

## PEST SITUATION ON COTTON CROP IN PUNJAB DURING 3<sup>RD</sup> WEEK OF JULY, 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	17.48	81.27	10.25	83.25	10.45	79.96	Increasing
2	Jassid	17.36	77.71	15.98	75.95	14.42	74.23	Increasing
3	Thrips	9.81	85.83	6.54	80.19	3.13	81.96	Increasing
4	Mealy Bug	3.79	-	1.86	-	4.72	-	Increasing
5	Mites	0.12	4.20	0.04	3.39	0.00	0.68	Stable
6	Dusky Cotton Bug	0.04	12.80	0.12	16.55	0.04	4.34	Stable
7	Pink Bollworm	0.28	10.13	0.48	10.45	0.34	8.08	Stable
8	American Bollworm	0.00	0.73	0.04	0.81	0.00	0.08	Stable
9	Spotted Bollworm	0.00	0.24	0.04	0.12	0.00	0.57	Stable
10	Armyworm	3.07	-	3.31	-	2.38	-	Stable
11	CLCuV	1.41	-	1.37	-	3.36	-	Stable

### Tehsil wise percentage of hot spots of Whitefly

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	MULTAN	37.0	33	JALAL PUR P.W	14.7
2	KEHROR PACCA	36.2	34	MANKERA	14.3
3	SAHIWAL	36.0	35	PIR MAHAL	13.8
4	CHICHA WATNI	35.7	36	CHOBARA	13.6
5	MIAN CHANNU	34.1	37	JAHANIAN	13.3
6	CHISHTIAN	32.0	38	YAZMAN	13.0
7	PAK PATTAN	31.7	39	KHAN PUR	12.8
8	BAHAWAL PUR	25.8	40	KOT CHUTTA	12.5
9	VEHARI	25.0	41	T.T.SINGH	12.5
10	HAROON ABAD	25.0	42	ALI PUR	11.1
11	JATOI	25.0	43	A.P.EAST	10.9
12	HASILPUR	24.0	44	SADIQ ABAD	10.0
13	SHUJABAD	23.9	45	KOT ADDU	10.0
14	KHANEWAL	23.4	46	FAISALABAD	10.0
15	LODHRAN	23.1	47	PIPLAN	10.0
16	TANDLIANWALA	22.7	48	OKARA	9.8
17	FORT ABBAS	22.5	49	R.Y.KHAN	9.5
18	JAM PUR	20.7	50	KAROR L.E.	8.3
19	MINCHAN ABAD	19.6	51	D.G.KHAN	7.5
20	SHORKOT	19.0	52	MUZUFAR GARH	7.5
21	DUYAPUR	18.6	53	LIAQUAT PUR	7.1
22	KABIR WALA	18.2	54	DARYA KHAN	7.1
23	ISA KHEL	17.6	55	RENALA KHURD	6.7
24	MAILSI	17.5	56	MIANWALI	6.7
25	ARIF WALA	17.5	57	DEPALPUR	6.3
26	JHANG	17.4	58	TAUNSA	6.0
27	LAYYAH	16.3	59	KALLOR KOT	5.9
28	BAHAWAL NAGAR	16.0	60	RAJAN PUR	5.6
29	GOJRA	16.0	61	18-HAZARI	5.0
30	SUMUNDRI	16.0	62	A.P.SIAL	4.5
31	BHAKKAR	15.4	63	ROJHAN	4.0
32	BURE WALA	15.0			

### Tehsil wise percentage of hot spots of Jassid

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	JALAL PUR P.W	47.1	32	KHANEWAL	15.6
2	MULTAN	43.5	33	JAHANIAN	15.6
3	SHUJABAD	41.3	34	BHAKKAR	15.4
4	A.P.EAST	32.7	35	MINCHAN ABAD	15.2
5	HASILPUR	32.0	36	FORT ABBAS	15.0
6	TANDLIANWALA	31.8	37	KOT CHUTTA	15.0
7	YAZMAN	28.3	38	R.Y.KHAN	14.3
8	ARIF WALA	25.0	39	MANKERA	14.3
9	KOT ADDU	25.0	40	SAHIWAL	14.0
10	BAHAWAL PUR	24.2	41	PIR MAHAL	13.8
11	CHISHTIAN	24.0	42	DEPALPUR	12.5
12	DUYAPUR	23.3	43	JATOI	12.5
13	KABIR WALA	22.7	44	LAYYAH	12.2
14	HAROON ABAD	22.5	45	KALLOR KOT	11.8
15	LODHRAN	21.2	46	RENALA KHURD	11.1
16	JAM PUR	20.7	47	KEHROR PACCA	10.6
17	ALI PUR	20.0	48	T.T.SINGH	10.4
18	FAISALABAD	20.0	49	BURE WALA	10.0
19	SUMUNDRI	20.0	50	BAHAWAL NAGAR	10.0
20	KHAN PUR	19.1	51	A.P SIAL	9.1
21	MAILSI	17.5	52	KAROR L.E.	8.3
22	SADIQ ABAD	17.5	53	ROJHAN	8.0
23	D.G.KHAN	17.5	54	VEHARI	7.5
24	MUZUFAR GARH	17.5	55	RAJAN PUR	7.4
25	JHANG	17.4	56	OKARA	7.3
26	PAK PATTAN	17.1	57	CHICHA WATNI	7.1
27	LIAQUAT PUR	16.7	58	DARYA KHAN	7.1
28	TAUNSA	16.0	59	18-HAZARI	5.0
29	GOJRA	16.0	60	SHORKOT	4.8
30	MIAN CHANNU	15.9	61	MIANWALI	3.3
31	CHOBARA	15.9			

### Tehsil wise percentage of hot spots of Thrips

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	HASILPUR	32.0	25	VEHARI	10.0
2	JALAL PUR P.W	26.5	26	D.G.KHAN	10.0
3	KABIR WALA	25.0	27	KOT ADDU	10.0
4	HAROON ABAD	20.0	28	JATOI	10.0
5	CHISHTIAN	20.0	29	CHOBARA	9.1
6	BAHAWAL PUR	19.7	30	T.T.SINGH	8.3
7	MIAN CHANNU	18.2	31	GOJRA	8.0
8	BAHAWAL NAGAR	18.0	32	BURE WALA	7.5
9	JAHANIAN	15.6	33	ARIF WALA	7.5
10	JAM PUR	15.5	34	MUZUFAR GARH	7.5
11	LODHRAN	15.4	35	OKARA	7.3
12	18-HAZARI	15.0	36	DARYA KHAN	7.1
13	KEHROR PACCA	14.9	37	DUYAPUR	7.0
14	CHICHA WATNI	14.3	38	PIPLAN	6.7
15	PIR MAHAL	13.8	39	SAHIWAL	6.0
16	MIANWALI	13.3	40	TAUNSA	6.0
17	SHUJABAD	13.0	41	ISA KHEL	5.9
18	MINCHAN ABAD	13.0	42	MAILSI	5.0
19	JHANG	13.0	43	A.P SIAL	4.5
20	RAJAN PUR	13.0	44	MULTAN	4.3
21	KHANEWAL	12.5	45	KAROR L.E.	4.2

22	FORT ABBAS	12.5	46	PAK PATTAN	2.4
23	KOT CHUTTA	12.5	47	ALI PUR	2.2
24	ROJHAN	12.0	48	A.P.EAST	1.8

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

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	MULTAN	28.3	19	YAZMAN	4.3
2	SHUJABAD	17.4	20	MINCHAN ABAD	4.3
3	KHAN PUR	12.8	21	CHICHA WATNI	4.3
4	CHISHTIAN	10.0	22	LODHRAN	3.8
5	DUNYAPUR	9.3	23	JAM PUR	3.4
6	JHANG	8.7	24	MIANWALI	3.3
7	HASILPUR	8.0	25	JALAL PUR P.W	2.9
8	BAHAWAL PUR	7.6	26	VEHARI	2.5
9	FORT ABBAS	7.5	27	HAROON ABAD	2.5
10	LIAQUAT PUR	7.1	28	SADIQ ABAD	2.5
11	SAHIWAL	6.0	29	KOT CHUTTA	2.5
12	MAILSI	5.0	30	R.Y.KHAN	2.4
13	BURE WALA	5.0	31	KEHROR PACCA	2.1
14	KOT ADDU	5.0	32	KAROR L.E.	2.1
15	JATOI	5.0	33	T.T.SINGH	2.1
16	MIAN CHANNU	4.5	34	TAUNSA	2.0
17	CHOBARA	4.5	35	RAJAN PUR	1.9
18	ALI PUR	4.4	36	KHANEWAL	1.6

### Tehsil wise percentage of hot spots of Mites

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	DUYAPUR	4.65	2	MULTAN	2.17

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

Sr#	TEHSIL	%AGE
1	KEHROR PACCA	2.1

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

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	MULTAN	28.3	18	CHISHTIAN	4.0
2	SHUJABAD	10.9	19	SUMUNDRI	4.0
3	KABIR WALA	9.1	20	LODHRAN	3.8
4	MIAN CHANNU	9.1	21	JALAL PUR P.W	2.9
5	TANDLIANWALA	9.1	22	VEHARI	2.5
6	JHANG	8.7	23	OKARA	2.4
7	D.G.KHAN	7.5	24	CHOBARA	2.3
8	KOT ADDU	7.5	25	JAHANIAN	2.2
9	JATOI	7.5	26	RENALA KHURD	2.2
10	DUYAPUR	7.0	27	ALI PUR	2.2
11	KOT CHUTTA	5.0	28	MINCHAN ABAD	2.2
12	18-HAZARI	5.0	29	KEHROR PACCA	2.1
13	KHANEWAL	4.7	30	T.T.SINGH	2.1
14	BAHAWAL PUR	4.5	31	TAUNSA	2.0
15	KAROR L.E.	4.2	32	A.P.EAST	1.8
16	SAHIWAL	4.0	33	JAM PUR	1.7
17	HASILPUR	4.0	34	KALLOR KOT	1.7

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

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	MIAN CHANNU	6.8	6	JHANG	4.3
2	ALI PUR	4.4	7	KAROR L.E.	2.1

### Tehsil wise percentage of hot spots of CLCuV

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	R.Y.KHAN	16.7	6	SHUJABAD	6.5
2	JALAL PUR P.W	11.8	7	BAHAWAL PUR	6.1
3	A.P.EAST	10.9	8	KHAN PUR	4.3
4	SADIQ ABAD	10.0	9	MULTAN	2.2
5	LIAQUAT PUR	7.1	10	CHICHA WATNI	1.4

### FORECAST FOR THE NEXT WEEK

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

Districts	2020				2019			
	Temperature		R.H%	Rainfall (mm)	Temperature		RH%	Rainfall (mm)
	Max.	Min.			Max.	Min.		
MULTAN	38.60	30.20	74.90	0.00	38.00	30.14	71.93	0.00
KHANEWAL	40.91	30.57	64.14	0.00	37.63	29.13	67.38	3.50
VEHARI	40.29	29.14	66.00	0.00	38.13	29.38	70.56	15.00
LODHRAN	40.57	31.14	69.29	0.00	39.57	30.29	60.57	0.00
Sahiwal	38.10	27.21	72.43	46.00	36.67	26.37	69.00	41.00
Pakpattan	35.80	27.00	54.80	0.00	42.80	26.60	51.20	0.00
Okara	41.00	30.35	73.15	15.00	40.22	28.07	70.71	0.00
Bahawalpur	41.66	30.21	52.57	0.00	38.91	29.24	57.93	0.00
Bahawalnagar	40.90	30.00	54.80	0.00	39.40	28.30	60.70	0.60
R.Y.Khan	43.88	29.13	46.17	0.00	43.31	30.06	72.29	0.00
D.G. Khan	41.86	30.43	55.71	0.00	41.71	29.86	54.64	0.00
Muzaffar Garh	42.14	31.14	44.64	0.00	41.25	29.75	41.86	0.00
Rajapur	42.6	31.6	64.30	0.30	41.20	29.3	54.20	10.00
Layyah	39.14	27.57	41.00	7.00	37.14	27.00	43.71	34.00
<b>TOT/AVG</b>	<b>40.53</b>	<b>29.69</b>	<b>59.56</b>	<b>68.30</b>	<b>39.71</b>	<b>28.82</b>	<b>60.48</b>	<b>104.10</b>

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

Division	Dated	21/7	22/7	23/7	24/7	25/7	26/7	27/7
Multan	Max.Temp.	33	35	39	40	41	43	37
	Min.Temp.	28	27	29	31	31	34	30
	Humidity %	59	48	39	36	30	28	24
Sahiwal	Max.Temp.	30	32	36	38	38	41	36
	Min.Temp.	25	25	26	28	28	31	29
	Humidity %	66	61	44	41	44	36	27
Bahawalpur	Max.Temp.	36	35	39	39	41	42	37
	Min.Temp.	29	28	29	30	30	34	28
	Humidity %	53	52	40	37	29	31	28
D.G. Khan	Max.Temp.	35	37	41	40	42	45	38
	Min.Temp.	28	28	30	32	32	34	31
	Humidity %	53	41	33	37	28	24	24
Average Cotton Region	Max.Temp.	<b>38.07</b>						
	Min.Temp.	<b>29.46</b>						
	Humidity %	<b>39.04</b>						

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

### Summary of weather forecast

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

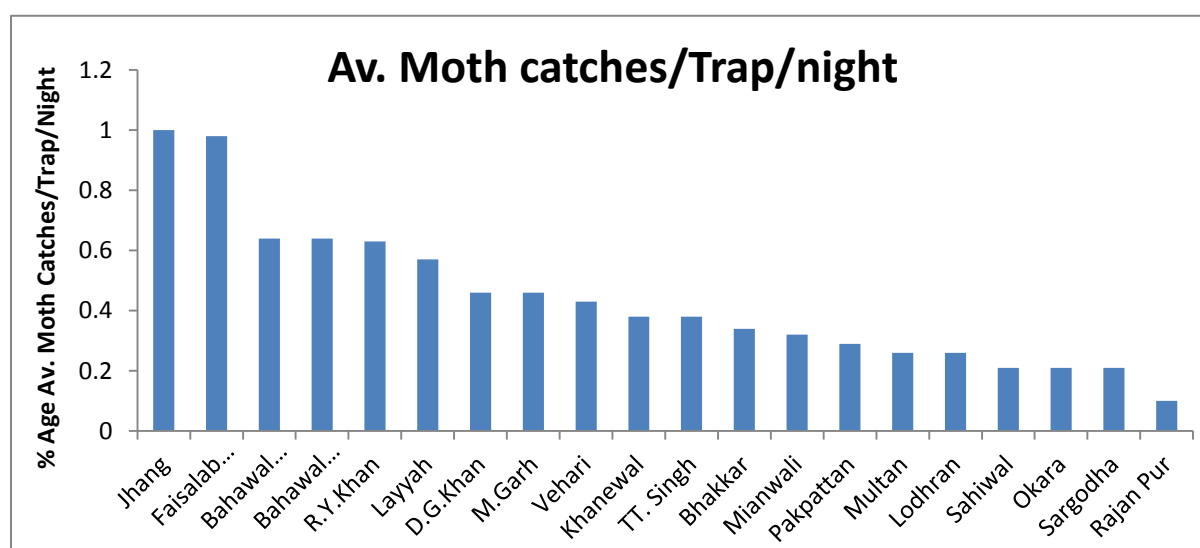
<b>Pest Forecast for Next 15 days</b>				
Avg. Temperature for next 15 days = <b>35.11</b>				
Avg. Relative Humidity for next 15 days= <b>39.04%</b>				
<b>Sr. No.</b>	<b>Pest Name</b>	<b>Opt. Temperature</b>	<b>Relative Humidity</b>	<b>Pest Prediction</b>
1	Whitefly	35-42 °C	<50%	May Increase
2	Jassid	35-40 °C	>70%	May Increase
3	Thrips	35-40 °C	<60%	May Increase
4	Mealy Bug	35-40 °C	<60-80%	May Increase
5	Mites	28-40 °C	<40-50%	Stable
6	Dusky Cotton Bug	28-40 °C	<50-80%	Stable
7	Pink Bollworm	32-40 °C	<60-80%	Stable
8	American Bollworm	32-40 °C	<50-70%	Stable
9	Spotted Bollworm	30-40 °C	<60-100%	Stable
10	Armyworm	30-40 °C	>70-100%	Stable
11	CLCuV	-	-	Stable

## Forecast of Sucking Pests:

### Moth Catches in Pheromone Traps during 3<sup>rd</sup> Week of July, 2020

Moth Catches in Pheromone Traps During 3 <sup>rd</sup> Week of July, 2020			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	11	0.26
Khanewal	8	21	0.38
Vehari	6	18	0.43
Lodhran	6	11	0.26
Sahiwal	4	6	0.21
Pakpattan	4	8	0.29
Okara	4	6	0.21
Bahawalpur	8	36	0.64
Bahawalnagar	10	45	0.64
R.Y.Khan	8	35	0.63
D.G.Khan	4	13	0.46
M.Garh	8	26	0.46
Rajan Pur	6	4	0.10
Layyah	6	24	0.57
Sargodha	2	3	0.21
Mianwali	4	9	0.32
Bhakkar	8	19	0.34
Faisalabad	6	41	0.98
TT. Singh	6	16	0.38
Jhang	4	28	1.00

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



## Moth catches on light traps during 3<sup>rd</sup> week of July, 2020

Moth Catches on Light Traps/Trap/week During 3 <sup>rd</sup> Week of July, 2020				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	1	0	14
Khanewal	4	4	0	20
Vehari	3	1	0	9
Lodhran	3	3	0	16
Sahiwal	2	2	0	11
Pakpattan	2	4	0	10
Okara	3	3	0	4
Bahawalpur	4	6	1	7
Bahawalnagar	5	8	3	16
R.Y.Khan	4	6	3	6
D.G.Khan	3	7	6	10
M.Garh	4	4	4	6
Rajan Pur	3	2	2	2
Layyah	3	0	0	3
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.

### 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 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**

<b>Crops</b>	<b>Vegetables</b>	<b>Ornamentals</b>	<b>Weeds</b>	<b>Orchards</b>
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 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
			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	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 <sup>nd</sup> 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

## **LIST OF RECOMMENDED PESTICIDES**

<b>WHITE FLY MANAGEMENT</b>		
<b>Sr#</b>	<b>CHEMICAL NAME</b>	<b>DOSE (PER ACRES)</b>
<b>1</b>	Spirotetramate	125 ml
<b>2</b>	Pyriproxifen 10.8 EC	500 ml
<b>3</b>	Buprofezin	600 g
<b>4</b>	Flunicamid 50 WG	60-80 g
<b>5</b>	Diafenthuron	200 ml
<b>JASSID MANAGEMENT</b>		
<b>1</b>	Flunicamid 50 WG	60 g
<b>2</b>	Fipronil+Imidacloprid	60 gm
<b>3</b>	Nitenpiram 10 AS	200 ml
<b>4</b>	Dinotefuron 20 SG	100 gm
<b>5</b>	Dimethoate 40 EC	330-400 ml
<b>6</b>	Thiacloprid 480 SC	200 ml
<b>THRIPS MANAGEMENT</b>		
<b>1</b>	Fipronil+Imidacloprid	60 gm
<b>2</b>	Chlorfenpyr	125 ml
<b>MEALY BUG MANAGEMENT</b>		
<b>1</b>	Malathion	500 ml
<b>2</b>	Profenophos 50 EC	800 ml
<b>PINK BOLLWORM MANAGEMENT</b>		
<b>1</b>	Spintoram 120 SC	80 ml
<b>2</b>	Chlorantraniliprole	50 ml
<b>3</b>	Triazophos	1000 ml
<b>4</b>	Bifenthrin	250 ml
<b>5</b>	Gammacyhalothrin	100 ml
<b>6</b>	Lambdacyhalothrin	333 ml
<b>DUSKY COTTON BUG MANAGEMENT</b>		
<b>1</b>	Imidacloprid	250 gm
<b>2</b>	Acetamaprid	125 gm
<b>3</b>	Chlopyrifos	800-1000 ml
<b>ARMYWORM MANAGEMENT</b>		
<b>1</b>	Leufenuron	200 ml
<b>2</b>	Flubendamide	50 ml