

## PEST SITUATION ON COTTON CROP IN PUNJAB DURING 2<sup>ND</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	10.25	83.25	5.21	76.67	6.93	81.31	Increasing
2	Jassid	15.98	75.95	11.18	71.79	11.81	75.14	Increasing
3	Thrips	6.53	80.19	4.33	75.07	2.20	78.94	Increasing
4	Mealy Bug	1.86	-	1.01	-	1.84	-	Increasing
5	Mites	0.04	3.39	0.04	2.52	0.01	5.64	Stable
6	Dusky Cotton Bug	0.12	16.55	0.04	19.42	0.00	4.80	Increasing
7	Pink Bollworm	0.48	10.45	0.25	10.42	0.44	7.17	Increasing
8	American Bollworm	0.04	0.81	0.00	1.43	0.04	0.28	Increasing
9	Spotted Bollworm	0.04	0.12	0.00	0.04	0.00	0.56	Increasing
10	Armyworm	3.31	-	1.47	-	3.00	-	Increasing
11	CLCuV	1.37	-	0.13	-	1.76	-	Increasing

### Tehsil wise percentage of hot spots of Whitefly

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	CHICHA WATNI	30.4	30	GOJRA	8.8
2	KEHROR PACCA	22.9	31	MIAN CHANNU	8.5
3	PAK PATTAN	21.4	32	KHAN PUR	8.5
4	CHISHTIAN	20.0	33	MUZUFAR GARH	8.3
5	HASILPUR	19.6	34	JARANWALA	8.3
6	ARIF WALA	19.5	35	DARYA KHAN	8.3
7	SAHIWAL	19.1	36	R.Y.KHAN	8.2
8	JALAL PUR P.W	18.4	37	KAROR L.E.	7.3
9	KABIR WALA	17.5	38	RENALA KHURD	7.1
10	HAROON ABAD	17.5	39	FORT ABBAS	7.0
11	MULTAN	16.7	40	TANDLIANWALA	6.9
12	SHORKOT	16.7	41	PIR MAHAL	6.7
13	BAHAWAL PUR	16.4	42	PIPLAN	6.7
14	LODHRAN	16.3	43	LIAQUAT PUR	6.1
15	MINCHAN ABAD	16.3	44	ISA KHEL	5.9
16	VEHARI	15.0	45	KALLOR KOT	5.6
17	JATOI	14.3	46	A.P.EAST	5.0
18	BAHAWAL NAGAR	13.0	47	CHOBARA	5.0
19	KHANEWAL	12.7	48	18-HAZARI	5.0
20	MAILSI	12.5	49	OKARA	4.7
21	BURE WALA	12.5	50	T.T.SINGH	4.6
22	LAYYAH	11.6	51	RAJAN PUR	4.4
23	JHANG	11.5	52	SHUJABAD	4.2
24	DUYAPUR	11.1	53	TAUNSA	4.0
25	DEPALPUR	11.1	54	ALI PUR	4.0
26	MIANWALI	10.0	55	A.P SIAL	3.6
27	SADIQ ABAD	9.8	56	JAM PUR	2.5
28	SUMUNDRI	9.1	57	YAZMAN	2.0
29	JAHANIAN	8.9			

### Tehsil wise percentage of hot spots of Jassid

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	SHUJABAD	62.5	31	BHAKKAR	14.3
2	MULTAN	45.2	32	LAYYAH	14.0
3	MUZUFAR GARH	37.5	33	TANDLIANWALA	13.8
4	JAM PUR	32.5	34	SUMUNDRI	13.6
5	BAHAWAL PUR	31.1	35	PIR MAHAL	13.3
6	JALAL PUR P.W	26.3	36	KHANEWAL	12.7
7	A.P.EAST	25.0	37	VEHARI	12.5
8	HASILPUR	23.5	38	BURE WALA	12.5
9	LODHRAN	22.4	39	TAUNSA	12.0
10	RAJAN PUR	22.2	40	MINCHAN ABAD	11.6
11	ARIF WALA	22.0	41	DEPALPUR	11.1
12	YAZMAN	20.0	42	SHORKOT	11.1
13	KOT CHUTTA	20.0	43	KALLOR KOT	11.1
14	KOT ADDU	20.0	44	KAROR L.E.	10.9
15	SADIQ ABAD	19.5	45	SAHIWAL	10.6
16	JAHANIAN	17.8	46	MAILSI	10.0
17	PAK PATTAN	16.7	47	RENALA KHURD	9.5
18	JARANWALA	16.7	48	BAHAWAL NAGAR	8.7
19	LIAQUAT PUR	16.3	49	DARYA KHAN	8.3
20	CHISHTIAN	16.0	50	CHOBARA	7.5
21	ALI PUR	16.0	51	A.P SIAL	7.1
22	JHANG	15.4	52	OKARA	7.0
23	KABIR WALA	15.0	53	DUYAPUR	6.7
24	HAROON ABAD	15.0	54	MIANWALI	6.7
25	D.G.KHAN	15.0	55	GOJRA	5.9
26	MIAN CHANNU	14.9	56	18-HAZARI	5.0
27	KHAN PUR	14.9	57	FORT ABBAS	4.7
28	KEHROR PACCA	14.6	58	ROJHAN	4.0
29	R.Y.KHAN	14.3	59	T.T.SINGH	3.1
30	JATOI	14.3	60	CHICHA WATNI	2.2

### Tehsil wise percentage of hot spots of Thrips

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	BAHAWAL PUR	18.0	24	ROJHAN	8.0
2	KABIR WALA	17.5	25	MAILSI	7.5
3	HAROON ABAD	17.5	26	JATOI	7.1
4	CHICHA WATNI	17.4	27	RAJAN PUR	6.7
5	CHISHTIAN	16.0	28	MUZUFAR GARH	6.3
6	JHANG	15.4	29	TAUNSA	6.0
7	JAM PUR	15.0	30	ISA KHEL	5.9
8	HASILPUR	13.7	31	KHANEWAL	5.5
9	BURE WALA	12.5	32	KAROR L.E.	5.5
10	PAK PATTAN	11.9	33	KOT CHUTTA	5.0
11	MINCHAN ABAD	11.6	34	CHOBARA	5.0
12	BAHAWAL NAGAR	10.9	35	FORT ABBAS	4.7
13	KEHROR PACCA	10.4	36	T.T.SINGH	4.6
14	VEHARI	10.0	37	SHUJABAD	4.2
15	18-HAZARI	10.0	38	R.Y.KHAN	4.1
16	PIR MAHAL	10.0	39	PIPLAN	3.3
17	MIANWALI	10.0	40	KOT ADDU	2.5
18	ARIF WALA	9.8	41	RENALA KHURD	2.4
19	JAHANIAN	8.9	42	OKARA	2.3
20	DUYAPUR	8.9	43	LAYYAH	2.3
21	SAHIWAL	8.5	44	MIAN CHANNU	2.1
22	JARANWALA	8.3	45	ALI PUR	2.0
23	LODHRAN	8.2			

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

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	SAHIWAL	12.8	12	MIANWALI	3.3
2	MULTAN	11.9	13	T.T.SINGH	3.1
3	HASILPUR	7.8	14	MAILSI	2.5
4	VEHARI	7.5	15	SADIQ ABAD	2.4
5	BAHAWAL PUR	6.6	16	JATOI	2.4
6	CHICHA WATNI	6.5	17	RAJAN PUR	2.2
7	KHAN PUR	6.4	18	SHUJABAD	2.1
8	JAM PUR	5.0	19	KEHROR PACCA	2.1
9	DUYAPUR	4.4	20	YAZMAN	2.0
10	LODHRAN	4.1	21	KAROR L.E.	1.8
11	JHANG	3.8			

### Tehsil wise percentage of hot spots of Mites

Sr#	TEHSIL	%AGE
1	BAHAWAL PUR	1.63

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

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	SHUJABAD	2.1	3	LODHRAN	2.0
2	KEHROR PACCA	2.1			

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

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	MULTAN	28.6	19	CHISHTIAN	4.0
2	SHORKOT	16.7	20	PIR MAHAL	3.3
3	A.P SIAL	14.3	21	MIANWALI	3.3
4	SHUJABAD	12.5	22	T.T.SINGH	3.1
5	JAHANIAN	8.9	23	GOJRA	2.9
6	MIAN CHANNU	8.5	24	JALAL PUR P.W	2.6
7	JHANG	7.7	25	KOT ADDU	2.5
8	KHANEWAL	7.3	26	ARIF WALA	2.4
9	JATOI	7.1	27	PAK PATTAN	2.4
10	BAHAWAL PUR	6.6	28	RAJAN PUR	2.2
11	SAHIWAL	6.4	29	CHICHA WATNI	2.2
12	KAROR L.E.	5.5	30	BAHAWAL NAGAR	2.2
13	KABIR WALA	5.0	31	MUZUFAR GARH	2.1
14	VEHARI	5.0	32	LODHRAN	2.0
15	D.G.KHAN	5.0	33	R.Y.KHAN	2.0
16	KOT CHUTTA	5.0	34	LIAQUAT PUR	2.0
17	18-HAZARI	5.0	35	TAUNSA	2.0
18	MINCHAN ABAD	4.7			

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

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	MIAN CHANNU	6.4	6	KEHROR PACCA	2.1
2	MAILSI	5.0	7	ALI PUR	2.0
3	KABIR WALA	2.5	8	KHANEWAL	1.8
4	JATOI	2.4	9	KAROR L.E.	1.8
5	LAYYAH	2.3			

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

Sr#	TEHSIL	%AGE
1	JAMPUR	2.5

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

Sr#	TEHSIL	%AGE
1	R.Y. KHAN	2.0

### Tehsil wise percentage of hot spots of Cotton Leaf Curl Virus

Sr#	TEHSIL	%AGE	Sr#	TEHSIL	%AGE
1	R.Y.KHAN	20.4	6	SHUJABAD	4.2
2	KHAN PUR	17.0	7	JATOI	2.4
3	SADIQ ABAD	9.8	8	JAHANIAN	2.2
4	LIAQUAT PUR	8.2	9	CHICHA WATNI	2.2
5	BURE WALA	5.0	10	MIAN CHANNU	2.1

### 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	38.20	31.40	68.10	0.00	39.00	31.57	63.86	0.00
KHANEWAL	39.86	30.00	63.71	0.00	39.75	30.75	65.88	0.00
VEHARI	40.50	29.86	66.57	0.00	41.00	31.86	63.29	0.00
LODHRAN	39.40	30.86	66.43	0.00	41.22	32.44	50.94	0.00
SAHIWAL	38.88	28.38	63.63	30.00	40.13	34.04	59.96	17.00
PAKPATTAN	38.60	28.20	54.80	2.00	43.00	26.80	49.60	0.00
OKARA	38.52	25.68	65.00	5.00	42.12	25.04	64.85	0.00
BAHAWALPUR	40.30	30.24	54.86	0.00	41.24	30.44	54.57	0.00
BAHAWALNAGAR	40.42	27.67	54.50	1.30	42.08	29.17	41.17	3.33
R.Y.KHAN	43.88	29.13	46.00	0.00	43.31	30.06	72.29	0.00
D.G. KHAN	41.00	30.57	51.57	0.00	43.14	30.43	50.93	0.00
MUZAFFARGARH	40.57	29.43	39.21	0.00	40.92	29.58	42.29	0.00
RAJANPUR	40.16	31.26	63.00	0.00	41.54	30.16	67.00	0.00
LAYYAH	40.00	28.33	40.83	0.00	41.00	29.33	42.67	0.00
<b>TOT/AVG</b>	<b>40.02</b>	<b>29.36</b>	<b>57.02</b>	<b>38.30</b>	<b>41.39</b>	<b>30.12</b>	<b>56.38</b>	<b>20.33</b>

## Weather forecast for next 7 day in cotton zone

Division	Dated	15/7	16/7	17/7	18/7	19/7	20/7	21/7
Multan	Max.Temp.	41	39	40	43	43	44	38
	Min.Temp.	34	33	32	33	34	31	28
	Humidity %	31	35	33	28	29	32	24
Sahiwal	Max.Temp.	40	38	40	41	39	41	37
	Min.Temp.	32	30	31	32	31	30	27
	Humidity %	36	37	35	32	48	34	24
Bahawalpur	Max.Temp.	42	40	42	43	41	42	38
	Min.Temp.	34	34	32	33	33	30	26
	Humidity %	29	32	31	28	34	33	26
D.G. Khan	Max.Temp.	43	40	41	45	44	44	39
	Min.Temp.	35	32	32	34	35	32	27
	Humidity %	26	33	30	22	24	25	24
Average Cotton Region	Max.Temp.	41.00						
	Min.Temp.	31.68						
	Humidity %	30.54						

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.

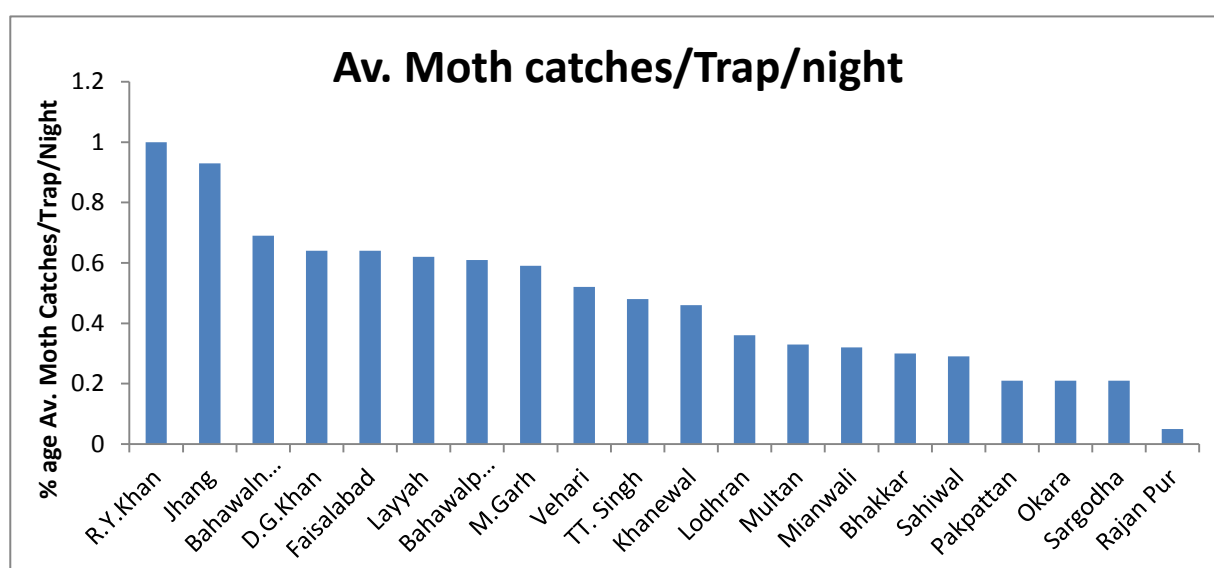
Pest Forecast for Next 15 days				
Avg. Temperature for next 15 days = <b>36.34</b>				
Avg. Relative Humidity for next 15 days= <b>30.54%</b>				
Sr. No.	Pest Name	Opt. Temperature	Relative Humidity	Pest Prediction
1	Whitefly	35-42 °C	<50%	May Increase
2	Jassid	35-40 °C	>70%	May Increase
3	Thrips	35-40 °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%	May Increase
7	Pink Bollworm	32-40 °C	<60-80%	May Increase
8	American Bollworm	32-40 °C	<50-70%	May Increase
9	Spotted Bollworm	30-40 °C	<60-100%	May Increase
10	Armyworm	30-40 °C	>70-100%	May Increase
11	CLCuV	-	-	May Increase

## Forecast of Sucking Pests:

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

Moth Catches in Pheromone Traps During 2 <sup>nd</sup> Week of July, 2020			
District	Traps Installed	Moth catches/Trap/week	Av. Moth catches/Trap/night
Multan	6	14	0.33
Khanewal	8	26	0.46
Vehari	6	22	0.52
Lodhran	6	15	0.36
Sahiwal	4	8	0.29
Pakpattan	4	6	0.21
Okara	4	6	0.21
Bahawalpur	8	34	0.61
Bahawalnagar	10	48	0.69
R.Y.Khan	8	56	1.00
D.G.Khan	4	18	0.64
M.Garh	8	33	0.59
Rajan Pur	6	2	0.05
Layyah	6	26	0.62
Sargodha	2	3	0.21
Mianwali	4	9	0.32
Bhakkar	8	17	0.30
Faisalabad	6	27	0.64
TT. Singh	6	20	0.48
Jhang	4	26	0.93

*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 July, 2020

Moth Catches on Light Traps/Trap/week During 2 <sup>nd</sup> Week of July, 2020				
District	Traps Installed	A.B.W	S.B.W	Armyworm
Multan	3	2	0	16
Khanewal	4	5	0	32
Vehari	3	3	0	13
Lodhran	3	4	0	15
Sahiwal	2	7	3	13
Pakpattan	2	4	0	14
Okara	3	4	0	6
Bahawalpur	4	5	2	7
Bahawalnagar	5	7	6	11
R.Y.Khan	4	5	4	7
D.G.Khan	3	7	5	7
M.Garh	4	4	3	5
Rajan Pur	3	0	0	2
Layyah	3	0	0	2
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

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 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