

## PEST SITUATION ON COTTON CROP IN PUNJAB DURING 2<sup>nd</sup> WEEK OF SEPTEMBER, 2020

Pest Situation of Cotton Pests								
Sr. No.	Pest Name	%age of spots						Remarks
		Current Week		Previous week		Corresponding week of Last Year		
		AETL	BETL	AETL	BETL	AETL	BETL	
1	Whitefly	37.10	61.66	29.02	69.83	18.58	78.27	High & Increasing
2	Jassid	11.48	84.01	11.62	84.97	6.86	85.87	High & Sustaining
3	Thrips	2.76	88.48	4.32	90.81	2.28	87.59	Decreasing
4	Mealy Bug	24.38	-	22.70	-	16.59	-	<b>Increasing</b>
5	Mites	0.00	1.67	0.00	1.25	0.00	0.44	Low
6	Dusky Cotton Bug	0.55	29.80	0.14	20.98	0.00	20.04	Sustaining
7	Pink Bollworm	8.10	26.45	4.43	22.87	5.21	24.34	<b>Increasing</b>
8	American Bollworm	0.04	0.55	0.03	0.41	0.04	0.22	Low
9	Spotted Bollworm	0.04	0.51	0.03	0.57	0.00	0.44	Low
10	Armyworm	4.94	-	4.22	-	3.96	-	Sustaining
11	CLCuV	20.39	-	15.17	-	17.99	-	<b>Increasing</b>

### Tehsil wise percentage of hot spots of Whitefly

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	JAM PUR	80.0	32	PAK PATTAN	31.1
2	JATOI	69.7	33	FORT ABBAS	28.9
3	MULTAN	66.1	34	MUZUFAR GARH	28.0
4	DUYAPUR	65.5	35	HAROON ABAD	27.3
5	RAJAN PUR	64.5	36	PIPLAN	26.7
6	LODHRAN	64.2	37	BURE WALA	26.0
7	HASILPUR	62.0	38	MINCHAN ABAD	25.6
8	SHUJABAD	58.8	39	CHISHTIAN	25.0
9	KHANEWAL	57.4	40	KOT ADDU	25.0
10	ROJHAN	56.7	41	DARYA KHAN	25.0
11	ALI PUR	56.6	42	ARIF WALA	23.8
12	JALAL PUR P.W	55.0	43	KALLOR KOT	23.8
13	MIAN CHANNU	52.3	44	MIANWALI	23.3
14	KOT CHUTTA	50.9	45	OKARA	20.5
15	KABIR WALA	48.8	46	BAHAWAL NAGAR	20.0
16	A.P.EAST	48.2	47	ISA KHEL	18.8
17	BAHAWAL PUR	46.7	48	CHOBARA	16.0
18	JAHANIAN	44.4	49	DEPALPUR	15.0
19	KEHROR PACCA	44.4	50	SAHIWAL	14.9
20	MAILSI	44.0	51	JHANG	14.3
21	YAZMAN	44.0	52	PIR MAHAL	14.3
22	TAUNSA	44.0	53	18-HAZARI	13.8
23	D.G.KHAN	43.3	54	KAROR L.E.	13.0
24	R.Y.KHAN	40.0	55	LAYYAH	12.2
25	SADIQ ABAD	40.0	56	SUMUNDRI	11.8
26	MANKERA	40.0	57	SHORKOT	10.3
27	KHAN PUR	39.0	58	A.P SIAL	9.5
28	LIAQUAT PUR	38.0	59	TANDLIANWALA	7.4
29	BHAKKAR	36.4	60	T.T.SINGH	6.4

30	VEHARI	34.0	61	GOJRA	5.4
62	CHICHA WATNI	31.3	63	RENALA KHURD	5.0

### Tehsil wise percentage of hot spots of Jassid

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	CHISHTIAN	30.4	31	D.G.KHAN	11.7
2	HASILPUR	29.1	32	KEHROR PACCA	11.1
3	FORT ABBAS	26.7	33	KOT CHUTTA	10.9
4	SHUJABAD	23.5	34	JARANWALA	10.0
5	BAHAWAL NAGAR	22.0	35	MANKERA	10.0
6	MINCHAN ABAD	20.9	36	DARYA KHAN	10.0
7	JHANG	20.0	37	A.P SIAL	9.5
8	MIANWALI	20.0	38	FAISALABAD	9.1
9	PIPLAN	20.0	39	LODHRAN	9.0
10	LAYYAH	19.5	40	CHICHA WATNI	8.3
11	BHAKKAR	18.2	41	GOJRA	8.1
12	KHANEWAL	18.0	42	LIAQUAT PUR	8.0
13	KAROR L.E.	17.4	43	MIAN CHANNU	6.8
14	TAUNSA	16.0	44	JAHANIAN	6.7
15	HAROON ABAD	15.9	45	T.T.SINGH	6.4
16	DEPALPUR	15.0	46	ISA KHEL	6.3
17	SAHIWAL	14.9	47	MAILSI	6.0
18	TANDLIANWALA	14.8	48	SADIQ ABAD	6.0
19	ARIF WALA	14.3	49	ALI PUR	5.7
20	A.P.EAST	14.3	50	MULTAN	5.1
21	PIR MAHAL	14.3	51	JALAL PUR P.W	5.0
22	BURE WALA	14.0	52	BAHAWAL PUR	5.0
23	CHOBARA	14.0	53	R.Y.KHAN	5.0
24	PAK PATTAN	13.3	54	KALLOR KOT	4.8
25	OKARA	12.8	55	DUYAPUR	3.6
26	KABIR WALA	12.2	56	SHORKOT	3.4
27	VEHARI	12.0	57	JATOI	3.0
28	YAZMAN	12.0	58	RENALA KHURD	2.5
29	KHAN PUR	11.9	59	MUZUFAR GARH	2.0
30	SUMUNDRI	11.8			

### Tehsil wise percentage of hot spots of thrips

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	TAUNSA	20.0	12	JHANG	5.7
2	LAYYAH	17.1	13	KOT CHUTTA	5.5
3	D.G.KHAN	16.7	14	A.P SIAL	4.8
4	A.P.EAST	16.1	15	MAILSI	4.0
5	YAZMAN	12.0	16	MIANWALI	3.3
6	MANKERA	10.0	17	PIPLAN	3.3
7	KAROR L.E.	8.7	18	JATOI	3.0
8	KHAN PUR	6.8	19	MUZUFAR GARH	2.0
9	BAHAWAL PUR	6.7	20	CHOBARA	2.0
10	LIAQUAT PUR	6.0	21	ALI PUR	1.9
11	SADIQ ABAD	6.0	22	R.Y.KHAN	1.7

### Tehsil wise percentage of hot spots of Mealy bug

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	HASILPUR	55.7	28	KABIR WALA	22.0
2	JAM PUR	52.0	29	MINCHAN ABAD	20.9
3	DUYAPUR	50.9	30	BURE WALA	20.0
4	A.P.EAST	50.0	31	TAUNSA	20.0
5	ALI PUR	47.2	32	HAROON ABAD	18.2
6	R.Y.KHAN	43.3	33	DEPALPUR	15.0
7	LODHRAN	43.3	34	T.T.SINGH	14.9
8	YAZMAN	42.0	35	VEHARI	14.0
9	KOT CHUTTA	41.8	36	BAHAWAL NAGAR	14.0
10	BAHAWAL PUR	41.7	37	RAJAN PUR	12.9
11	CHISHTIAN	37.5	38	ISA KHEL	12.5
12	SHUJABAD	37.3	39	MUZUFAR GARH	12.0
13	D.G.KHAN	36.7	40	GOJRA	10.8
14	JATOI	36.4	41	OKARA	10.3
15	KHANEWAL	36.1	42	MIANWALI	10.0
16	LIAQUAT PUR	36.0	43	PIPLAN	10.0
17	KHAN PUR	35.6	44	SAHIWAL	7.5
18	FORT ABBAS	33.3	45	ARIF WALA	7.1
19	MAILSI	32.0	46	KAROR L.E.	6.5
20	MULTAN	30.5	47	CHICHA WATNI	6.3
21	MIAN CHANNU	29.5	48	JHANG	5.7
22	KEHROR PACCA	29.2	49	RENALA KHURD	5.0
23	JAHANIAN	26.7	50	DARYA KHAN	5.0
24	SADIQ ABAD	26.0	51	PAK PATTAN	4.4
25	KOT ADDU	22.9	52	CHOBARA	4.0
26	PIR MAHAL	22.9	53	SHORKOT	3.4
27	JALAL PUR P.W	22.5	54	LAYYAH	2.4

### No Hot Spots of Mites in any Tehsil

#### Tehsil wise percentage of hot spots of Dusky Cotton Bug

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	MAILSI	6.0	5	MULTAN	3.4
2	HASILPUR	5.1	6	BURE WALA	2.0
3	VEHARI	4.0	7	MUZUFAR GARH	2.0
4	CHISHTIAN	3.6			

#### Tehsil wise percentage of hot spots of Army worm

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	JATOI	21.2	21	OKARA	5.1
2	LODHRAN	19.4	22	KHAN PUR	5.1
3	KEHROR PACCA	18.1	23	DEPALPUR	5.0
4	DUYAPUR	12.7	24	MINCHAN ABAD	4.7
5	YAZMAN	12.0	25	MIAN CHANNU	4.5
6	KHANEWAL	11.5	26	HAROON ABAD	4.5
7	JAHANIAN	11.1	27	FORT ABBAS	4.4
8	CHISHTIAN	10.7	28	LIAQUAT PUR	4.0
9	ALI PUR	9.4	29	TAUNSA	4.0
10	KAROR L.E.	8.7	30	D.G.KHAN	3.3
11	VEHARI	8.0	31	RENALA KHURD	2.5
12	BAHAWAL NAGAR	8.0	32	KABIR WALA	2.4
13	JALAL PUR P.W	7.5	33	KOT ADDU	2.1

14	KOT CHUTTA	7.3	34	MAILSI	2.0
15	A.P.EAST	7.1	35	BURE WALA	2.0
16	BAHAWAL PUR	6.7	36	CHOBARA	2.0
17	R.Y.KHAN	6.7	37	SHUJABAD	2.0
18	SADIQ ABAD	6.0	38	MULTAN	1.7
19	JHANG	5.7	39	SAHIWAL	1.5
20	PIR MAHAL	5.7			

### Tehsil wise percentage of hot spots of Pink Bollworm

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	SAHIWAL	23.9	26	PAK PATTAN	6.7
2	CHICHA WATNI	22.9	27	R.Y.KHAN	6.7
3	KEHROR PACCA	20.8	28	KAROR L.E.	6.5
4	BURE WALA	20.0	29	BAHAWAL NAGAR	6.0
5	PIR MAHAL	20.0	30	SADIQ ABAD	6.0
6	LODHRAN	16.4	31	CHOBARA	6.0
7	DUYAPUR	16.4	32	SHUJABAD	5.9
8	VEHARI	16.0	33	JHANG	5.7
9	ALI PUR	15.1	34	KHAN PUR	5.1
10	T.T.SINGH	14.9	35	DARYA KHAN	5.0
11	CHISHTIAN	14.3	36	KALLOR KOT	4.8
12	MIAN CHANNU	13.6	37	MINCHAN ABAD	4.7
13	BAHAWAL PUR	13.3	38	FORT ABBAS	4.4
14	HASILPUR	12.7	39	LIAQUAT PUR	4.0
15	JALAL PUR P.W	12.5	40	TANDLIANWALA	3.7
16	KABIR WALA	12.2	41	KOT CHUTTA	3.6
17	GOJRA	10.8	42	MULTAN	3.4
18	OKARA	10.3	43	MIANWALI	3.3
19	MANKERA	10.0	44	JATOI	3.0
20	KHANEWAL	8.2	45	RENALA KHURD	2.5
21	MAILSI	8.0	46	KOT ADDU	2.1
22	YAZMAN	8.0	47	MUZUFAR GARH	2.0
23	ARIF WALA	7.1	48	D.G.KHAN	1.7
24	A.P.EAST	7.1	49	RAJAN PUR	1.6
25	JAHANIAN	6.7			

### Tehsil wise percentage of hot spots of American Bollworm

Sr#	TEHSIL	%AGE
1	KOT CHUTTA	1.8

### Tehsil wise percentage of hot spots of Spotted Bollworm

Sr#	TEHSIL	%AGE
1	R.Y.KHAN	1.7

### Tehsil wise percentage of hot spots of CLCuV

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	JATOI	97.0	23	TAUNSA	16.0
2	SHUJABAD	78.4	24	KALLOR KOT	14.3
3	VEHARI	78.0	25	MANKERA	10.0
4	MULTAN	78.0	26	DARYA KHAN	10.0
5	JALAL PUR P.W	75.0	27	KAROR L.E.	8.7
6	ALI PUR	62.3	28	CHOBARA	8.0
7	KOT ADDU	56.3	29	KABIR WALA	7.3
8	MAILSI	50.0	30	JAHANIAN	6.7
9	R.Y.KHAN	41.7	31	KHANEWAL	6.6

10	SADIQ ABAD	38.0	32	JHANG	5.7
11	BURE WALA	36.0	33	PIR MAHAL	5.7
12	KHAN PUR	33.9	34	LAYYAH	4.9
13	DUYAPUR	30.9	35	PAK PATTAN	4.4
14	LIAQUAT PUR	30.0	36	FORT ABBAS	4.4
15	LODHRAN	29.9	37	CHICHA WATNI	4.2
16	KEHROR PACCA	29.2	38	YAZMAN	4.0
17	MUZUFAR GARH	26.0	39	BAHAWAL NAGAR	4.0
18	BAHAWAL PUR	23.3	40	CHISHTIAN	3.6
19	A.P.EAST	23.2	41	MIANWALI	3.3
20	KOT CHUTTA	21.8	42	ARIF WALA	2.4
21	HASILPUR	20.3	43	MINCHAN ABAD	2.3
22	D.G.KHAN	20.0	44	MIAN CHANNU	2.3

## FORECAST FOR THE NEXT WEEK

### Meteorological data of the current week 2019-2020

Districts	2020				2019			
	Temperature °C		R.H%	Rainfall (mm)	Temperature °C		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
Multan	37.25	27.75	73.69	0.00	39.17	30.67	77.50	0.00
Khanewal	38.57	27.71	62.71	0.00	39.70	29.00	62.29	0.00
Vehari	36.70	26.70	69.30	0.00	39.30	30.00	69.21	0.00
Lodhran	36.86	27.57	70.00	0.00	39.40	31.29	60.21	0.00
Sahiwal	34.00	26.00	78.00	0.00	35.00	26.96	74.00	0.00
Pakpattan	36.33	27.17	57.67	0.00	36.83	28.83	53.00	0.00
Okara	38.50	24.50	75.00	0.00	41.50	32.00	86.00	0.00
Bahawalpur	38.11	27.39	61.00	0.00	40.21	29.50	60.07	0.00
Bahawalnagar	37.36	26.36	62.36	2.29	40.29	28.93	58.50	0.00
R.Y.Khan	32.13	25.38	44.63	0.00	40.29	27.86	77.71	0.00
D.G. Khan	40.86	28.86	71.36	0.00	41.43	28.86	55.50	0.00
Muzaffar Garh	33.60	26.60	46.64	0.00	38.38	29.28	48.21	0.00
Rajanpur	45.4	30.2	63.10	0.00	45.40	30.3	64.2	0.00
Layyah	37.71	24.57	68.57	0.00	38.71	26.85	43.14	0.00
<b>TOT/AVG</b>	<b>37.38</b>	<b>26.91</b>	<b>64.57</b>	<b>2.29</b>	<b>39.69</b>	<b>29.31</b>	<b>63.49</b>	<b>0.00</b>

### Weather forecast for next 7 day in cotton zone

Division	Dated	14/9	15/9	16/9	17/9	18/9	19/9	20/9
Multan	Max.Temp.	42	41	40	39	36	41	40
	Min.Temp.	29	29	29	29	29	27	31
	Humidity %	22	26	32	34	43	28	12
Sahiwal	Max.Temp.	41	41	40	40	36	40	37
	Min.Temp.	25	26	27	26	26	25	30
	Humidity %	26	28	32	36	44	34	17
Bahawalpur	Max.Temp.	41	39	38	39	36	39	39
	Min.Temp.	27	30	29	28	29	27	28
	Humidity %	27	36	39	37	46	35	15
D.G. Khan	Max.Temp.	43	42	42	40	39	41	40
	Min.Temp.	29	31	30	29	29	27	32
	Humidity %	19	23	31	31	23	24	11
Average Cotton Region	Max.Temp.	39.71						
	Min.Temp.	28.32						
	Humidity %	28.96						

Source: [timeanddate.com](http://timeanddate.com)

### Summary of weather forecast

Overall weather for seven days in cotton zone during next week will remain mild hot.

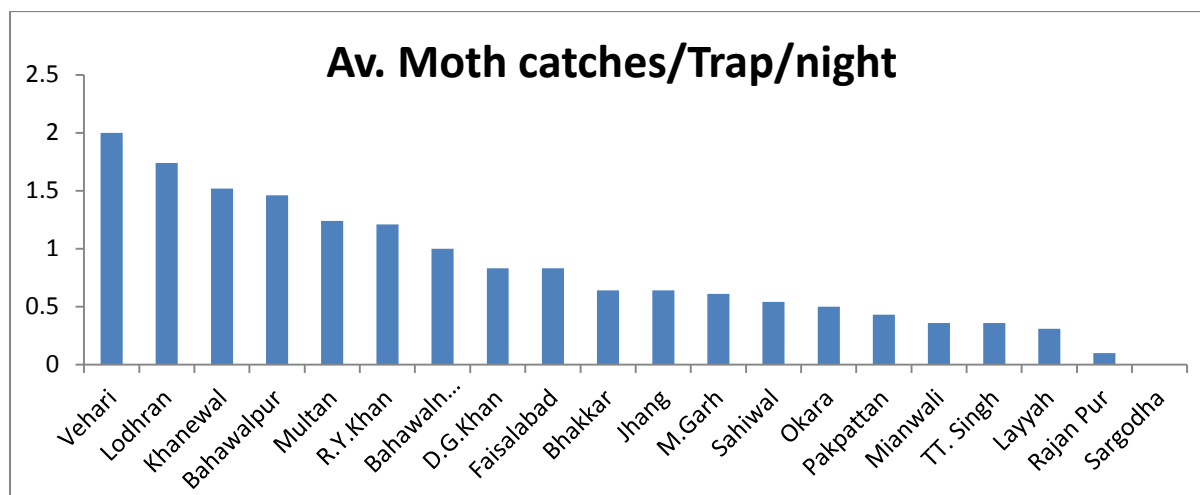
Pest Forecast for Next 15 days				
Avg. Temperature for next 15 days = 31.53 °C				
Avg. Relative Humidity for next 15 days= 24.67 %				
Sr. No.	Pest Name	Opt. Temperature	Relative Humidity	Pest Prediction
1	Whitefly	35-42 °C	<50%	May Increase
2	Jassid	35-40 °C	>70%	May Sustain
3	Thrips	35-40 °C	<60%	May Decrease
4	Mealy Bug	35-40 °C	<60-80%	May Increase
5	Mites	28-40 °C	<40-50%	Low in Infestation
6	Dusky Cotton Bug	28-40 °C	<50-80%	May Sustain
7	Pink Bollworm	32-40 °C	<60-80%	May Increase
8	American Bollworm	32-40 °C	<50-70%	Low in Infestation
9	Spotted Bollworm	30-40 °C	<60-100%	Low in Infestation
10	Armyworm	30-40 °C	>70-100%	May Sustain
11	CLCuV	-	-	May Increase

### Forecast of Sucking Pests:

### Moth Catches in Pheromone Traps during 2<sup>nd</sup> Week of September, 2020

Moth Catches in Pheromone Traps During 2nd Week of September, 2020			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	52	1.24
Khanewal	8	85	1.52
Vehari	6	84	2.00
Lodhran	6	73	1.74
Sahiwal	4	15	0.54
Pakpattan	4	12	0.43
Okara	4	14	0.50
Bahawalpur	8	82	1.46
Bahawalnagar	10	70	1.00
R.Y.Khan	8	68	1.21
D.G.Khan	4	35	0.83
M.Garh	8	34	0.61
Rajan Pur	6	4	0.10
Layyah	6	13	0.31
Sargodha	2	0	0.00
Mianwali	4	10	0.36
Bhakkar	8	36	0.64
Faisalabad	6	35	0.83
TT. Singh	6	15	0.36
Jhang	4	36	0.64

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



### Moth catches on light traps during 2<sup>nd</sup> Week of September, 2020

Moth Catches on Light Traps/Trap/week During 2 <sup>nd</sup> Week of September, 2020				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1	0	4
Khanewal	4	7	0	37
Vehari	3	2	0	24
Lodhran	3	4	0	38
Sahiwal	2	3	0	8
Pakpattan	2	3	0	13
Okara	3	4	0	7
Bahawalpur	4	1	1	4
Bahawalnagar	5	4	3	9
R.Y.Khan	4	5	2	6
D.G.Khan	3	8	7	10
M.Garh	4	3	4	7
Rajan Pur	3	2	0	0
Layyah	3	8	0	4

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

## 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;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Spirotetramate	125 ml
2	Pyriproxifen 10.8 EC	500 ml
3	Buprofezin	600 gm
4	Flunicamid 50 WG	60-80 gm
5	Diafenturon	200 ml

### 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;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Flunicamid 50 WG	60 gm
2	Fipronil+Imidacloprid	60 gm
3	Nitenpiram 10 AS	200 ml
4	Dinotefuron 20 SG	100 gm
5	Dimethoate 40 EC	330-400 ml
6	Thiacloprid 480 SC	200 ml

### 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;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Fipronil+Imidacloprid	60 gm



2	Chlorfenpyr	125 ml
3	Acephate 97% DF	250-300 gm

### 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	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 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;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Spintoram 120 SC	80 ml
2	Chlorantraniliprole	50ml
3	Triazophos	1000ml
4	Bifenthrin	250ml
5	Gammacyhalothrin	100ml
6	Lambdacyhalothrin	333ml

## 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;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Fipronil 5% SC	480 ml
2	Acetamaprid	125 gm
3	Chlorpyrifos	800-1000ml

## 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;

Sr#	CHEMICAL NAME	DOSE (Per Acre)
1	Leufenuron	200ml
2	Flubendamide	50ml

## CLCuV MANAGEMENT

1. Keep Cotton fields free from all kinds of weeds.
2. Eradicate other alternate host plants of CLCuV and dispose them off carefully.
3. Thinning out and destruction of Virus affected plants.
4. Remove CLCuV effected plants in less than 60 DAS (Days after sowing) crop.
5. Hoeing after each irrigation or rain at wattar condition till canopies permit.
6. Apply post emergence Glyphosate for both broad and narrow leaved weeds and Glyphosate for grassy weeds with shield and use Flat Fan Nozzle, if needed.
7. Irrigate the fields when needed keeping in view weather conditions e.g. temperature, rainfall, soil water holding capacity and plant need.
8. Balanced use of Fertilizer i.e. N.P.K.

9. Keep transmission vector (whitefly) at the low ebb

### Alternate host plants of CLCuV

Crops	Vegetables	Ornamentals	Weeds
Sunflower	Okra	Gurhal	Leh
Melon	Brinjal	Chambeli	Lehli
Tobacco	Chillies		Mako
	Tomato		Maina
	Potato		Karund/Bathu
	Cucumber		Gardenia
			Hazardani
			Rattan jot
			Sun Kukra

### Economic threshold levels of cotton pests

Insect pests	Economic threshold levels
Jassid	1 Adult or Nymph per leaf
Whitefly	5 Adults or Nymphs or both per Leaf
Thrips	8-10 Adults or Nymphs per Leaf
Mealy bug	on appearance
Mites	On damage appearance
Spotted Boll worm	3 Larvae/ 25 plants.
Pink Boll worm	5 Larvae /100 bolls.
American boll worm	5 brown eggs or 3 small larvae or both 5 per 25 plants on non Bt varieties. 2 larvae of 2 <sup>nd</sup> 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