been observed during current week as compared to 0.00% during the same corresponding period of last year & 1.78% spots below ETL have been observed during current week as compared to 2.13% during the same corresponding period of last year.



Tehsil wise percentage of hot spots of mites

Sr.	TEHSIL	%AGE	AREA
1	SHUJABAD	1.2	5

Dusky Cotton Bug: On overall Punjab basis 0.00% spots above ETL have been observed during current week as compared to 0.00% during the same corresponding period of last year & 5.1% spots below ETL have been observed during current week as compared to 15.0% during the same corresponding period of last year. There is



a decrease in its population as compared to the same corresponding period of last year.

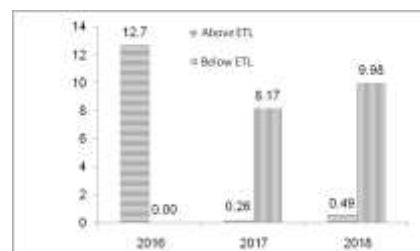
Armyworm: On overall Punjab basis 4.61% spots of Armyworm have been observed as compared to 6.09% spots during the same corresponding period of the last year. There is a decrease in its population as compared to the same corresponding period of last year.



Tehsil wise percentage of hot spots of Army worm

Sr.	TEHSIL	%AGE	AREA EFFECTED	Sr.	TEHSIL	%AGE	AREA EFFECTED
1	MULTAN	6.3	51	21	CHISHTIAN	4.3	12
2	SHUJABAD	4.7	35	22	R.Y.KHAN	5.9	21
3	JALAL PUR P.W	5.8	23	23	KHAN PUR	7.0	19
4	KHANEWAL	6.2	27	24	LIAQUAT PUR	6.0	26
5	JAHANIAN	10.6	61	25	SADIQ ABAD	13.5	58
6	KABIR WALA	4.7	23	26	D.G.KHAN	2.7	10
7	MIAN CHANNU	9.4	68	27	MUZUFAR GARH	3.7	9
8	MAILSI	6.4	37	28	KOT ADDU	17.9	49
9	LODHRAN	5.7	22	29	ALI PUR	4.9	34
10	DUYAPUR	2.6	22	30	JATOI	1.4	4
11	SAHIWAL	3.6	15	31	ROJHAN	1.3	4
12	CHICHA WATNI	8.3	76	32	SHORKOT	1.4	2
13	OKARA	7.8	35	33	T.T.SINGH	17.1	39
14	BAHAWAL PUR	10.3	56	34	GOJRA	14.3	74
15	A.P.EAST	6.3	26	35	KAMALIA	6.8	19
16	YAZMAN	1.6	9	36	FAISAL ABAD	3.8	1
17	HASILPUR	6.6	43	37	SUMUNDRI, TANDLIANWALA	6.4	25
18	BAHAWAL NAGAR	12.5	59	21	MIANWALI	1.7	5
19	HARON ABAD	3.6	6	22	MINCHAN ABAD	3.9	12
20	FORT ABBAS	3.6	0				

Pink Boll Worm: On overall Punjab basis 0.49% spots of PBW Above ETL have been observed as compared to 0.26% same corresponding period of the last year & 9.98% spots of PBW below ETL have been observed as compared to 8.17% during same corresponding period of last year. The decrease in its population above ETL is mainly due to sowing of Bt cultivars, ban on early sown of cotton by implementing Sec. 144 and effective measures taken by farmers for off season management of PBW by turning heaps of cotton sticks, collection & disposal of PBW effected bolls, disposal of cotton ginning wastes in ginning factories, oil mills, brick/ kilns etc.



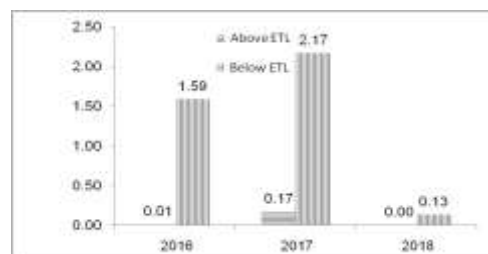
Tehsil wise percentage of hot spots of pink boll worm

Sr.	TEHSIL	%AGE	AREA	Sr.	TEHSIL	%AGE	AREA EFFECTED
1	MULTAN	2.1	28	7	BAHAWAL NAGAR	1.8	5
2	SHUJABAD	2.4	26	8	CHISHTIAN	1.4	10
3	KHANEWAL	1.2	25	9	A.P.EAST	1.6	2
4	MIAN CHANNU	5.7	33	10	KHAN PUR	2.3	2
5	BURE WALA	5.9	21	11	RAJAN PUR	0.7	3
6	BAHAWAL PUR	1.1	10				

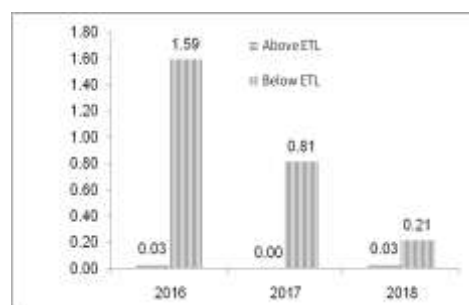
Tehsil wise percentage of spots of pink boll worm below economic thresh hold level

Sr.	TEHSIL	%AGE	AREA	Sr.	TEHSIL	%AGE	AREA EFFECTED
1	MIANWALI	38.3		24	JALAL PUR P.W	9.6	
2	DARYA KHAN	33.3		25	GOJRA	9.5	
3	MIAN CHANNU	32.1		26	MULTAN	9.5	
4	SUMUNDRI, TANDLIANWALA	31.9		27	DUYAPUR	9.2	
5	PIPLAN	31.8		28	KAMALIA	9.1	
6	FORT ABBAS	27.3		29	CHICHA WATNI	9.0	
7	BHAKKAR	25.0		30	JAHANIAN	8.5	
8	BURE WALA	24.7		31	LODHRAN	8.0	
9	FAISAL ABAD	23.1		32	JATOI	7.1	
10	SARGODHA	23.1		33	MUZUFAR GARH	6.5	
11	HASILPUR	22.4		34	VEHARI	6.2	
12	BAHAWAL PUR	21.8		35	LIAQUAT PUR	6.0	
13	SAHIWAL	21.4		36	R.Y.KHAN	5.9	
14	BAHAWAL NAGAR	17.9		37	ARIF WALA	5.6	
15	MANKERA	15.8		38	KOT ADDU	5.1	
16	CHISHTIAN	14.5		39	KABIR WALA	4.7	
17	PAK PATTAN	13.8		40	KHAN PUR	4.7	
18	T.T.SINGH	13.4		41	SHORKOT	4.2	
19	KEHROR PACCA	12.9		42	JHANG	4.2	
20	MAILSI	12.8		43	SADIQ ABAD	3.8	
21	A.P.EAST	12.7		44	OKARA	3.3	
22	KHANEWAL	12.3		45	ALI PUR	2.5	
23	SHUJABAD	11.8					

American Bollworm: On overall Punjab basis 0.00% spots of ABW above ETL have been observed as compared to 0.17% during same corresponding period of last year & 0.13% spots of ABW below ETL have been observed as compared to 2.17% during same corresponding period of last year.

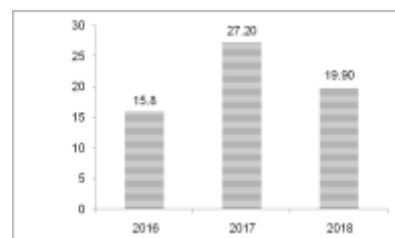


Spotted Bollworm: On overall Punjab basis 0.03% spots of SBW above ETL have been observed as compared to 0.00% during same corresponding period of last year & 0.21% spots of SBW below ETL have been observed as compared to 0.81% during same corresponding period of last year.



Sr.	TEHSIL	%AGE	AREA
1	RAJAN PUR	0.7	5

CLCuV: On overall Punjab basis 19.9% spots of CLCV have been observed as compared to 27.2% during the same corresponding period of the last year. There is a decrease in its incidence as compared to same week of 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	43.2	211	26	SADIQ ABAD	13.5	66
2	SHUJABAD	21.2	135	27	D.G.KHAN	10.8	40
3	JALAL PUR P.W	38.5	106	28	TAUNSA	2.5	11
4	KHANEWAL	17.3	114	29	MUZUFAR GARH	26.9	87
5	JAHANIAN	25.5	128	30	KOT ADDU	30.8	86
6	KABIR WALA	15.1	53	31	ALI PUR	25.9	126
7	MIAN CHANNU	18.9	99	32	JATOI	28.6	99
8	VEHARI	30.8	80	33	LAYYAH	9.5	30
9	MAILSI	75.6	431	34	CHOBARA	10.7	28
10	BURE WALA	40.0	154	35	KAROR L.E.	10.1	35
11	LODHRAN	34.5	181	36	RAJAN PUR	11.7	77
12	DUYAPUR	22.4	173	37	JAM PUR	8.0	58
13	KEHROR PACCA	32.9	124	38	ROJHAN	3.8	17
14	SAHIWAL	8.0	29	39	JHANG	16.7	44
15	CHICHA WATNI	29.2	183	40	SHORKOT	28.2	57
16	PAK PATTAN	13.8	18	41	T.T.SINGH	17.1	33
17	ARIF WALA	22.2	50	42	GOJRA	25.4	39
18	BAHAWAL PUR	29.9	193	43	KAMALIA	25.0	36
19	A.P.EAST	38.1	202	44	SUMUNDRI, TANDLIANWALA	9.6	23
20	YAZMAN	28.6	112	45	SARGODHA	15.4	4
21	HASILPUR	23.7	96	46	MIANWALI	20.0	83
22	BAHAWAL NAGAR	7.1	24	47	PIPLAN	13.6	21
23	FORT ABBAS	9.1	38	48	R.Y.KHAN	15.7	38
24	MINCHAN ABAD	3.9	11	49	KHAN PUR	30.2	71
25	CHISHTIAN	4.3	21	50	LIAQUAT PUR	24.0	76

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	35.00	29.14	74.43	0.0	30.43	25.00	62.43	0.3
Khanewal	38.56	28.70	56.00	0.0	38.81	29.59	56.00	0.0
Vehari	36.14	30.14	50.00	0.0	39.00	28.00	56.57	0.0
Lodhran	35.29	27.57	63.21	4.0	37.14	28.43	53.93	0.0
Sahiwal	35.60	27.40	64.40	0.0	37.10	27.10	66.20	0.0
Pakpattan	35.14	28.14	61.14	0.0	35.14	28.71	62.57	0.0
Okara	36.50	28.20	81.00	0.0	39.30	29.30	78.00	0.0
Bahawalpur	37.91	26.61	64.69	43.0	38.53	28.53	56.75	Drizzling
Bahawalnagar	39.29	28.53	57.14	0.0	41.57	27.86	51.00	0.0
R.Y.Khan	40.14	28.00	0.00	0.0	39.37	27.84	60.86	0.0
D.G.Khan	40.43	26.86	51.86	0.00	40.43	29.71	53.85	0.00
M.Garh	37.50	29.74	71.00	4.00	38.10	25.60	67.50	0.00
Rajanpur	39.03	28.60	45.83	0.00	38.53	28.83	64.00	0.00
Layyah	39.14	28.28	45.71	0.00	38.28	26.71	44.28	5.00
AVERAGE	37.55	28.28	56.17	51.00	37.98	27.94	59.57	5.30

Weather forecast for next 7 day in cotton zone

Division	Dated	15/8	16/8	17/8	18/8	19/8	20/8	21/8
Multan	Max.Temp.	37	37	38	39	39	43	38
	Min.Temp.	29	28	31	31	30	32	30
	Humidity %	49	47	45	47	42	31	23
Sahiwal	Max.Temp.	36	38	37	36	38	42	36
	Min.Temp.	27	28	30	30	28	31	30
	Humidity %	53	51	49	53	45	31	22
Bahawalpur	Max.Temp.	39	38	38	40	38	42	37
	Min.Temp.	31	32	31	31	31	31	29
	Humidity %	44	46	42	44	45	34	26
D.G. Khan	Max.Temp.	39	39	40	40	40	44	38
	Min.Temp.	31	31	31	32	32	32	32
	Humidity %	44	43	39	40	40	27	22
Average Cotton Region	Max.Temp.	38.79						
	Min.Temp.	30.43						
	Humidity %	40.14						

Summary of weather forecast: There is forecast of broken cloudy weather for seven days in cotton zone during next week. So, it is forecasted that decreasing 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 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. 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max. 38.00 °C, Min. 29.50°C with humidity 41.89%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

Jassid: This pest flourishes best in hot 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. 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max.

38.00 °C, Min. 29.50°C with humidity 41.89%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

Thrips: This pest flourishes best in hot dry climate with optimum temperature 35-40 °C with relative humidity below 60%. Maximum lethal temperature for this pest is 45-51 °C. The current weather conditions on overall Punjab basis (temp. Max. 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max. 38.00 °C, Min. 29.50°C with humidity 41.89%. Keeping in view above all, it is predicted that population of this pest may increase during the coming week.

Mealy Bug: This pest flourishes best 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. 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max. 38.00 °C, Min. 29.50°C with humidity 41.89%. 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. 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max. 38.00 °C, Min. 29.50°C with humidity 41.89%. Keeping in view above all, it is predicted that population of this pest may sustain during the coming week.

Dusky Cotton Bug: This pest flourishes best moderate climate with optimum temperature 28-40 °C with relative humidity above 50-80%. The current weather conditions on overall Punjab basis (temp. Max. 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max. 38.00 °C, Min. 29.50°C

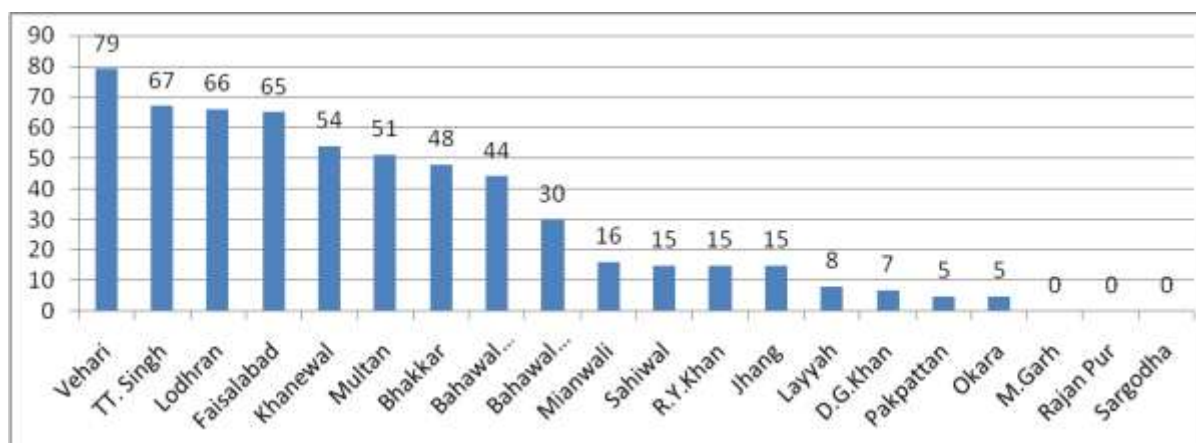
with humidity 41.89%. Keeping in view above all, it is predicted that population of this pest will increase during the coming week.

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. 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max. 38.00 °C, Min. 29.50°C with humidity 41.89%. It is predicted that from midst of August population of this pest will increase in the next week on cotton.

Moth Catches in Pheromone Traps During 2nd Week of August, 2018

Moth Catches in Pheromone Traps During 2 nd Week of August, 2018			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	51	1.21
Khanewal	8	54	0.96
Vehari	6	79	1.88
Lodhran	6	66	1.57
Sahiwal	5	15	0.54
Pakpattan	4	5	0.18
Okara	4	5	0.18
Bahawalpur	8	44	0.79
Bahawalnagar	10	30	0.43
R.Y.Khan	8	15	0.27
D.G.Khan	4	7	0.25
M.Garh	8	0	0.00
Rajan Pur	6	0	0.00
Layyah	6	8	0.19
Sargodha	1	0	0.00
Mianwali	2	16	0.57
Bhakkar	4	48	0.86
Faisalabad	5	65	1.86
TT. Singh	6	67	1.60
Jhang	4	15	0.54
<i>Note. 3 moth catches on 3 consecutive nights in a trap is considered as ETL</i>			

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. 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max. 38.00 °C, Min. 29.50°C with humidity 41.89%. 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 2nd week of August, 2018

Moth Catches on Light Traps/Trap/week During 2 nd Week of August, 2018				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	2.7	0.3	5.3
Khanewal	4	0.0	0.0	3.3
Vehari	3	0.0	0.0	3.3
Lodhran	3	1.3	2.0	6.3
Sahiwal	2	1.5	0.0	2.5
Pakpattan	2	0.0	0.0	3.0
Okara	2	0.0	0.0	0.0
Bahawalpur	4	0.8	0.0	1.8
Bahawalnagar	5	2.2	0.0	1.6
R.Y.Khan	4	1.3	1.5	2.5
D.G.Khan	2	0.0	0.0	2.0
M.Garh	4	0.0	0.3	3.5
Rajan Pur	3	0.0	0.0	0.7
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. 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max. 38 °C, Min. 29.50°C with humidity 41.89%. Due to cultivation of more BT varieties, it is predicted that population of this pest will sustain 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 38.59 °C, Min. 28.43 °C with R. humidity 52.21%) & forecast for the next week temp. Max. 38. °C, Min. 29.50°C with humidity 41.89%. 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 increased as compared to in last week and decreased when compare with same corresponding period of the last year. The increase in its incidence as compared to last week & same week of last year is due to favorable condition and increase in 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.
3. 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

1. Eradicate weeds.
2. Conduct Pest Scouting at least twice a week.
3. Use *Chrysoperla* Cards @ 80-90 cards per acre having 20-25 eggs on each card which are available at AARI Faisalabad, Sahiwal, Okara and Vehari. (Repeat this process after every two weeks).

THRIPS MANAGEMENT

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

MEALY BUG MANAGEMENT

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

Alternate host plants of cotton mealy bug

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

MANAGEMENT OF DUSKY COTTON BUG

1. Eradicate weeds.
2. Conduct Pest Scouting at least twice a week.
3. Remove alternate host plants

MANAGEMENT OF ARMY WORM

1. Keep the fields clean from weeds especially Itsit 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