



GOVERNMENT OF MAHARASHTRA

DEPARTMENT OF AGRICULTURE

PLANT PROTECTION SCHEDULE

1981



Price : Rs. 4.95

PLANT PROTECTION SCHEDULE

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GENERAL INSTRUCTIONS REGARDING USE OF PESTICIDES

Many a time cultivators complain that, they do not get a good kill after treating the crop. This may be true under certain circumstances. The desired kill is not obtained because of several reasons, the chief of them being (a) poor quality of pesticides; (b) under dose, (c) improper application; (d) use of wrong pesticides, etc. To get effective control, following guidelines are laid down;

1. Purchase pesticides, preferably, ISI marked, of the known manufacturer and from the known dealer. While purchasing the pesticides, please ensure that the pesticide is within the expiry period. Please ensure that the container shows registration number, batch number, date of manufacture and date of expiry, clearly. In case there is any doubt about the quality of the pesticide purchased by you, please contact the local officer of the Agriculture Department.

2. Use pesticides as per the recommended dose given in the Plant Protection Schedule of the Department of Agriculture.

3. Prepare the solution of pesticide as per recommended dose. While preparing the solution with wettable powder, please take required quantity of pesticide and a little quantity of water. Mix it thoroughly to prepare a paste. Add required quantity of water to this paste. In case of liquid formulation, always prepare the solution with small quantity of water and then add the remaining quantity of water.

4. Cover the target (crop etc.) thoroughly. The equipment either a duster or a sprayer should be about 30-45 cms. (12-18") from the plant to be treated. While spraying or dusting, please keep in mind the target to be treated e. g. while controlling the brown plant hoppers, it is necessary to dust the lower portion of the plant close to the roots where this pest feeds. Treating any other part on the plant would not be effective. In case of control of Midge on jowar, treatment of cobs is only necessary.

5. Before treating the crop, ensure the quantity of solution required. This can be done by treating about (one are) area with plain water. On this basis work out the actual quantity of water for one hectare and then prepare the solution of the desired concentration. The quantity of pesticide solution required to be sprayed per hectare would vary from person to person, type of equipment, nozzle used, speed of the labourer, etc.

6. Do not prepare large stock of the solution. Similarly do not keep the prepared solution for a long time but use it immediately.

After treatment of the crop, if there are heavy rains, then the treatment goes as a waste. If after spraying, the solution dries on the surface of the plant and then it drizzles, the insecticide is not likely to wash off but if the heavy rains follow, the insecticides are likely to be washed away.

7. In case of dust, the best time for dusting is early in the morning or in the evening when the wind is calm.

8. Undertake control operations by chemicals only when it is a must.

Do not wait for the pest to become serious but control it when the population is very low as it is cheaper and saves losses caused by them subsequently.

9. Proper time of application and proper dose of application are very important.

10. The enclosed Plant Protection Schedule recommends the time of application, the rate of application etc. *very broadly* and for normal situation. The time of application, dose of application and the frequency of the application needs to be fixed by the individual cultivator or user considering the intensity and nature of the pest. If the attack is serious, higher concentration, higher doses or reduction in the interval of the application is necessary. Similarly higher dose has to be used if the crop is dense.

11. Do not use the same pesticides year after year. Change the pesticide almost every year to get better results.

12. After treatment, clean the equipment thoroughly. Oil the equipment at frequent intervals.

13. Store the pesticides at a safer place away from the children and animals.

14. The labourers having wounds should not handle the pesticides. During or after application they should also not chew the tobacco, smoke or eat anything without thoroughly washing their hands.

Compatibility Chart

	D. D. T.	Phosphamidon	B. H. C., Lindane	Aldrin, Dieldrin Chlordane	Toxaphene	Endosulfan	Parathion	Carbaryl	Capton	Copper Oxchloride	Sulphur	Mancozeb, Maneb, Thiram, Ziram Zineb.	Bordeaux mixture	
D. D. T.	...	Y	Y	Y	Y	Y	Y	Y	Y ²	Y	Y ²	Y ²	Y	
Phosphamidon	...	Y	Y	Y	Y	Y	Y	Y	Y	Y ^{1*}	Y ²	Y	YN	
B. H. C., Lindane	...	Y	Y	Y	Y	Y	Y	Y	Y ²	Y	Y	Y	YS ¹	
Aldrin, Dieldrin, Chlordane	Y	Y	Y	Y	Y	Y	Y	Y	Y ²	Y	Y	Y	Y	
Toxaphene	...	Y	Y	Y	Y	Y	Y	Y	YS	Y	Y	Y	Y	
Malathion	...	Y	Y	Y	Y	...	Y	Y	Y ²	Y	Y	Y	YN	
Endosulfan	...	Y	Y	Y	Y	Y	...	Y	Y	Y	Y	Y	YN	
Parathion	...	Y	Y	Y	Y	Y	Y	...	Y	Y ²	Y	Y	YN	
Carbaryl	...	Y	Y	Y	Y	Y	Y	...	Y	Y	Y	Y	YN	
Capton	...	Y ²	Y	Y ²	Y ²	YS	Y ²	Y	Y ²	Y	...	Y	YN	
Copper Oxchloride	...	Y	Y ^{1*}	Y	Y	Y	Y	Y	YS	...	Y	YS ¹	Y	
Sulphur	..	Y ²	Y ²	Y	Y	Y	Y	Y	Y	Y	...	Y	Y	
Maneb, Thiram, Ziram, Zineb, Mancozeb	Y ²	Y	Y	Y	Y	Y	Y	Y	Y	YS ¹	Y	...	YS ¹	
Bordeaux mixture	...	Y	YN	YS ¹	Y	Y	YN	YN	YN	YN	Y	Y	YS ¹	..

Y : Mix. YN . Do not Mix. YS : Take care while mixing.

1. Use Mixture immediately. In case of mixture with Ziram add separated milk @ 250 ml. in 450 litres of Mixture.
2. Watteble Powders should be used.

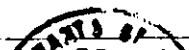
* Do not keep spray mixture for more than 8 hours.

Table showing the quantity of pesticide in ml./gm. per lit. of water for required concentration of spray solution

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Sr. No.	Per cent Concentration of pesticide	Percent Concentration of spray solution											
		0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.20	0.30
1	15	... *0.67	1.30	2.00	2.60	3.33	4.00	4.66	5.20	6.00	6.66	13.32	20.00
2	20	... 0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	10.00	15.00
3	25	... 0.40	0.80	1.20	1.60	2.00	2.40	2.80	3.20	3.60	4.00	8.00	12.00
4	30	... 0.33	0.66	1.00	1.30	1.65	1.98	2.31	2.64	2.97	3.30	6.60	9.90
5	35	... 0.29	0.58	0.87	1.16	1.45	1.74	2.03	2.32	2.61	2.85	5	8.55
6	40	... 0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	5.00	7.50
7	50	... 0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	4.00	6.00
8	75	... 0.13	0.27	0.40	0.53	0.66	0.79	0.92	1.07	1.20	1.33	2.66	4.00
9	80	... 0.12	0.25	0.30	0.50	0.63	0.75	0.88	1.00	1.13	1.25	2.50	3.75
10	85	... 0.12	0.24	0.35	0.48	0.59	0.70	0.82	0.96	1.06	1.18	1.18	3.54

*Quantity in ml. or gm. per litre of water.



List of Approved Pesticides for Aerial Spraying on Crops

S. No.	Name of the Pesticide	Type of formulation	Height of spraying/ dusting in metres	Dosages of spray liquid-dust in gms./litres per hectare	Type of aircraft
2		3	4	5	6
INSECTICIDES					
<i>(a) Chlorinated Hydrocarbons</i>					
Lindane	...	20% EC	2-3	12-25 Litres	Fixed wing or Helicopter.
Toxaphene	...	80% EC	2-3	12-25 Litres	do.
Endosulfan	...	35% EC	2-3	12-25 Litres	do.
BHC	...	5-10% dust	2-3	15-20 Kg.	do.
<i>(b) Organo-phosphorous</i>					
Malathion*	...	Not below 96% (ULV-air)	8-16	225-440 gms.	do.
Malathion	...	50% EC	2-3	12-25 Litres	do.
Fenitrothion	...	50% 82.5% EC (for aerial spraying by the States)	2-3	12-25 Litres	do.
Dimethoate	...	30% EC	2-3	12-25 Litres	do.
Oxydemeton Methyl	...	25% EC	2-3	12-25 Litres	do.
Phosphamidon	...	85% WSC	2-3	12-25 Litres	do.
Quinalphos	...	25% EC	2-3	12-25 Litres	do.
Monocrotophos	...	36% WSC	2-3	12-25 Litres	do.
Phenthoate	...	50% EC	2-3	12-25 Litres	do.
Phosalone	...	35% EC	2-3	12-25 Litres	do.
<i>(c) Carbamate</i>					
Carbaryl	...	85% WP (Aerial Spray Grade)	2-3	12-25 Litres	do.
Carbaryl	...	10% dust	2-3	10-20 Kg.	do.
Carbaryl	...	40% Liquid Molasses based suspension aerial spray grade.	2-3	12-25 Litres	do.
<i>(d) Fungicides</i>					
Copper oxychloride	...	50% W. P. & Oil bound.	2-3	25-50 Litres	do.
Zineb	...	75% W. P.	2-3	12-25 Litres	do.
Ziram	...	80% W. P.	2-3	12-25 Litres	do.
Hinosan	...	50% EC	2-3	12-25 Litres	do.
Sulphur*	...	85% Micronised dust	2-3	10-20 Kg.	do.
Sulphur†	...	80% WP	2-3	12-25 Litres	do.

*Undiluted ULV spraying.

†Sulphur in any form should not be dispersed from the air without prior permission of the Directorate General of Civil Aviation, Government of India because the safety of the aircraft is involved.

INSTRUCTIONS FOR THE SAFE HANDLING OF PESTICIDES

Most of the pesticides used in Plant Protection are toxic to human beings, and domesticated animals if not carefully handled.

They are usually safe if properly transported, stored, handled and used with necessary precautions as directed.

I. GENERAL PRECAUTIONS

1. Read the label carefully and follow the manufacturers instructions.
2. Keep pesticides in labelled containers only.
3. Store pesticides in a cool, dry, safe and locked place, out of reach of children, unconcerned persons and animals.
4. Never store pesticides near food stuff or medicines.
5. Do not use empty containers of pesticides.
6. In handling of dangerous pesticides, protective clothings and safety devices must be used.
7. Do not tear open the pesticides bags but cut them with a knife.
8. The preparation of spray solutions from concentrated dangerous pesticides should be done in deep mixing vessels with long handled mixers to protect the operator from splashing and to permit stirring from a standing position, while dusts and granules should be removed from the containers by a scoope with a long wooden handle.
9. Wash hands thoroughly with soap and water—
(i) every time the sprayer/duster is filled with pesticides,
(ii) before eating, drinking, or smoking and (iii) at the end of the day's work. Never eat, drink anything or chew tobacco or smoke while spraying or dusting or sowing treated seeds.
10. Contaminated effluents after washing the equipment and mixing vessels must be disposed off by scattering over barren land or burying in the ground. Never wash vessels, sprayers etc., in the tank, streams, canals, rivers etc.
11. Do not blow, suck or apply the mouth to any sprinkler, nozzle or other spraying equipment.
12. Operators should not work for more than 8 hours a day. Operators engaged in the handling dangerous pesticides should be checked by a physician periodically.
13. Separate dress should be used during working. This dress should be washed frequently.
14. Never carry out spraying or dusting against the wind or allow any pesticide to fall on your body.
15. While spraying tall trees, care should be taken to avoid the drifts directly falling on body. Similarly if bullock carts are employed in spraying, precaution should be taken to see that the pesticide mixture does not fall on the body of the bullocks. Mouth gags should be tied to the bullocks.

16. Never allow the cattle to graze in the treated area for atleast two weeks.

II. FIRST AID PRECAUTIONS

In case of pesticide poisoning, CALL A PHYSICIAN IMMEDIATELY. Awaiting the Physician's arrival, apply FIRST AID as under :

1. Swallowed Poisons :

Remove poison from the patient's stomach immediately by inducing vomiting. Give common salt 1/2 oz. in a glass of warm water and repeat until the vomit fluid is clear. Gently stroking or touching the throat with the finger or placing the blunt end of a spoon will aid in inducing vomiting when the stomach is full of fluid.

If the patient is already vomiting, do not give emetic or vomiting substance (common salt 1/2 oz. in a glass of warm water) but give large amounts of warm water and then follow the specific directions suggested.

Do not induce vomiting if the patient is in coma, unconscious, in convulsion and when the patient has, swallowed petroleum products-Kerosene gasoline, etc. and corrosive acids or caustic alkalies, (symptoms ; severe pain, burning sensation in mouth and throat and vomiting).

2. Inhaled Poisons :

- (a) Carry the patient (do not let him walk) to fresh air immediately or open all doors and windows.
- (b) Loosen all tight clothing.
- (c) Apply artificial respiration if breathing has stopped or is irregular. Avoid vigorous application of pressure to the chest.
- (d) Keep the patient as quiet as possible.
- (e) If the patient is convulsing, keep him in bed in some dark room. Avoid jarring or noise.
- (f) Do not give alcohol in any form.

3. Skin Contamination :

- (a) Drench the skin with water.
- (b) Apply a stream of water on the skin while removing clothing.
- (c) Clean the skin thoroughly with water. Soap is specially useful in case of skin contamination with organophosphorous pesticides as it quickly hydrolyses them.
- (d) Rapid washing is most important for reducing the extent of injury.

4. Eye Contamination :

- (a) Hold eye lids open.

(b) Wash the eyes gently with a stream of running water immediately. Delay of even a few seconds greatly increases the extent of injury.

(c) Continue washing until physician arrives.

5. Prevention of Collapse :

- (a) Cover the patient with a light blanket.
- (b) Do not use a hot water bottle.
- (c) Raise foot on bed.
- (d) Apply elastic bands to arms and legs.
- (e) Give strong tea or coffee.
- (f) Hypodermic injection of stimulants, such as *caffeine* and *epinephrine*.
- (g) Fluid administration of dextrose 5 per cent intravenously.
- (h) Blood or plasma transfusion.
- (i) Do not exhaust the patient by too much or too vigorous treatment.

III. SYMPTOMS, SIGNS AND TREATMENT

Administer antidotes immediately and properly.

Chlorinated hydrocarbons : In general the signs and symptoms include headache, malaise, dizziness, loss of equilibrium clonicotonic convulsions, hyper-irritability and hyper-excitability.

Treatment :

- (1) Removal of poison taken internally by gastric lavage and saline laxatives. Oil laxatives should be avoided as they promote the absorption of these insecticides and of many organic solvents.
- (2) If necessary give sedatives.
- (3) Removal of poison from the skin by soap and water.
- (4) Barbiturates.—like phenobarbital (0.7 gram per day in epilepsy) and pentobarbital (0.25 to 0.5 grams) are known to control convulsions of central origin.

Organophosphorous Compounds :

The symptoms include headache, giddiness, blurred vision, weakness, nausea, cramps, diarrhoea, discomfort in the chest and nervousness while signs include sweating, moisis, tearing, salivation, pulmonary edema, cyanosis, papilledema, uncontrollable muscles twitches, convulsions, coma and loss of reflexes and sphincter control.

Treatment :

- (1) Artificial respiration preferably by mechanical means.
- (2) Atropine, 2 mg. intravenously as soon as cyanosis is overcome. Repeat at 5 to 10 minutes intervals until signs of atropinization appear (dry flushed skin and tachycardia as high as 140 per minute).

(3) Decontaminate the skin or empty the stomach.

(4) Treat symptomatically.

(5) Never give morphine.

Carbamates :

Symptoms include sweating headache, dizziness, blurring of vision and nausea followed by vomiting, Profound weakness salivation, pain in the chest, abdominal cramping and diarrhoea.

Treatment :

Induce vomiting. Artificial respiration. Give two tablets of 1/100 grain atropine by mouth as an emergency. Use 2—PAM and Universal anti date.

Rodenticides :

(1) Zinc Phosphide.—If the patient has taken the poison within 24 hours proceed as follows : (1) Stir one teaspoonful of mustard powder into a glass of warm water and make the patient drink it.

(2) After vomiting from treatment has stopped (i) give the patient 5 gms. of Potassium Permanganate dissolved in a glass of warm water ; (ii) ten minutes after the above treatment the patient drinks a solution made of 1/2 teaspoonful of copper sulphate in a glass of water ; and (iii) fifteen minutes after treatment give the patient a solution made by dissolving one table spoonful of magnesium sulphate (Epsom salts) in glass of water. If the poison has been taken earlier than 24 hours, omit treatment (i) above and give the others in order.

2. Warfarin :

Initial symptoms.—back and abdominal pains followed by vomiting and gum and nose bleeding.

Treatment :

Give Vitamin 'K' 65 mg. thrice on 1st day and continued in small doses till the prothrombin time has reached normal. In serious cases small transfusion of carefully.....matched whole blood should be given and continued until the patient has returned to normal.

Fungicides :

(1) Mercury compound (Inorganic salts except calomel and metallic mercury). Give milk or white of egg beaten with water, then a table spoonful of salt in a glass of warm water and repeat till the vomit fluid is clear. Repeat milk or white of egg beaten with water.

Organic mercury compounds vary so widely in their properties that only physician should consider them individually.

(2) Copper Compound.—Gastric lavage with large quantity of water containing one ounce of milk of magnesia. When the vomit fluid is clear, give milk as *damulcent*. Give potassium ferrocyanide 0.5 gm. in water.

Plant Protection Schedule for the Control of Pests and Diseases of Various Crop

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks	
			Treatment	Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. †	Concentration		
1	2	3	4	5	6	7	8	9	
RICE	Bacterial Blast etc,	Seed Treatment.	1. Prepare brine solution by mixing 300 gm. of common salt in 10 litres of water. Remove the floating seed and burn. Collect the seed from the bottom, wash it thrice thoroughly with clean water and dry in the shade.						
			2. Treat the above seed with 1 % Mercurial Fungicide at the rate of 25 gm. per 10 kg. of seed.						
	Stemborer	Nursery Treatment 15 days after sowing.	Apply granules as in Col. 5.	6 % Gamma BHC OR Phorate 10 % OR Quinalphos 5 % OR Carbofuran 3 % OR Carbaryl and Lindane 4:4 (Sevidol).	25 kg 10 kg 15 kg 16.5 kg 25 kg	Apply in the soil under saturated moisture condition.		Granules are poisonous and should be applied carefully. Labourers having wounds on hands and feet should not handle granules.	
	Blast	do.	Spray with fungicides in col. 5.	Copper Oxychloride OR Zineb 75 % WDP	1250 gm 2 kg	500	0.25 0.40		
	Stemborer Leaf and plant hoppers, gallfly, blast, etc.	Nursery Treatment 15 days after sowing.	If it is not possible to apply granules or if there is no adequate moisture (slopy or light type of soil) spray nursery as in Col. 5 with combination of anyone pesticide from group 1 and group 2.	1. Phosphamidon 85 WSC. OR Fenitrothion 50 EC. OR Endosulfan 35 EC OR Quinalphos 25 EC OR Phenthoate 50 EC + 2. Copper Oxychloride 50 WDP OR Zineb 75 WDP	250 ml 800 ml 865 ml 1600 ml 800 ml 1250 gm 2 kg.	500	0.05 0.08 0.06 0.08 0.08 0.25 0.40		

* In case of Insecticides and Weedicides percentage of active ingredients.

* In case of fungicides and antibiotics percentage of formulation.

† These are approximate requirements. In case of power sprayer the quantity of water required would be one-third of hand sprayer.

Schedule--Contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule Operation					Remarks
			Treatment	Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect .	Concentration	
1	2	3	4	5	6	7	8	9
	Stemborer	Dipping of seedling Roots	Before transplanting, if possible, dip seedling roots for 12 hrs. in the solution prepared by mixing Carbofuran 50 SP—200 gms. or Chlorpyrifos 20 EC—500 ml. in 500 lts. of Water. For this treatment the bed may be prepared by spreading plastic sheet and making ridges on four sides for preparing solution.					
	Stemborer	Transplanting		Avoid late transplanting of crop. Do not grow late local varieties like Bhadas, Kolam, etc. but replace them by high yielding midlate varieties like Ratna, RP-4—14, IR-20, IET—2815, IET-2845 IET—2812, IET--2830 and IET-3093.				
	Stemborer	In July-August First application for Midlate and late varieties. 25 days after transplanting.	Roguing of affected tillers. Application of granules as in Col. 5.	Remove affected tillers from bottom and burn. .....As given under Nursery Treatment.....				For normally transplanted early varieties no treatment is required. For normally transplanted midlate varieties one application of granules or 2 sprayings. For normally transplanted late varieties, 2 applications of granules or 4 sprayings.
		OR When 5 percent dead-hearts appear in field.	If it is not possible to apply the granules, spray the crop as given in column 5.	.....As given under Nursery Treatment.....				Granules are poisonous and should be applied carefully Labourers having wounds on hands and feet should not handle granules.
		OR If increasing trend of moths in light trap continuously for 5 days.						
		OR Average One eggmass per sq. metre.	2nd application by spraying seven days later.	.....As given under Nursery Treatment.....				
		Second application only for late varieties 50 days after transplanting.	As given under first application	..	..	..	..	..
		OR When 5 per cent dead-hearts appear in field.	..	..	..	..	..	..
		OR If increasing trend of moths in light trap continuously for five days.	..	..	..	..	..	..
		OR						

	Average one eggmass per Sq. metre.						
	After Harvest where incidence of dead hearts is over 5 per cent.	Ploughing, removal and burning of stubbles.					
Gall Midge	Do not grow local as well as gall midge susceptible varieties.	Grow 'Vikram' (course Grain) or 'Phalgun' (Fine grain) in gall midge endemic area.					
...	15 days after sowing	Nursery treatment. As given for stem borer above					
...	June and July	Roguing, removal of affected tillers and burning them.					
..	10 days after transplanting.	First application of granules, as Phorate 10 per cent in col. 5.	.. 10 kg.				Phorate granules should be applied carefully, and should not be handled by labourers having wounds on feet and on hands.
..	20 days after 1st application.	Second application	do.				
..	After Harvest	Ploughing, removal and burning of stubbles					
Leaf roller	Immediately after the incidence is noticed.	Use pesticides as in col. 5	Monocrotophos 36 WSC 700 ml.	500	0.05		
			OR				
			Fenitrothion 50 EC 500 ml.		0.05		
			OR				
			Malathion 50 EC 1500 ml.		0.15		
			OR				
Armyworms	do.	do.	Carbaryl 50 WDP 1½ kg.		0.15		
			Carbaryl 10 per cent dust 10 kg.*				*Dusting should be undertaken in the morning when there is no wind.
			+ BHC 10 per cent dust 10 kg.				
Blast	15 days after sowing	Nursery Treatment spray as in col. 5.	Copper Oxychloride 50 1250 gm.	500	0.25		
	Immediately after the incidence is noticed in the field.		OR				
			Zinab 75 WDP 2 kg.		0.40		
	Immediately after the incidence is noticed in the field.	Spray as in Col. 5	As above				
Leaf and plant Hoppers	After Harvest	Ploughing	Removal and Burning Stubbes				
	Immediately after the incidence is noticed	Use pesticides as in Col. 5	Phosphamidon 85 WSC 200 ml.	500	0.04		Dusting should be done in evening or early in the morning when there is no wind.
			OR				
			Fenitrothion 50 EC 500 ml.		0.05		
			OR				
			Malathion 50 EC 1000 ml.		0.10		
			OR				
			Pnenthioate 50 EC 500 ml.		0.05		
			OR				

Schedule—Contd

Crop	Pest/Disease/ Weed	Time of application	Treatment	Schedule of Operation			Concentration	Remarks
				Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. †		
1	2	3	4	5	6	7	8	9
				Monocrotophos 36 WSC OR Carbaryl 10% dust OR *BHC 10% dust	700 ml. 20 kg. 20 kg.		0.05	
Crab		Beginning of the season.	Prepar poison baits as in cols. 5 to 9.	DDT 50 WDP	100 gm. in 1 kg. of cooked Rice.	Pills of size of 'Awala are to be prepared and one pill is to be inserted in each burrow (this poison bait mixture is enough for 100 burrows).		
Bacterial Blight			Special recommendations for endemic areas of Raigad, Thane, Ratnagiri Sindhudurg and double cropped areas.					
<i>Prophylactic :—</i>								
(i) Land shaping : levelling, limiting field size, bunding, (ii) Clean cultivation practices; Removal of stubbles, bund cleaning, ploughing and drying fields in between two plantings (Seasons). Raise seedlings in disease free plots from disease free seeds. (iii) Avoid bunch planting, (iv) Removal of Excess Water, avoid flooding and stagnation, keep water moving. (v) Apply balanced fertilizers, Add Potash at the transplanting time alongwith N, P and K (100:50:50 kg./hectars). (vi) Avoid heavy applications of Nitrogenous fertilizers in endemic areas. (vii) Plant tolerant varieties like RP-4-14, Ratna-IR-20, IR 22, Jaya in endemic areas. (viii) Avoid planting susceptible varieties like local varieties and TN-1. After Harvest : Ploughing Removal and burning of stubbles.								
Weeds		When the weeds are in 2 leaf stag.	Spraying in Nursery of weeds given in Col. 5.	3, 4 dichlorona propi-onamilide + Urea	2½ Lit; 15 kg.	500 —	0.18 3.00	At the time of application there should be no water in the nursery and no pesticide or fertilizer should be applied 7 days before or after spraying of weedicide
			Spraying in drilled paddy	3, 4 dichloropropi-onamilide + Urea OR	6½ Lit. 15 kg.	500 ..	0.44 3.00	
		5 days after transplaining	Sprays as given in col. 5.	Butachlor 50 EC OR 2, 4-D (EE) 34 EC OR	4 Lit 2900 ML	500 —	0.40 0.20	Drain off all water from the field before Spraying and let in water after 3 days from treatment.

RICE		...		Machette granules 3% 30 kg.		—		Broadcast on the Crop.	
SUMMER		...		Follow the same schedule as under Kharif above except two applications of spray in Nursery, first ten days after sowing and second 25 days after sowing.					
HYBRID JOWAR	Smuts, etc.	Ergot,	Before sowing	Seed Treatment	Sulphur dust	4 gm/kg. of seed			
				Seed is already treated at the processing plants for seed borne diseases and smuts. If there is leaflet in the seed bag mentioning that the seed is from the frgot affected fields, then treat the seed in 30 percent brine solution prepared by dissolving 3 kg. of common salt in 10 litres of water. Pour the seed in the solution and stir well. Collect the floating seed and sclerotia and burn. Collect the seed lying at the bottom, wash thrice thoroughly with clean water and dry in shade. Treat this seed with Sulphur dust at the rate of 4 gm/kg. of seed.					
Shootfly	...			In kharif season (i) Sow the crop as early as possible i. e. immediately after the onset of monsoon but before 7th July (ii) If sowing is delayed undertake treatment of seed with Carbofuran as under ;					
	Before Sowing			Prepare solution of gum arabic by adding 25 gm. of gum arabic in 85 ml. of water. Pour about 60 ml. of this solution in 1 kg. of seed. Shake thoroughly. Add 100 gm of Carbofuran 50 S p. to this seed and again shake thoroughly. Dry this seed in shade for at least 12 hours.					
				Carbofuran is poisonous. Do not inhale while treating the seed and while sowing treated seed. Warn the labourers. People with wounds should not handle the material or treated seed.					
				If the seed is not treated with Carbofuran then :					
	First spraying 7 days after germination.	Spray with pesticides as shown in col. 5.		Endosulfan 35 E C	350 ml	250	0.05	Use hand sprayer only	
	Second spraying 10 days after first spraying.	do.		Endosulfan 35 E C	700 ml	500	0.05		
Borer	As soon as attack is seen.	Remove affected shoot and burn		Endosulfan 35 EC	...	...	
				OR					
Jassids, Borer, and Army worm.	First Spraying 30 days after germination.	Spray with pesticides as shown in col. 5.		Carbaryl 4% Gr**	1075 ml 10 kg.	750	0.05	Use hand sprayer and concentrate spraying in the whorls.	
				OR					
	Second Spraying 10 days after first spraying.	do.		Endosulfan 4% Gr**	10 kg.			** Apply inside whorls.	
				OR					
				Endosulfan 35 EC	1075 ml	750	0.05	Use hand sprayer and concentrate spraying in the whorls.	
				OR					
				Carbaryl 50 WP	3 kg.		.20		
				OR					
				Carbaryl 4% Gr. ††	10 kg.			†† Apply inside whorls.	
				OR					
				Endosulfan 4% Gr. ††	10 kg.				

Schedule—contd

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks	
			Treatment	Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. †	Concentration		
1	2	3	4	5	6	7	8	9	
	Aphids, Jassids,	First application immediately incidence appears.	Spray with pesticides as shown in col. 5.	Endosulfan 35 EC OR Dimethoate 30 EC OR Formothion 25 EC OR Methyl demeton 25 EC OR BHC 10% dust	430 ml 500 ml 400 ml 400 ml 20 kg.	500	0.03 0.03 0.02 0.02		
		Second application 10-15 days after first application.	Spray with pesticides as shown in col. 5.	As above					
	Mites (Reddening of leaves)	As soon as the pest/symptoms is noticed.	Spray with Pesticides, as shown in Columns	Sulphur dust 300 mesh	20 kg.				
	Earheadmidge.	<ol style="list-style-type: none"> Sow only one variety of Jowar in a group of 8-10 villages (Zonal system) Commence sowing of jowar as early as conditions permit and complete sowing in 8 days. Do not sow Hybrid Jowar after 7th July. Sow Hybrid Jowar from 20th June to 30th June and not earlier. After the harvest of the crop the threshed earheads may be exposed in the sun continuously for 3 months or destroyed by burning before 15th May. 							
		Field application 1st application as soon as about 30-50% ear-heads emerge.	Spray/dust with pesticides as in col. 5.	Malathion 50 EC OR Carbaryl 50 WDP OR Endosulfan-35 EC OR BHC 10% dust OR Malathion 5% dust OR Endosulfan 4% dust OR Carbaryl 10% dust OR Carbaryl 10% dust + BHC 10% dust OR Quinalphos 1.5% dust	1000 ml 2½ kg. 700 ml 20 kg 20 kg 20 kg 15 kg 10 kg 10 kg 20 kg	500	0.10 0.25 0.05	Dust or spray early morning.	

	Second application 5 days after 1st application.	Spray/dust with pesticides as in col. 5.	— do —				
Earheadworm, Wabworms, Heliothis sp. etc.	Field application as soon as the pest is noticed.	Spray/dust with pesticides as given in col. 5.	1. BHC 10% dust + Carbaryl 10% dust OR 2. BHC 10% dust OR 3. Carbaryl 50 WDP + Zineb 75 WDP OR Thiram 75 WDP OR Captan 80 WDP	10 kg 10 kg 20 kg 2 kg 1250 gm 1000 gm 1000 gm	— — — 500 500 — —	— — — 0.20 0.25 — 0.20	
Grainmoulds.	When appears	— do —					For seed part only
Striga	the endemic areas, sow resistant varieties like CS-3541, OR 168, Adopt rotation of Groundnut, Pulses, Cotton etc.						
Weeds (Including Striga)	Field application, 1st spraying 40-50 days after germination.	Spray with weedicide as given in col. 5.	2, 4-D Ethylester	2½ Lit.	500	0.50	Direct Spray on Striga and not on Jowar Crop. Do not use this weedicide close to any dicot Crop.
	Second spraying, 15 days after 1st spraying.	do.	As above				
	Third Spraying, 15 days after 2nd spraying. If necessary.	do.	As above				
	OR						
	First Spraying Pre-emergence spray, 1 to 2 days after sowing.	do.	Atrazine 50 W. P.	2 kg	500	0.2	Field should be free from clods at the time of spraying. Adequate soil moisture required at the time of spraying. Soil should not be disturbed for 4-5 weeks after treatment. While spraying stir the solution continuously.
	2nd Spraying, post-emergence 3-4 weeks after sowing.	do.	As above	2 kg	500	0.20	do.
	OR						
	Spraying 1-2 days after sowing.	Spray as given in col. 5.	Simazine 50 WDP	2 kg	...	0.20	do.
	OR						
	Spraying 20-25 days after sowing.	do.	2, 4-D Na Salt 80% WP	1.25 kg	..	0.20	
	OR						
	Spraying 1-2 days after sowing.	do.	Alochlor 40 EC	2 lit	..	0.20	

Schedule—Contd.

Crop	Post/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. +		Concentration
1	2	3	4	5	6	7	8	9
LOCAL JOWAR	Smut, Ergot etc.	Seed Treatment before sowing.	do.	Sulphur dust 300 mesh	4 gm/kg of Seed	—	—	
		As far as possible do not use the seed from Ergot affected areas. If the seed is from Ergot affected field, treat the same with 30 per cent brine solution as per procedure given under hybrid jowar.						
	Leaf Chikta	Field application First application 30-40 days after sowing.	As in case of Aphids, jassids under Hybrid jowar.					
	Army worms	Field application as and when the pest is noticed.	Spraying with pesticides as given in col. 5.	1. Carbaryl 10% dust 10% kg + BHC 10% dust OR 2. BHC 10% dust 20 kg OR 3. Carbaryl 50 WDP 2 kg	10 kg
	Earhead Midge, webworms and Heliothis sp.	—	As given in case of Hybrid jowar above.					
BAJRI	Downy Mildew	Hybrid H B-3 is highly susceptible to Downy Mildew and should not be grown.						
		Field application; 14 days after sowing.	Spray as given in col. 5	Copper Oxychloride 50 WP. OR Zinab 75 WP	1 kg.	500	0.20	
		Second spraying 7 days after first.	Do.	As given in first spraying.				
	Ergot	Seed Treatment	As far as possible do not use seed from ergot affected field. Treat the seed with 20 per cent brine solution prepared by dissolving 2 kg. of common salt in 10 lit. of water. Pour seed in the solution and stir well. Floating seed and sclerotia should be collected and burnt. The seed at the bottom should be washed thrice with clean water and dried in the shade.					
	Blister-Beetle	Field application as soon as the pest is observed.	Dust with pesticides as given in col. 5.	BHC 10 per cent dust	20 kg.	—		
	Weeds	Spraying 1-2 days after sowing.	Spray as given in col. 5.	Simagine 50 WP OR Atrazine 50 WP	1 kg.	500	0.10	Field should be free from clouds at the time of spraying. Adequate Soil moisture required at the time of spraying. Similarly soil should not be disturbed for 4-5 weeks after treatment. While spraying solution should be stirred continuously.

OR

	20 to 25 days after sowing.	Do.	2, 4-D, Na Salt 80 WP	1.25 kg.		0.20	
WHEAT	Seed borne diseases, loose smut.	Seed Treatment before sowing.	Treat with fungicides as given in col. 5.	1 per cent Mercurial fungicide	50 gm/20 kg. seed.		
				OR			
				Thiram 75 per cent WDP	60 gm/20 Kg. seed.		
				OR			
				Corboxin 75 WP (Vitavax)	50 gm/20 Kg. seed.		
Smut	In may, pour the seed in a bucket full of water early in the morning. At 12 noon take out the seed and dry the same in the hot sun on iron sheet or in the threshing yard in thin layer. Collect the seed in the evening.						
Rust	Field application (1st spraying for irrigated wheat only). As soon as disease is noticed or at flag leaf stage.	Spray with pesticides as given in Col. 5.	(1) Zineb 75 WDP	1500 gm.	500	0.30	UP-215, and HD-2189 are tolerant varieties to both black stem and brown ruts and Malvika (HD-4502) is resistant to brown rust and CC-464 resistant to black stem rust.
			+	Urea	10 kg.	2.00	
				OR			
			(2) Mancozeb 75 WP	1500 gm.	—	0.30	
			+	Urea	10 kg.	2.00	
	Second spraying (if disease appears).	Spray pesticides as given in col. 5.	Zineb 75 WDP	1500 gm.	500	0.30	
			OR				
Alternaria Blight	First spraying as soon as disease is noticed.	Do.	Mancozeb 75 WDP	1500 gm.		0.30	
			Zinab 75 WDP	1 kg.	500	0.2	
			OR				
Jassids, Aphids	Field application. First spraying when the pest occurs.	Do.	Mancozeb 75 WP	1 kg.		0.2	
			Dimethoate 30 EC	330 ml.	500	0.02	
			OR				
			Fenthion 50 EC	200 ml.		0.2	
			OR				
			Fenitroth on 50 EC	500 ml.		0.05	
			OR				
			Phosphamidon 85 WSC	100 ml.		0.2	
			OR				
			Methyl dematon 25 EC	400 ml.		0.2	
			OR				

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Treatment	Schedule of Operation			Concentration	Remarks
				Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. †		
1	2	3	4	5	6	7	8	9
				Carbaryl 50 WP	1 kg.		0.1	
				<i>OR</i>				
				Quinalphos 2.5 EC	1000 ml.		0.05	
				<i>OR</i>				
				Phosalone 35 EC	700 ml.		0.05	
				<i>OR</i>				
				Carbaryl 10 per cent dust.	20 kg.			
		Second Spraying 15 days after the first spraying.	Spray with pesticides as given in col. 5.	—As in first Spraying—				
	Stemborer,	Immediately the incidence is noticed.		: Remove affected tillers and burn them :				
		First application at Flag leaf stage.	Spray with Pesticides as given in col. 5.	Carbaryl 50 WDP	2 kg.	500	0.2	
				<i>OR</i>				
				DDT 50 WDP	2 kg.		0.2	
				<i>OR</i>				
				BHC 50 WDP	2 kg.		0.2	
	Rat.	Field application -When the rat trouble starts.	Treat as given in col. 5.	Zinc Phosphide 80%	10 gm	—	—	Treat only live burrows.
		Zinc Phosphide bait should be prepared by mixing Zinc Phosphide one part, any grain 50 parts and a little quantity of any edible oil. A spoonful of bait wrapped in a paper packet should be inserted deep in every rat burrow with the help of a bamboo stick and the mouth of the burrow closed with grass and mud.						
		Repeat after 15 days.						
	Weeds	Spraying 1-2 days after sowing.	Spray as given in col. 5.	Methabenthioxuron 72 WP (Tribuni)	2 kg.	500	0.23	Pre-emergence.
				<i>OR</i>				
				Nitrofen 25 EC	6 Lts.	...	0.30	Field should not be irrigated for 10-12 days after treatment. Occurrence of rainfall after treatment may lead to poor germination.
				<i>OR</i>				
		Spraying 25-30 days after sowing.	Spray as given in col. 5.	2, 4-D	1.25 kg.	...	0.20	Field should not be irrigated for 10 to 12 days after treatment.
				<i>OR</i>				
				Urea 3 per cent	830 gm. (Amina)			
MAIZE	Weeds	Spraying 2 to 3 days after sowing.	—do.—	Simazine 50 WP	2 kg.	500	0.20	As given in Jowar.
				<i>OR</i>				

GROUND-NUT.	Seed Borne diseases	<i>OR</i>		Atrazine 50 WP	2 kg	...	0.20
		Spraying 20 to 25 days after sowing.	—do.—	2, 4 -D (Na Salt) 80 WP	1.25 kg.	...	0.20
		Seed Treatment Before Sowing.	Treat with fungicide as in col 5	1 per cent Mercurial Fungicide	2 gm per kg of seed	...	...
		<i>OR</i>		Thiram 75 per cent WDP	5 gm/kg of seed.	...	...
		Field application-- 1st application 5--6 weeks after germination.	Spray the pesticide as in col. 5.	Phosphamidon 85 WSC	100 ml.	500	0.02
	Aphids, Thrips and Jassids	<i>OR</i>		Dimethoate 30 EC	500 ml.	...	0.03
		<i>OR</i>		Methyl demeton 25 EC	400 ml.	...	0.02
		<i>OR</i>		Formothion 25 EC	600 ml.	...	0.03
		<i>OR</i>		Thiometon 25 EC	400 ml.	...	0.02
		<i>OR</i>		Malathion 50 EC	500 ml.	...	0.05
<i>OR</i>		Endosulfan 35 EC	715 ml.	...	0.05		
<i>OR</i>		Quinalphos 25 EC	1000 ml.	...	0.05		
<i>OR</i>		Carbaryl 50 WP	2 kg.	...	0.20		
<i>OR</i>		BHC 10 per cent dust	20 kg.	...	...
Second application - Two Weeks after first application.		Spray the pesticides as in col. 5.	—As above—				
Tikka	First application as soon as disease is noticed.	—do—	Add 2 kg. wettable sulphur 80% for spraying or 10 kg. Sulphur dust 300 mesh for dusting or Maneozebe 75, WP 1 kg. in 500 lits. of water (0.2 p. c.)				
	Second application 2 weeks after 1st application.	Spray the pesticides as in col. 5.	—As Above—				

Schedule—contd

Crop	Pest/Disease/ weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticides	Quantity per hectare	Water required by hand sprayer Lit/Hect†	Concentration	
1	2	3	4	5	6	7	8	9
	Rust	First spraying as soon as disease is noticed	Do.	Mancozeb 75 WP	1 kg.	500	0.20	
		Second spraying 2 weeks after 1st appli- cation.	Do.	—As Above—				
	Leaf-Roller (Leaf miner)	Field application as and when attack is noticed.	Do.	(1) Phosphamidon WSC	85 100 ml.	500	0.02	
				OR				
				(2) Carbaryl 50 WDP	2 kg.	...	0.20	
				OR				
				(3) Carbaryl 10% dust + BHC 10% dust	10 kg. 10 kg.	...	...
	Weeds	Pre-emergence Spray, 1-2 days after sowing. +	Do.	Alachlor 50 EC OR	3 Lit.	500	0.03*	*Effective against emerging Weeds. Adequate moisture in soil required for effectiveness.
		1 hoeing, and 1 weeding, 3 and 6 weeks after sowing		Nitrofen 25 EC	6 Lits.		0.30	As in case of Wheat
SESAMUM	Leaf Roller, Leaf eating Cater-pillar.	As and when noticed	Dust the pesticides as in col. 5	BHC 10% dust	20 kg.	..	..
	Jassids pest	Field application as and when pest appeared.	Spray as given in col. 5.	Fenthion 50 EC	500 ml.	500	0.05	
				OR				
				Endosulfan 35 EC	715 ml.		0.05	
				OR				
				Quinalphos 25 EC	1 Lit.		0.05	
				OR				
				Carbaryl 50 WDP	2 kg.		0.20	
SAFFLO- WER	Aphids- Jassids Semiloopers.	1st application as and when pest noticed.	Spray or dust as given in col. 5.	Fenthion 50 EC OR	500 ml.	500	0.05	Sowing should be done early i. e. in the 1st week of October
				OR				
				Endosulfan 35 EC	715 ml.		0.05	
				OR				
				Quinalphos 25 EC	1000 ml.		0.05	
				OR				

			Carbaryl 50 WDP	2 kg.		0.20	
			OR				
			Thiometon 25 EC	1000 ml.		0.05	
			OR				
			Phosphamidon 85 WSC	120 ml.		0.02	
			OR				
			BHC 10% dust	20 kg.			
			OR				
			Carbaryl 5% dust	20 kg.			
			OR				
			Endosulfan 4% dust	20 kg.	—		
			OR				
			Quinalphos 1.5% dust	20 kg.	—		
			—As given in 1st application—				
		Second application 2 weeks after 1st.					
	Alternaria, Leaf-Blight	1st application as soon as the disease appears	Spray as given in col. 5.	Mancozeb 75 WDP	1000 gm	500	0.20
				OR			
				Copper Oxychloride 50 WP	1500 gm		0.30
		Second application 10 to 12 days after 1st.	—do—	—As given in first application—			
SUN-FLOWER	Heliothis sp. (Grampod borer), Spodoptera mauritia (Tobacco leaf eating caterpillar)	Field application as soon as the pest is noticed.	Spray-dust the pesticides as in Col. 5.	1. Endosulfan 35 EC	715 ml	500	0.05
				OR			
				BHC 10% dust	20 kg		—
				OR			
				Carbaryl 10% dust	20 kg		
				OR			
				2. BHC 10% dust	10 kg		
				+			
				Carbaryl 10% dust	10 kg		

Schedule—contd

Crop	Pest/Disease Weed	Time of application	Treatment	Schedule of Operation				Remarks	
				Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. +	Concentration		
1	2	3	4	5	6	7	8	9	
CASTOR	Semi- looper, Jassids,	Field application when the pest is noticed.	Spray as given in col. 5.	Fenthion 50 EC	500 ml	500	0.05		
				OR					
				Thiometon 25 EC	1000 m		0.05		
				OR					
				Phosalone 34 EC	735 ml		0.05		
				OR					
				Quinalphos 25 EC	1000 ml		0.05		
				OR					
				Carbaryl 50 WDP	2 kg				
SUGARCANE	Seed borne dis- eases, grassy shoot.	Hot water Treatment Treat the sets in hot water at 50°C for 2 hrs. before planting						Only for raising Seed Nursery.	
									OR
									Hot air treatment at 54°C for 8 hrs. in water pans.
									Plant disease and insect free sets. Wherever smut infection is heavy, ratoon should not be taken.
									Before Planting	Dip the Sets for two minutes in solution as in col. 5.	6% Mercurial Fungicide	500 gm	100	0.50	In areas where Scale is a problem.
	In areas where Scale is a Problem Add pesticide as in col. 5.	Dimethoate 30 EC	265 ml	—	0.08				
		OR							
		Phosphamidon 85 WSC	80 ml	—	0.08				
				OR					
				Malathion 50 EC	300 ml	—	0.15		

Weeds	Field treatment within a week after planting as soon as the soil is in Wapsa condition.	Spray with weedicide as in col. 5.	Atrazine 50 WP	5 Kg.	1125	0-22	The soil should not be disturbed for about 3½ to 4 months till the final earthing up is taken up.
	<i>OR</i>		<i>OR</i>				
	Spraying 20 to 25 days after planting.	As given in col. 5.	Simazine 50 WP	5 Kg.	...	0-22	Repeat application at 40-45 days from planting if necessary.
			2, 4-D (Na Salt) 80 WP	1875 gm.		0-13	
	<i>OR</i>		<i>OR</i>				
Spraying 4 to 5 days after planting.	do.	2, 4-D (Na Salt) 80 WP +	2.5 Kg.		0-18	*Bired sprays on the weeds only.	
		Paraquat 24 WSC	2 Lit		0-043		
		Diuron 80 WP	3 Kg.		0-21	...	
Early Shoot borer.	Immediately after planting.	Drenching the soil with pesticides as in col. 5.	Lindne 20 EC	5 lit.	1000	0-10	Apply in the furrows by water can or spray.
			<i>OR</i>				
			Apply granules in furrows at planting, cover with soil and irrigate.	Gamma BHC 6% granules.	16.6 Kg.	...	..
	<i>OR</i>		<i>OR</i>				
	First Application 3 weeks after planting or when incidence is noticed.	Apply pesticides as in col. 5.	Endosulfan 25 EC	715 ml.	500	0-05	
			<i>OR</i>				
			BHC 50 WDP	2 Kg.	..	0-2	
	2nd Application 2 weeks after 1st.	do.	As above				
	3rd Application 2 weeks after 2nd.	do.	As above				
Pyrilla	Field Treatment in May or June or when the pest appears.	Spray the pesticides as in Col. 5.	Endosulfan 35 EC	1000 ml.	1000	0-035	
			<i>OR</i>				
			Quinalphos 25 EC	1200 ml.		0-03	
			<i>OR</i>				
			Fenitrothion 50 EC	600 ml.	..	0-03	
<i>OR</i>		<i>OR</i>					

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. †		Concentration
1	2	3	4	5	6	7	8	9
				Malathion 50 BC	1000 ml.	...	0.05	
				OR				
				Monocrotophos 36 WSC	825 ml.	...	0.03	
				OR				
				Dimethoate 30 EC	1000 ml.	...	0.03	
		Second Application 15 days after first, if the incidence continues	do.	As above				
		OR						
		Aerial Spraying, as and when attack is seen.	Spray the pesticides as in col. 5.	Malathion ULV OR Endosulfan 35 E. C. OR Fenitrothion 100 E. C.	1125 gm. 1000 ml. 500 ml.			
	Smut	Field Treatment as and when the attack is seen.		The whips should be collected carefully in thick cloth or gunny bag and destroyed. The affected Shoots should be uprooted and destroyed.				
	Grassy Shoot	As soon as seen	Systematic rouging of grassy affected Shoots.					
	Scales	Clean cultivation-before Planting.	Burn dried leaves, stubbles, etc. after harvest.					
		Field treatment—First Spraying in March or when the pest incidence is noticed.	Spray the pesticides as given in col. 5.	Dimethoate 30 EC	2625 ml.	1000	0.08	After lodging etc., spray only the peripheries.
				OR				
				Malathion 50 EC	2000 ml.	..	0.1	
				OR				
				Phosphamidon 85 WSC	800 ml.	..	0.08	
		Second Spraying 3 weeks after 1st spraying.	do.	As above				
		Third Spraying 3 weeks after 2nd spraying	do.	As above				
	Yellowing of sugarcane (Iron chlorosis).	Avoid planting of sugarcane in heavy calcareous soil.						
		1st Application at the appearance of symptoms.	Spray as in col. 5.	Ferrous Sulphate	2500 gm.	500	0.5	

		2nd Application 21 days after the 1st.	do.	As above				
				<i>OR</i>				
		At the time of earthing up;	Apply in the soil with farm yard manure	Ferrous Sulphate.	60-125 kg/ hectares.			
Brown spots		1st Spraying—As soon as the disease appears.	Spray as in col. 5.	Copper Oxychloride 50 WDP.	2500 gm.	500	0.5	The disease appears from July to December in Kolhapur area.
		2nd Spraying—21 days after the 1st.	do.	do.				
Cutworms	Soil Application		Apply in the soil pesticide as in col. 5.	Chlordane 5% dust	50 kg.			
				<i>OR</i>				
				Heptachlor 5% dust	50 kg.			
If the damage due to cutworms is prevalent in the previous crop—then apply at the time of planting and also at earthing up. Otherwise apply as and when the attack is seen.								
Collection of larvas in traps of heaps of grass in between the lines should be done.								
Soil and seeds borne diseases.	Seed Treatment	Dip the seed in the solution for 2 minutes at the time of planting.	Use fungicide as in col. 5.	6 per cent Mercurial fungicide.	250 gm	100	0.25	Examine Seed Potato by cutting potato for ring disease and if any disease potato is observed, reject whole lot.
Brown rot	Dip the seed for 1 hr.		do.	Streptacycline	200 gm	100	...	
Aphids, Thrips, Jassids,	Soil Application.	At the time of planting.	Use granules as in col. 5	Phorate 10 per cent Gr.	7.5 kg.	..	..
				<i>OR</i>				
				Carbofuran 3 per cent Gr.	33 kg.	..	..
Aphids, Thrips early and late blights, mites, Jassids,	Field Applications: 1st spraying 25 days after planting if soil application is not done with granules.		Spray with pesticides as in col. 5.	1. Endosulfan 35 EC	715 ml.	500	0.05	
				<i>OR</i>				
				Phosphamidon 85 WSC	100 ml	..	0.02	
				<i>OR</i>				
				Dimethoate 30 EC	500 ml	..	0.05	
				<i>OR</i>				
				Mathyldematon 25 EC	500 ml	..	0.025	
				<i>OR</i>				

Schedule—contd.

Crop	Pest/Disease Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit./Hect.†	Concentration	
1	2	3	4	5	6	7	8	9
				Thiomaton 25 EC +	500 ml	..	0.25	
				+++2. Copper Oxycho- ride 50 WP	1500 gm	...	0.30	+++ Combination of any one of each group 1 and 2.
				OR				
				Zinab 75 WDP	1000 gm	..	0.20	
				OR				
				Mancozeb 75 WP	1500 gm	..	0.30	
				OR				
				Ziram 80 WDP	1000 gm	...	0.20	
				OR				
				Bordeaux Mixture 1 : 1 : 100.*	..	(*1 kg. Copper Sulphate + 1 kg lime + 100 lits. of water).		Bordeaux mixture should be sprayed separately.
	Aphids, Jassids, Thrips, Mites.	Second Spraying—12 days after 1st spray- ing.	Spray with pesticides as in col. 5.	Endosulfan 35 EC	700 ml	500	0.05	
				OR				
				Phosphamidon 85 WSC	100 ml	..	0.02	
				OR				
				Dimethoate 30 EC	500 ml	..	0.03	
				OR				
				Methyldemeton 25 EC	500 ml	..	0.02 5	
				OR				
				Thiomaton 25 EC	500 ml	...	0.025	
		When heavy incidence of mites appears.	do.	Wettable Sulphur 80 per cent.	1000 gm	500	0.20	
	Aphids, Jassids, Thrips, Tuber- moth, early and late blight.	Third Spraying 13 days after 2nd Spraying.	do.	1. Endosulfan 35 EC	1000 ml ;	750	0.05	
				OR				

	Phosphamidon 85 WSC	150 ml	...	0.02		
	<i>OR</i>					
	Dimathoate 30 EC	750 ml	..	0.03		
	<i>OR</i>					
	Methyldemeton 25 EC	750 ml	...	8.025	Combination of any insecticide from group 1 and 2 and any fungicide from group 3. If heavy infestation of mites appear use Wettable Sulphur 80% 1½ kg in 750 lit. of water. Bordeaux mixture should not be mixed.	
	<i>OR</i>					
	Thiometon 25 EC	750 ml	...	0.025		
	<i>OR</i>					
	Quinalphos 25 EC	1500 ml	...	0.05		
	+					
	2. Carbaryl 50 WP	1.5 kg.	...	0.10		
	3. Copper Oxychloride 50 WP.	2250 gm	...	0.30		
	<i>OR</i>					
	Zineb 75 WP	1500 gms.	...	0.20		
	<i>OR</i>					
	Bordeaux mixture	1.1.100	...	-		
	<i>OR</i>					
	Mancozeb 75 WP	2250 gm	...	0.30		
	<i>OR</i>					
	Ziram 80 WP	1500 gms.	...	0.20		
Aphids, Jassids Fourth Spraying 10 Thrips, Mites, days after third Tubermoth, Early spraying, and Lateblight.	1. Endosulfan 35 EC	1440 ml	1000	0.05	Combination of any one Insecticide from group 1 and 2 and any fungicide from group 3. If heavy incidence of mites appears, use W. Sulphur 80% 2 kg. in 1000 ft. of water.	
	<i>OR</i>					
	Phosphamidon 85 WSC	200 ml	...	0.02		
	<i>OR</i>					
	Dimethote 30 EC	1000 ml	...	0.03		
	<i>OR</i>					
	Methyldemeton 25 EC	1000 ml	...	0.025		
	<i>OR</i>					
	Thometon 25 EC	1000 ml	...	0.025		
	<i>OR</i>					

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. †	Concentration	
1	2	3	4	5	6	7	8	9
				Manochroophos WSC.	36 1400 ml	...	0.05	
				<i>OR</i>				
				Fanitrothion 50 EC	1000 ml	...	0.05	
				<i>OR</i>				
				Quinalphos 25 EC	2000 ml	...	0.05	
				<i>OR</i>				
				Phosalone 35 EC	1425 ml	...	0.05	
				+				
				2. Carbaryl 50 WP	2 kg	...	0.10	
				+				
				3. Copper Oxychloride 50 WP.	3 kg	...	0.30	
				<i>OR</i>				
				Bordeaux 1:1:100	mixturte	...	...
				<i>OR</i>				
				Zineb 75 WP	2500 gm	..	0.25	
				<i>OR</i>				
				Mancozeb 75 WDP	3000 gm	..	0.3	
				<i>OR</i>				
				Ziram 80:WDP	2000 gm	...	0.2	
					As above			

Mites Aphids, Fifth Spraying for
Jassids, Thrips, Khupri Sinduri only,
Tubermoth, Early 15 days after 4th
and lateblight. Spraying.

Spray As given in Col. 5.

Tuberworm	Apply insecticide on soil 60 days after planting.	As given in col. 5.	Carbaryl 10 DP	20 kg	..	..	Apply on soil when no wind.
			OR				
			Malathion 5 DP	40 kg	..	..
			OR				
			Endosulfan 4 DP	50 kg	..	..
Early or late blight	Spraying—As and when the disease appears.	Do.	Copper Oxychloride 50 WDP.	1500 gm	500	0.30	
			OR				
			Bordeaux mixture	1 : 1 : 100	..	..
			OR				
			Zinab 75 WDP	1250 gm	..	0.25	
			OR				
			Mancozeb 75 WDP	1500 gm	..	0.30	
			OR				
			Ziram 80 WDP	1000 gm	..	0.20	
Mites	Do.	Spray as given in col 5.	Wettable Sulphur 80%	1000 gm	500	0.20	
CHILLIES	Leaf curl, Jassids, Thrips, Mites.	Nursery Application, Soil Application, At sowing, apply granules to seedbed before sowing. Line sowing should be followed, Open a line on seedbed and sow the chili seed in the line. Then open another line at a distance of 1.5 cm. to 3 cm (1/2" to 1") adjacent to the first line.	Spray as given in col. 5. Apply granular pesticides in line given in col. 5.	Phorate 10% Granules	10 kg	..	..
			OR				
		Spraying 10 days after sowing.	Spray as given in col. 5	Monocrotophos 36 WSC	350 ml	250	0.05
Leafcurl, Jassids, Thrips, Mites.	Nursery Spraying 3 weeks after showing.	Use pesticides as in col. 5	1. Endosulfan.35 EC	215 ml	250	0.03	Combination of any one insecticide from group 1 and any one fungicide from group 2.
			OR				

Schedule—contd.

Crop	Post/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. †		Concentration
1	2	3	4	5	6	7	8	9
				Monocrotophos 36 WSC.	350 ml	..	0.05	
				<i>OR</i>				
				Dimathoate 30 EC	250 ml	..	0.03	
				<i>OR</i>				
				Phosphamidon 85 WSC.	50 ml	..	0.03	
				<i>OR</i>				
				Thiometan 25 EC	200 ml	..	0.02	
				<i>OR</i>				
				Methyldematon 25 EC.	200 ml	..	0.02	
				+				
			2.	Copper Oxychloride 50 WDP.	625 gm	..	0.25	
				<i>OR</i>				
				Zineb 75 WP	500 gm	..	0.20	
				<i>OR</i>				
				Mangozeb 75 WP	625 gm	..	0.25	
<i>At Transplanting :—Dip the seedlings particularly the leafy portion in the solution prepared by adding 40 gms. of DDT 50 WDP in 10 Lts. of water.</i>								
Leafcurl		Field application : First spraying 10 days after transplanting.	Use pesticides as given in col. 5	1. Endosulfan 35 EC	325 ml	375	0.03	Combination of any one insecticide from group 1 and 2 and any one fun- gicide from group 3.
				<i>OR</i>				
				Dimethoate 30 EC	375 ml	..	0.03	
				<i>OR</i>				

Leafcurl Jassids,
Thrips, Mites,
Anthracnose and
Powdery Mildew.

Second Spraying 10-15
days after 1st Spray-
ing.

Spray pesticides as in col. 5

Phosphamidon 85 WSC	75 ml	...	0.02
<i>OR</i>			
Thiometon 25 EC	300 ml	..	0.02
<i>OR</i>			
Methyldemeton 25 EC	300 ml	...	0.02
<i>OR</i>			
Monocrotophos 36 WSC	525 ml	..	0.05
+			
2. Wettable Sulphur 80 per cent WP	750 gm	--	0.20
+			
3. Copper Oxychloride 50 WP	950 gm	..	0.25
<i>OR</i>			
Zineb 75 WP	750 gm	...	0.20
<i>OR</i>			
Mancozeb 75 WP	950 gm	..	0.25
1. Endosulfan 35 EC	430 ml	500	0.03
<i>OR</i>			
Dimethoate 30 EC	500 ml	..	0.03
<i>OR</i>			
Phosphamidon 85 WSC	100 ml	..	0.02
<i>OR</i>			
Thiometon 25 EC	500 ml	...	0.025
<i>OR</i>			
Methyldemeton 25 EC	400 ml	..	0.02
<i>OR</i>			
Monocrotophos 36 WSC	700 ml	..	0.05
+			

Combination of any one
insecticide from group 1
and 2 any one fungicide
from group 3.

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Treatment	Schedule of Operation			Remarks	
				Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect †		Concentration
1	2	3	4	5	6	7	8	9
				2. Wettable Sulphur 80 per cent WP.	1250 gm	..	0.25	
				+				
				3. Copper Oxychloride 50 WP.	1250 gm	...	0.25	
				OR				
				Zineb 75 WDP	1 kg	..	0.20	
				OR				
				Mancozeb 75 WP	1250 gm	...	0.25	
				1. Endosulphan 35 EC	650 ml	750	0.03	
				OR				
				Dimethoate 30 EC	750 ml	..	0.03	
				OR				
				Phosphamidon 85 WSC	150 ml	..	0.02	
				OR				
				Thiometon 25 EC	750 ml	..	0.25	
				OR				
				Methyldemeton 25 EC	600 ml	..	0.02	
				OR				
				Monocrotophos 36 WSC	1050 ml	..	0.05	
				+				
				2. Wettable Sulphur 80 per cent WP	1875 gm	..	0.25	
				+				
				3. Copper Oxychloride 50 WP	1875 gm	...	0.25	
				OR				
				Zineb 75 WDP	1500 gm	..	0.25	
				OR				
				Mancozeb 75 WP	1875 gm	..	0.25	

Leafcurl, Jassids,
Mites, Anthracnose
and Powdery
Mildew.

Third Spraying 10-15
days after 2nd spray-
ing.

Spray pesticides as in col. 5

Combination of any one
insecticide from group 1
and 2 and any one fun-
gicide from group 3.

Do not pluck chillies for con-
sumption till 10 days after
spraying.

If there is severe attack of leafcurl, repeat application of Monocrotophos at every 10 days interval after plucking.

ONION AND GARLIC	Thrips, Alternaria, Blight etc.	Nursery Spraying 2 weeks after sowing.	Spray the Pesticids as given in col. 5					Combination of any one insecticide and any one fungicide from group 2
			1. Endosulfan 35 EC	575 ml	500	0.04		
			OR					
			Phosphamidon 85 WSC	100 ml	—	0.02		
			+					
			2. Copper Oxychloride 50 WP	1250 gm	—	0.25		
			OR					
			Zineb 75 WDP	1000 gm	—	0.20		
			1. Endosulphan 35 EC	575 ml	500	0.04		
			OR					
			Phosphamidon 85 WSC	100 ml	—	0.02		
			OR					
			Malathion 50 EC	500 ml	—	0.05		
			OR					
			Fenitrothion 50 EC	500 ml	—	0.05		
			OR					
			Fenthion 50 EC	500 ml	—	0.05		
			OR					
			Quinalphos 25 EC	600 ml	—	0.03		
			+					
			2. Copper Oxychloride 50 WP	1250 gm	—	0.25		
			OR					
			Zineb 75 WDP	1000 gm	—	0.20		
			1. Endosulfan 35 EC	755 ml	500	0.04		
			OR					
			Phosphamidon 85 WSC	100 ml	—	0.02		
			OR					
			Malathion 50 EC	500 ml	—	0.05		
			OR					
			Fenitrothion 50 EC	500 ml	—	0.05		
			OR					
			Fenthion 50 EC	500 ml	—	0.05		
			OR					
			Quinalphos 25 EC	600 ml	—	0.05		
			+					
			2. Copper Oxychloride 50 WP	1250 gm	—	0.25		
			OR					
			Zineb 75 WDP	1000 gm	—	—		
			1. Endosulfan 35 EC	755 ml	500	0.04		
			OR					
			Phosphamidon 85 WSC	100 ml	—	0.02		
			OR					
			Malathion 50 EC	500 ml	—	0.05		
			OR					
			Fenitrothion 50 EC	500 ml	—	0.05		
			OR					
			Fenthion 50 EC	500 ml	—	0.05		
			OR					
			Quinalphos 25 EC	600 ml	—	0.05		
			+					
			2. Copper Oxychloride 50 WP	1250 gm	—	0.25		
			OR					
			Zineb 75 WDP	1000 gm	—	—		

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Treatment	Schedule of Operation					Remarks
				Name of Pesticide	Quantity per hectare	Water required by hand sprayer Lit/Hect. †	Concentration		
1	2	3	4	5	6	7	8	9	
TOMATO	Thrips, White-flies Alternaria, Blight	Nursary Spraying 2 weeks after sowing	Spray the pesticide as in col. 5.	1. Endosulfan 35 EC	290 ml	250	0.04	Combination of any one insecticides from group 1 and anyone fungicide from group 2.	
				OR					
				Malathion 50 EC	250 ml		0.05		
				OR					
				Phosphamidon 85 WSC	50 ml	—	0.02		
				OR					
				Dimethoate 30 EC	250 ml	—	0.03		
				OR					
				Methyldematton 25 EC	250 ml	—	0.025		
				OR					
	Formothion 25 EC	250 ml	—	0.025					
	OR								
	Thiometon 25 EC	250 ml	—	0.025					
	+								
	2. Copper Oxychloride 50 WP	625 gm	—	0.25					
	OR								
	Zineb 75 WDP	500 g n	—	0.20					
	OR								
	Ziram 80 WP	500 gm	—	0.20					
	Thrips, Whiteflies, Alternaria, Blight etc.	Field application first spraying 2—3 weeks after transplanting.	Spray the pesticide as in col. 5.	1. Endosulfan 35 EC	575 ml	500	0.04	Combination of any one insecticide from group 1 and anyone fungicide from group 2.	
OR									
Malathion 50 EC				1000 ml	—	0.10			
OR									
Phosphamidon 85 WSC				100 m	—	0.02			
OR									
Dimethoate 30 EC				500 ml	—	0.03			
OR									
Methyldemetton 25 EC				500 ml.	...	0.025			
OR									
Formothion 25 EC	500 ml.	...	0.025						
OR									
Thiometon 25 EC	500 ml.	...	0.025						
+									
2. Copper Oxychloride 50 WP.	1250 gm	...	0.25						
OR									
Zineb 75 WDP	1000 gm.	...	0.20						
OR									
Ziram 80 WP	1000 gm.	...	0.20						

	Second spraying 2 weeks after 1st spraying.	Do.	Same as given under first spraying.				Do not pluck fruits for 10 days after spraying.
	Third spraying 2 weeks after 2nd spraying.	Do.	Same as given under Second spraying.				
	Fourth spraying 2 weeks after 3rd spraying.	Do.	Same as given under Third spraying.				
BRINJAL Little Leaf.	Field application keep 50% more population at transplanting. As soon as the disease appears the diseased plants should be remov- ed and burnt.	Treat seed-beds as in col. 5.	Phorate 10% Gr.			20 gm/bed of 2 m x 1 M size	
	Dip seedling before transplanting.	As given in col. 5.	Monocrotophos 36 WSC	15 ml	10	0.05	
Aphids Jassids, Thrips, etc.	Nursery spraying abo- ut two weeks after sowing.	Spray	1. Endosulfan 35 EC <i>OR</i> Malathion 50 EC <i>OR</i> Phosphamidon 85 WSC <i>OR</i> Dimethoate 30 EC <i>OR</i> Methyldemeton 25 EC <i>OR</i> Formothion 25 EC <i>OR</i> Thiometon 25 EC + 2. Copper Oxychloride 50 WP <i>OR</i> Zineb 80 per cent WP <i>OR</i> Ziram 80 per cent WP	290 ml 500 ml 50 ml 250 ml 250 ml 250 ml 250 ml 625 gm 500 gm	250 — — — — — — — —	0.04 0.10 0.02 0.03 0.025 0.025 0.025 0.25 0.20	Any one of the insecticide from group 1 may be mixed with any one of the fungicide from group 2.
Aphids, Jassids, Thrips, Mites.	Field appliction-First spraying 2 weeks after transplanting.	Spray the pesticides as i n Col. No. 5.	1, Endosulfan 35 EC <i>OR</i> Malathion 50 EC <i>OR</i>	575 ml 1000 ml	500 —	0.04 0.10	

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticide	Qty. per hect.	Water reqd. by hand sprayer Lit/Hect.	Concentration	
1	2	3	4	5	6	7	8	9
				OR				
				Phosphomidon 85 WSC	100 ml.	...	0.02	Any one of the insecticide from Group 1 may be mixed with any one of the fungicide from Group 2.
				OR				
				Dimethoate 30 EC	500 ml.	...	0.03	
				OR				
				Methyldemeton 25 EC	500 ml.	..	0.025	
				OR				
				Formothion 25 EC	500 ml.	...	0.025	
				OR				
				Thiometon 25 EC	500 ml.	...	0.025	
				+				
				2. Copper Oxychloride 50 WP.	1250 gm.	...	0.25	
				OR				
				Zineb 75 WDP	1000 gm.	...	0.20	
				OR				
				Ziram 80 WP	1000 gm.	...	0.20	
				1. Carbaryl 50 WP	2 kg.	500	0.20	
				+				
				Copper Oxychloride 50 WP.	1250 gm.	...	0.25	
				OR				
				2. Methemyl 90 WP	275 gm.	...	0.05	
				+				
				Copper Oxychloride 50 WP	1250 gm.	...	0.25	
				OR				
				3. Carbaryl 10 % dust	20 kg.	...	...

Shoot and fruit borer aphids, jassids, diseases, etc.

Second Spraying two weeks after 1st spraying.

Spray/Dust the pesticides as in col. 5.

	Third Spraying—Two weeks after 2nd Spraying.	Do.	1. Carbaryl 50 WP	2 kg.	500	0.20	
			+				
			Wettable Sulphur 80 %	2 kg.	...	0.40	
			+				
			Copper Oxychloride 50 WP	1250 gm.	...	0.25	
			OR				
			2. Methomyl 90 WP	275 gm.	...	0.05	
			+				
			Copper Oxychloride 50 WP	1250 gm.	..	0.25	
			+				
			Wettable Sulphur 80 %	2 kg.	...	0.25	
			OR				
			3. Carbaryl 10 % dust	12½ kg.	...	...
			+				
			Sulphur dust 300 mesh	12½ kg.	...	..
	Fourth Spraying Two weeks after 3rd Spraying.	Spray/dust the pesticides as in col. 5.	———— Same as given under third spraying ————				
	Fifth, Sixth and 7th Spraying at 2 weeks interval.	Do.			Do.		
	Shoot and Fruit borer.	Field Application—clip the affected shoots with caterpillar and destroy from time to time.					
CABBAGE— KNOL KHOD CAULIFLOWER.	Soft black rot	Treat the seed of Cauliflower, Knol-khol and Cabbage with mercury chloride solution 1 : 1000 for half an hour dry and sow. Add 10 gms of Mercury Chloride to 10 lts. of water to prepare solution.					
	Aphids, Jassids, Thrips.	Nursery Spraying—2 weeks after sowing.	Spray the pesticides as in col. 5	Endosulfan 35 EC	290 ml.	250	0.04
				OR			
				Phosphamidon 85 WSC	50 ml.	...	0.02
				OR			
				Melathion 50 EC	250 ml.	..	0.05

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of pesticide	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.		Concentration
1	2	3	4	5	6	7	8	9
				OR				
				Dimethoate 30 EC	250 ml.	..	0.03	
				OR				
				Formethion 25 EC	250 ml.	..	0.025	
				OR				
				Methyldemeton 25 EC	250 ml.	..	0.025	
				OR				
				Thiometon 25 EC	250 ml.	..	0.025	
	Aphida, Jassids, Thrips, Alter- naria, blight.	Field application—First Spraying 10-15 days after sowing/trans- planting.	Spray the pesticide as in col. 5.	1. Malathion 50 EC** + 2. Copper Oxychloride 50 WP	500 ml. 1250 gm.	500 ..	0.05 0.025	** Any one insecticide from Group 1 be mixed with any one fungicide from Group 2.
				OR				
				Zineb 75 WDP	1000 gm.	..	0.20	
				OR				
				Ziram 80 WP	1000 gm.	..	0.20	
				2-3 Spraying at 10-12 days interval may be given as above.				
CABBAGE	Diamond back moth.	Field application.—As soon as attack noticed.	do.	Quinalphos 25 EC	1000 ml.	500	0.05	
TURMERIC & GINGER	Rhizomoffy.	Field application—First Spraying 12 weeks after planting.	Use the pesticides as in Col. 5.	1. Diazinon 20 EC OR DDT 50 WP	500 ml. 2 kg.	500	0.02 0.20	
		Second Spraying 3 weeks after 1st spraying.	do.	As above				
		Third Spraying 3 weeks after 2nd Spraying.	do.	As above				
		Fourth application—Pour the solution around each plant and irri- gate the field, 3 weeks after 3rd spraying.	do.	Diazinon 20 EC	750 ml.	750	0.02	

		Fifth application 3 weeks after 4th application as under 4th application.	do.	As above—				
		Sixth Application 3 weeks after 5th application as under 4th application.	Spray the pesticides as in Col. 5.	—As above—				
	Leaf Spot, Leaf-Blotch.	Field application First spraying immediatly after the incidence is noticed.	Spray the pesticides as in col. 5.	Copper Oxichloride 50 WP	1250 gm.	500	0.25	Repeat the spraying as above at 2 weeks interval.
				OR				
				Zinab 75 WDP	1000 gm.	---	0.20	
				OR				
				Ziram 80 WP	1000 gm.	---	0.20	
TUR	... Pod borer leaf eating catterpillar, Tur-pod Fly.	Field application First application at the time of formation of buds or when incidence is noticed.	Dust with pesticides as given in col. 5.	1. Edosulfan 35 EC	1000 ml.	500	0.07	
				OR				
				2. DDT 50 WDP	2 kg.		0.2	
				OR				
				3. BHC 10 % dust	20 kg.			
				OR				
				4. Carbaryl 10 % dust	20 kg.			
				OR				
				5. BHC 10% dust	10 kg.			
				+				
				Carbaryl 10 % dust	10 kg.			
				OR				
				6. Heptachlor 5 % dust	20 kg.			
		Second application 2 weeks after 1st dusting.	do.	As above				
	Wilt.	Use resistant varieties like BDN-1, BDN-2.						
MUNG/ URID	.. Aphids, Leaf-eating caterpillar, flea-beetles.	Field application As soon as pest appears.	Dust with pesticides as in col. 5.	BHC 10 % dust	20 kg.			
	Powdery mildew	Field application As soon as pest appears.	Dust with pesticides as given in col. 5.	Sulphur-dust	20 kg.			
GRAM	Gram pod borer	Field application as soon as pest appears.	do.	1. BHC 10% dust	10 kg.			
				+				
				Carbaryl 10 % dust	10 kg.			

Schedule—contd.

Crop	Pest / Disease / Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticide	Qty. per hect.	Water reqd. by hand sprayer Hect.	Concentration Lit./	
1	2	3	4	5	6	7	8	9
				OR				
				2. Quinalphos 1.5% DP	20 kg.			
				OR				
				3. Phosalone 4% DP	20 kg.			
		Second dusting if necessary 2 weeks after 1st dusting.	do.	As above				
PEAS	Aphids	Field application—1st spraying / dusting 3 weeks after sowing.	Dust / Spray pesticides as in col. 5.	Phosphamidon 85 WSC	100 ml.	500	0.02	
				OR				
				Methyldemeton 25 EC	400 ml.		0.02	
				OR				
				Dimethoate 30 EC	500 ml.		0.03	
				OR				
				Thiometon 25 EC	400 ml.		0.02	
				OR				
				Malathion 50 EC	500 ml.		0.05	
				OR				
				Formothion 25 EC	400 ml.		0.02	
				OR				
				Malathion 5% dust	25 kg.			
	Aphids, pod borer, etc.	Second Spraying Dusting—2-3 weeks after first spraying.	Spray/dust the pesticides as in col. 5.	1. Phosphamidon 85 WSC	100 ml.	500	0.02	Mix any spray insecticide from Group A with Group B.
				OR				
				Methyldemeton 25 EC	400 ml.		0.02	
				OR				
				Dimethoate 30 EC	500 ml.		0.03	
				OR				
				Thiometon 25 EC	400 ml.		0.02	

			<i>OR</i>				
			Malathion 50 EC	1000 ml.			0.10
			<i>OR</i>				
			Formothion 25 EC	400 ml.			0.02
			+				
			B. Carbaryl 50 WP	1000 gm.			0.10
			<i>OR</i>				
			2. Malathion 5% dust	12½ kg.			
			+				
			Carbaryl 10% dust	12½ kg.			
Powdery Mildew.	Field application—First spraying/dusting as and when incidence is noticed.	do.	Wettable Sulphur 80%	1250 gm.	500		0.25
			<i>OR</i>				
			Sulphur dust 300 mash	20 kg.			
			<i>OR</i>				
			Baylaton 25 WDP	250 gm.			0.05
			<i>OR</i>				
			Tridemorph 75 EC (Calixin)	250 ml.	—		0.05
			<i>OR</i>				
			Dinocap 48 WP	500 gm.	—		0.10
	Second spraying/dusting 7 days after 1st spraying.	Spray/dust the pesticides as in col. 5	As above				
	Third spraying/dusting—7 days after 2nd spraying.	Do.	As above				
TOBACCO...	Damping off.	Seed treatment before sowing.	Use fungicide as in col. 5.	1% Mercurial fungicide	2-3 gm./100 gm. seed.		
	Nursery drenching—Drench the seed beds thoroughly before sowing.	Do.	Copper 50 WP	Oxychloride 1500 gm.	500		0.30

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Treatment	Schedule of Operation				Remarks
				Name of pesticide	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.	Concentration	
1	2	3	4	5	6	7	8	9
		Nursery Spraying—First spraying 1-1½ weeks after sowing.	Use fungicide as in col. 5.	Copper 50 WP	Oxychloride 1000 gm.	500	0.20	
	Aphids	Second Spraying 2 weeks after 1st spraying.	Spray the pesticides as in col. 5.	1. Phosphamidon WSC	85 100 ml.	500	0.02	Mix any one insecticide from Group 1 with Group 2.
				OR				
				Formothion 25 EC	400 ml.		0.02	
				OR				
				Methyldemeton 25 EC	400 ml.		0.02	
				OR				
				Endosulfan 35 EC	575 ml.		0.04	
				OR				
				Dimethoate 30 EC	500 ml.		0.03	
				OR				
				Thiometon 25 EC	400 ml.		0.02	
				+				
				2. Copper Oxychloride 50 WP	1250 gm.		0.25	
	Cutworms	Soil Treatment at the time of transplanting.	Use the pesticides as in col. 5	Aldrin 30 EC	5000 ml.	500	0.30	
				1. Drench the soil with the solution around the seedlings at the time of transplanting. Collection of larvae in traps of heaps of grasses in between the lines should be done.				
	Aphids	Field application,—First Spraying 2-3 weeks after transplanting.	Spray the pesticides as in col. 5.	Phosphamidon 85 WSC	100 ml.	500	0.02	
				OR				
				Formothion 25 EC	400 ml.		0.02	
				OR				
				Methyldemeton 25 EC	400 ml.		0.02	
				OR				

				Endosulfan 35 EC	575 ml.		0.04	
				OR				
				Dimthoate 30 EC	500 ml.	...	0.03	
				OR				
				Thiometon 25 EC	400 ml.	...	0.02	
		Second Spraying, 2-3 weeks after first spraying.	Spray the pesticides as in col. 5	As above				
SOYABEAN	Seed Borne disease.	Seed treatment before sowing.	do.	Thiram 75 WP	2 gm./kg. of seed			
				OR				
				1% Mercurial fungicide	2 gm./kg. of seed			
	Aphids, Jassids, Hairy caterpillars, leaf-roller, leaf spot.	Field application—First spraying immediately after the incidence is noticed.	Use the pesticides as in col. 5.	1. BHC 50 WP	1250 gm.	500	0.12	
				+				
				Copper Oxychloride 50 WP	12500 gm.	...	0.25	
				OR				
				Zineb 75 WDP	1000 gm.	...	0.20	
				OR				
				2. BHC 10% dust	10 kg.	...		
				+				
				Carbaryl 10% dust	10 kg.	...		
		Second application—Two weeks after first.	do.	As above				
BETELVINE	Wilt	Field application—First application at the time of lowering of vines.	Apply in soil in trenches near root zones.	Neem Cake	120 N	...		
JOWAR, BAJRA, SUGARCANE, PADDY, GROUNDNUT	White Grub	First Spraying After the 1st shower of monsoon, when emergence of beetles takes place.	In the endemic pockets if there are average 20 or more beetles per tree, spraying of the host trees of the white grub beetles such as neem, babul, Acacia Sp and Bor may be undertaken on community basis immediately with the pesticides as shown in col. 5.	DDT 50 WDP	4 kg.	500	0.4	Provide safety clothing to labourers at the time of spraying.
				OR				
				Carbaryl 50 WP	1 kg.		1.1	
		Second Spraying Three weeks after first.	do.	As above				Leaves of sprayed host trees should not be fed to animals upto 10 days.

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticides	Qty. per hect.	Water reqd by hand sprayer Lit/Hect.	Concentration	
1	2	3	4	5	6	7	8	9
		At the time of preparation of land for sowing.	If there are average 20 or more beetles per tree dust the insecticides on the soil and mix it thoroughly by harrowing or drill insecticides into the soil as given in Col. 5.	BHC 10% dust. OR Chlordan 5% dust. OR Heptachlor 5% dust.	125 kg. 65 kg. 65 kg.			In case of Groundnut, tobacco and root crops 10% BHC dust is not to be applied in the soil.
		Before applying F. Y. M.	Add 1 kg. of BHC 10% dust per cartload of FYM					
		Collect adult beetles by shaking the host trees and destroy them. When the attack of whitegrubs is in speradic form, destroy the grubs by handpicking.						
		Plough the infested field immediately after harvest and collect and destroy grubs in kerosinised water.						
		Collect the grubs during field operations such as weeding, interculturing etc. and kill them in kerosinised water.						
		In sporadic areas where the average beetle population per tree is less than 20, machanical and cultural methods as above may be followed.						
FALLOW LAND	Parthenium weed	First application—Spray as pre-emergence	Spray as given in col. 5.	Atrazine 50 wp	1.5 kg.	500	0.15	
		OR						
		Spray when weed is of 3-4 leaf stage.	—do—	2, 4.- D Sodium Salt	2.5 kg.		0.40	Spray on weeds

MANGO

Hoppers powdery mildew.

Field application-First dusting/spraying just before flowering on bark and branches, tips etc.

Spray/dust the pesticides as in col. 5

- | | | | |
|-------------------------|---------|-------|------|
| 1. Carbaryl 10% dust | } | 1:1 | |
| + Sulphur dust 300 mesh | | | |
| OR | | | |
| 2. DDT 10% dust | } | 1:1 | |
| + Sulphur dust 300 mesh | | | |
| OR | | | |
| 3. Carbaryl 50 WP | 20 gm. | 10 | 0.10 |
| + | | | |
| Wettable Sulphur 80 WP | 20 gm. | | 0.20 |
| OR | | | |
| 4. DDT 50% WP | 20 gm. | | 0.10 |
| + | | | |
| Wettable Sulphur 80% | 20 gm. | | 0.20 |
| OR | | | |
| 5. Dimethoate 30 EC | 10 ml. | | 0.03 |
| + | | | |
| Wettable Sulphur 80% | 20 gms. | | 0.20 |
| OR | | | |
| 6. Methyldemeton EC | 25 | 8 ml. | 0.02 |
| + | | | |
| Wettable Sulphur 80% | 20 gm. | | 0.2 |

Second Spraying/dusting—2 weeks after 1st, just before flowering

Spray/dust the pesticides as in col. 5.

As above

Third Spraying/dusting—2 weeks after second.

do.

As above

CHIKOO

Phytophthora

Clean the garden and burn the fallen leaves, fruits, etc. Drain out excess water.

Field application—Four sprays at 2 weeks interval.

Spray the pesticides as given in col. 5.

- | | | | |
|---------------------------|----------|-----|------|
| Copper Oxychloride 50 WP. | 1250 gm. | 500 | 0.25 |
| OR | | | |
| Zineb 75 WP | 1000 gm. | | 0.20 |

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.	Concentration	
1	2	3	4	5	6	7	8	9
ARECANUT	Koleroga	Clean up Campaign: In the month of May.	Collect the fallen leaves, fruits etc. and burn it.					
		Field application—First spraying in May before rains.	Spray the pesticides as in col. 5.	Bordeaux Mixture	1:1: 100		1.00	
				OR				
					Copper Oxychloride 50% 1875 gm. WP.	500	0.37	
					+	Sandovit	1 ml/Litre of suspension	
		Second Spraying 4 weeks after first spraying.	Do.	As above				
		Third Spraying-4 weeks after second spraying	Do.	As above				
COCONUT	Stem-Bleeding	Field Treatment.	Care should be taken to cultivate, irrigate and manure the orchards properly so that no cracks are developed on the stems. If however cracks are developed, they should be filled in with Bordeaux paste or tar. If there is oozing on the stem scrap out complete diseased part and apply Bordeaux paste or tar.					
	Rhinoceros beetle.	Field application.—As soon as pest is noticed.	<ol style="list-style-type: none"> 1. Spray manure pits with BHC 50 WP 20 gm mixing in 10 Litres of Water. 2. Destroy beetles by means of iron hooks and fill the bore holes with BHC 10 per cent dust mixed with sand (1 : 1) to avoid reinfestation. 3. Open trap pits filled with manure and later on treat the same by mixing BHC 10% dust. 					
	Red palm weevil	Field application.—As soon as pest is noticed.	<ol style="list-style-type: none"> 1. Scares should be filled with a mixture of sand and BHC 10% dust (1 : 1). 2. Inject 1 per cent synergized pyrethrins, 1 to 1.5 lit. of solution per tree. The solution is introduced into the tree with a bent funnel through the topmost hole. Close rest of the holes on the trunks by cement prior to treatment. 3. The trees those infested by the pest in high intensity should be promptly cut and destroyed alongwith the various stages of the pest. 					
	Black headed cater-pillar.	Field application.—As soon as pest is noticed.	As soon as infestation is noticed the leaf showing larval galleries should be cut and burnt.	Spray as given in col. 5.	BHC 50 WP	2 kg.	500	0.20
				OR				
				DDT 50 WP	2 kg.		0.20	

CASHEW-NUT	Phytophthora Leaf-miner, leaf eating cater piller.	Nursery spraying.—As and when the pest disease appears.	Spray the pesticides as in Col. 5.	1. Phosphamidon 85	100 ml.	500	0.02
				+			
				Copper Oxychlo- ride 50% WP	1250 gm.		0.25
				<i>OR</i>			
				2. Malathion 50 EC	1000 ml.	..	0.10
				+			
				Copper Oxychlo- ride 50% WP	1250 gms.	..	0.25
	Tea-Mosquito and diseases.	Field application.— At the time of bud sprout- ing.	do.	1. DDT 50% WP	2 kg.	500	0.20
				+			
				Copper Oxychlo- ride 50 WP.	1250 gms.	..	0.25
				<i>OR</i>			
				2. Endosulphan 35EC	570 ml.	..	0.04
				+			
				Copper Oxychlo- ride 50 WP.	1250 gms.	..	0.25
		Second spraying 3 weeks after 1st spray- ing.	Spray the pesticides as in col. 5.	As above			
		Third spraying 3 weeks after the 2nd spray- ing.	do.	As above			
	Leaf eating cater- piller.	First Spraying—As and when the attack is noticed.	do.	Carbaryl 50% WP	2 kg.	500	0.20
				+			
				Copper Oxychloride 50 WP.	1250 gm.		0.25
		Second Spraying—15 days after 1st spray- ing.	do.	As given in first spraying			
	Leaf Miner	Field application—First spraying as and when the attack is noticed.	do.	Phosphamidon 85	125 ml.	500	0.03
				<i>OR</i>			
				Methyldemeton 25 EC	625 ml.		0.03
				<i>OR</i>			
				Malathion 50 EC	500 ml.		0.05
		Second spraying—2 weeks after 1st spray- ing.	do.	As above			

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticide	Qty. per hect.	Water reqd by hand sprayer Lit/Hect.	Concentration	
1	2	3	4	5	6	7	8	9
CITRUS	Dieback	Dried parts should be pruned and on the exposed healthy parts Bordeaux paste prepared by mixing 1 part Copper Sulphate: 1 part lime and sufficient water to make a paste should be applied.						
	Citrus Leafminer.	Field application: Spraying as and when the attack is noticed.	Spray the pesticides as in col. 5.	Methyldementon 25 EC	1000 ml.	500	0.05	
				OR				
				Fermothion 25 EC	800 ml.		0.04	
				OR				
				Phosphamidon 85 WSC	300 ml.		0.05	
				OR				
				Monocrotophos 36 WSC	700 ml.		0.05	
				OR				
				Dimethoate 30 EC	850 ml.		0.05	
				OR				
				Chlorpyrifos 20 EC	1250 ml.		0.05	
				OR				
				Quinolphos 25 EC	1000 ml.		0.05	
	Lemon butter-fly leaf-eating cater-pillar	Field application-Spraying, when the attack is noticed.	do.	DDT 50 WP	1250 gm.	500	0.125	
				OR				
				Carbaryl 50 % WP	1000 gm.		0.10	
	Psylla	Field application First spraying as soon as new sprouts appear in June and January.	do.	Carbaryl 50 WP	1000 gm.	500	0.10	
				OR				
				Phosphamidon 85 WSC	150 ml		0.025	
				OR				
				Monocrotophos 36 WSC	275 ml.		0.02	

			<i>OR</i>			
			Malathion 50 EC	500 ml.		0.05
			<i>OR</i>			
			Endosulfan 35 EC	1000 ml.		0.07
	Second spraying 2 weeks after first spraying.	Spray the pesticides as in col. 5.	As in first spraying			
Mites	Field application when attack is seen.	do.	Wettable Sulphur 80 WP	1 kg.	500	0.20
White flies Pupae and black sooty moulds.	Field application 1st spraying as and when pupae appears.	do.	(A) Dimethoate 30 EC	1675 ml.	500	0.10
			<i>OR</i>			
			Phosphamidon 85 WSC	500 ml.		0.10
			<i>OR</i>			
			Malathion 50 EC	1500 ml.		0.15
			<i>OR</i>			
			Thiometon 25 EC	2000 ml.		0.10
			<i>OR</i>			
			Methyl demeton 25 EC	2000 ml.		0.10
			+			
			(B) Copper Oxychloride 50 WP	1500 mg.		0.30
			<i>OR</i>			
			Zineb 75 WP	1500 gm.		0.30
	Second application 2 weeks after 1st spraying.	do.	As per first spraying			
White flies nymphs and black sooty moulds.	Field application 1st spraying as and when nymphs are noticed.	do.	(A) Monocrotophos 36 WSC	350 ml.	500	0.025
			<i>OR</i>			
			Dimethoate 30 EC	420 ml.		0.025
			<i>OR</i>			
			Phosphamidon 85 WSC	150 ml.		0.025
			+			
			(B) Copper Oxychloride 50 WP	1500 gm		0.30
			<i>OR</i>			
			Zineb 75 WP	1500 gm.	—	0.30
	Second application—2 weeks after first spraying	Spray the pesticides as in col. 5.	As per first spraying			

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand sprayer Lit/Hect.	Concentration	
1	2	3	4	5	6	7	8	9
	Gummosis	Scrap out the affected part and apply Bordeaux paste prepared by mixing 1 part Copper Sulphate, 1 part lime and sufficient water to make a paste.						
FIG	Jassids, rust	Field application : First spraying-first week of October when new flush appears.	Spray the pesticides as in col. 5.	1. Phosphamidon WSC	85 100 ml.	500	0.02	
				+				
				Zineb 75 WP	1000 gm.		0.20	
				OR				
				Difolitan 80 WP	1250 gm.		0.25	
				OR				
				2. Carbaryl 50% WP	1 kg.		0.10	
				+				
				Zineb 75 WDP	1000 gm.		0.2	
				OR				
				Difolitan 80 WP	1250 gm.		0.25	
				OR				
				3. Dimetheate 30 EC	500 ml.		0.03	
				+	OF			
				Zineb 75 WDP	1000 gm.		0.2	1000
				OR				
				Difolitan 80 WP	1250 gm.		0.25	
		Second spraying 3 weeks after 1st spraying.		As per first spraying				

		Third spraying 3 weeks after 2nd spraying.	Spray the pesticides as in col. 5.	As per the first spraying.					
BANANA	Bunchy Top-Infectious Chlorosis.	Rogueing	1. Remove the affected plants alongwith the rhizomes and destroy. Rogueing should be done intermitantly till there are no diseased plants in the fields.				Orchards should be kept free of broad leaf weeds.		
		OR	2. New suckers should be planted only from the field which is completely free from diseases.						
	Mosaic	OR	3. For control of aphids spray pesticide as given in col. 5	Dimethoate 30 EC	350 ml.	200	0.05		
	heart rot								
POME-GRANATE	Fruit-borer, mites, Cercospora, Leaf and fruit spot.	Field spraying: First spraying when flower, buds appear.	Spray the pesticides as in col. 5.	1. Carbaryl 50% WP	2 kg.	500	0.20		
					+				
				Wettable Sulphur 80% WP	1250 gm.	—	0.25		
					+				
				Copper Oxychloride 50% WP	1250 gm.	—	0.25		
					OR				
				2. Phosphamidon WSC.	85 150 ml.	—	0.03		
					+				
				Copper Oxychloride 50% WP.	1250 gm.	—	0.25		
	Second Spraying 3 weeks after 1st spraying.	Do.	As above						
	Third Spraying 3 weeks after 2nd spraying.	Do.	As per first spraying						
	Fourth Spraying 3 weeks after 3rd spraying.	Do.	As above						
	Scalcs	Field application as soon as pest appears	Spray as given in col. 5.	Methyl demeton 25 EC	1600 ml.	500	0.08		
				OR					
				Quinolphos 25 EC	1600 ml.		0.08		
				OR					
				Fenthion 50 EC	800 ml.		0.08		
				OR					
				Malathion 50 EC	1500 ml.		0.15		

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.		Concentration
1	2	3	4	5	6	7	8	9
				OR				
				Dimethoate 30 EC	1330 ml.		0.08	
				OR				
				Phosphamidon 85 WSC	475 ml.		0.08	
				OR				
				Diazinon 20 EC	2 lit.		0.08	
GRAPE (APRIL PRUNING)	Downy Mildew, Anthraenose flea-beetles thrips.	Field application First Spraying immediately after pruning in April.	Spray the pesticides as in col. 5	1. Bordeaux mixture*	5 : 5 : 50	300		Combination of any one fungicide from Group 1 and any insecticide from Group 2. Drench the vines comple- tely. * Bordeaux mixture should be Sprayed Separately.
				OR				
				Copper Oxychloride 50% WP	2 kg.		0.65	
				OR				
				Zineb 75 WP	2 kg.		0.65	
				OR				
				Ziram 80% WP +	2 kg.		0.65	
				2. DDT 50% WP	1200 gm.		0.20	
				OR				
				Malathion 50 EC	300 ml.		0.05	
				OR				
				Phosphamidon 85 WSC	60 ml.		0.02	
				OR				
				Dimethoate 30 EC	300 ml.		0.03	
				OR				
				Methyldemeton 25 EC	240 ml.		0.02	
		Second Spraying 9-10 days after sprouting	do.	1. Bordeaux Mixture* 2:2:50		400		Combination of any one fungicide from Group 1 and any one insecticide from Group 2. * Bordeaux mixture should be Sprayed Separately.

			<i>OR</i>				
			Copper Oxychloride 50 WP.	1 kg.			0.25
			<i>OR</i>				
			Zineb 75 WDP	1 kg.			0.25
			<i>OR</i>				
			Ziram 80 WP	1 kg.			0.25
			<i>OR</i>				
			2. DDT 50 WP	1600 gm.			0.25
			<i>OR</i>				
			Malathion 50 EC	400 ml.			0.05
			<i>OR</i>				
			Phosphamidon 85 WSC	80 ml.			0.02
			<i>OR</i>				
			Dimethate 30 EC	400 ml.			0.03
			<i>OR</i>				
			Methyldemeton 25 EC	320 ml.			0.02
Third Spraying 14 days after 2nd Spraying.	do.		Bordeaux mixture 3 : 3 : 50		600		..
			<i>OR</i>				
			Copper Oxychloride 50 WP.	1.5 kg.			0.25
			<i>OR</i>				
			Zinab 75 WP.	1.5 kg.			0.25
			<i>OR</i>				
			Ziram 80 WP.	1.5 kg.			0.25
			<i>OR</i>				
Fourth Spraying 12 days after third Spraying.	Spray the pesticides as in Col. 5.	1.	Bordeaux mixture* 4 : 4 : 50		650		Combination of any one fungicide from Group 1 and any one insecticide from Group 2.
			<i>OR</i>				
			Copper Oxychloride 50 WP.	2 kg.			0.30

* Bordeaux mixture should be sprayed separately.

Schedule—contd.

Crop	Pest/Disease/ weed	Time of application	Schedule of Operation					Remarks	
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand Sprayer Lit. Hect.	Concentration		
1	2	3	4	5	6	7	8	9	
				OR					
				Zinab 75 WP.	2 kg.		0.30		
				OR					
				Ziram 80 WP.	2 kg.		0.30		
				+					
				2. DDT 50 WP.	2600 gm.		0.20		
				OR					
				Malathion 50 EC.	650 ml.		0.50		
				OR					
				Phosphamidon 85 WSC	130 ml.		0.02		
				OR					
				Dimathoate 30 EC	650 ml.		0.03		
				OR					
				Methyldemeton 25 EC	525 ml.		0.02		
				Repeat spraying as per fourth spraying at 12 days interval. Insecticides should be used alternatively. If the weather is bad i. e. cloud, humid, the Bordeaux mixture should be of 5 : 5 : 50 strength.					
	Alternaria, berry rot, white rot, Black rot Dead arm, Rips rot, fruit rot, leaf spots, Bitte rot, Cane blight, leaf blight.	As soon as disease is seen.	Spray as given in col. 5	Carboxin 75 WP (Vitavax)	250 gm.	500	0.05		
				OR					
				Difoltan 80 WP	1500 gm.		0.20		
				OR					
				50 WDP. Benomy (Benlate)	250 gm.		0.05		
GRAPE October Pruning	Downy mildew, anthracnose, flea-beetles thrips.	Field application 1st spraying after pruning.	1st after	Spray the pesticides as given in clo. 5.	1. *Bordeaux mixture 5 : 5 : 50		300	..	Combination of anyone fungicide from Group 1 and any one insecticide from group 2.
				OR					
				Copper Oxychloride 50% WP	2 kg.		0.65		* Bordeaux should be sprayed separately.
				OR					

Downy-Mildew, Anthracnose flea-beetles, Powdery-mi- dew, Thrips.	Second Spraying 8 to 10 days after sprouting	pray the pesticides as in col. 5	Zineb 75 WP	2 kg	0.65	400	Combination of anyone fungicide from Group 1 and anyone insecticide from Group 3 and 2.
			OR				
			Ziram 80 WP	2 kg	0.65		
			+				
			2. DDT 50 WP	1200 gm	0.20		
			OR				
			Malathion 50 EC	300 ml	0.05		
			OR				
			Phosphamidon 85 WSC	60 ml	0.02		
			OR				
			Dimethoate 30 EC	300 ml	0.03		
			OR				
			Mathydematon 25 EC	240 ml	0.02		
			1. Bordeaux mixture*				
			2 : 2 : 50				
OR							
Copper Oxychloride 50 WP	1 kg.	0.25					
OR							
Zinab 75 WP	1 kg.	0.25					
OR							
Ziram 80 WP	1 kg.	0.25					
+							
2. Wettable Sulphur 80	1 kg.	0.25					
OR							
Dinocap 48 % EC	200 ml	0.05					
+							
3. DDT 50 WP	1600 gm	0.20					
OR							
Malathion 50 EC	400 ml	0.05					

*B. mixture should be sprayed separately.

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticide	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.	Concentration	
1	2	3	4	5	6	7	8	9
				<i>OR</i>				
				Phosphamidon 85 WSC	80 ml		0.02	
				<i>OR</i>				
				Dimethoate 30 EC	400 ml		0.03	
				<i>OR</i>				
				Methyldemeton 25 EC	320 ml		0.02	
		Third spraying, 12 days after 2nd spraying.	Spray the pesticides as in Col. 5.	Bordeaux Mixture 3 : 3 : 50		600		
				<i>OR</i>				
				Copper Oxychloride 50 WP	1.5 kg.		0.25	
				<i>OR</i>				
				Zineb 75 WP	1.5 kg.		0.25	
				<i>OR</i>				
				Ziram 80 WP	1.5 kg.		0.25	
		Fourth Spraying 12 days after 3rd spray- ing.	Do.	1. Bordeaux mixture 4 : 4 : 50		650		Combination of anyone fungicide from Group 1 and anyone insecticide from Group 3 and 2.
				<i>OR</i>				
				Copper Oxychloride 50 WP	2 kg.		0.30	
				<i>OR</i>				
				Zineb 75 WP	2 kg.		0.30	
				<i>OR</i>				
				Ziram 80 WP	2 kg.		0.30	
				+				
				2. Wettable 80 Sulphur	2 kg.		0.30	
				<i>OR</i>				

				Dinocap 40 EC	325 ml.		0.05	
				+				
				3. DDT 50 WP	2600 gm.		0.20	For control of Powdery mildew on bunches dip the bunches in Dinocap 0.05 % solution.
				OR				
				Malathion 50 EC	650 ml.		0.05	
				OR				
				Phosphamidon WSC	85 130 ml.		0.02	
				OR				
				Methyl demeton 25 EC	525 ml.		0.02	
Fifth spraying 14 days after 4th spraying.	do.			1. Bordeaux Mixture	4 : 4 : 50	650		Combination of anyone, fungicide from Group 1 and Group 2.
				Copper Oxychloride 50 WP	2 kg.		0.30	
				OR				
				Zineb 75 WP	2 kg.		0.30	
				OR				
				Ziram 80 WP	2 kg.		0.30	
				+				
				2. Wettable Sulphur 80 WP	2 kg.		0.30	For control of powdery Mildew on bunches dip the bunches in Dinocap 0.05 % solution.
				OR				
				Dinocap 48 EC	325 ml.		0.05	
Repeat Spraying as per fifth spraying at 14 days interval till the fruits start ripening. Insecticides as mentioned in fourth spraying should be added in alternate spraying from sixth spraying onwards. Delete Bordeaux mixture-Copper Oxychloride, Ziram, Zineb from Spraying, when the weather is clear i. e. November onwards.								
WATER MALON	Alternaria blight	Field applications	First Spray at the time of flowering or as soon as disease appears.	Spray as given in col. 5	Miltox	1 kg.	500	0.20
					OR			
					Mancozeb 75 WP	1 kg.		0.20
		Second, Third and Fourth Sprays at weeks interval.		do.	As given in first spray			

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand sprayer Lit/Hect.	Concentration	
1	2	3	4	5	6	7	8	9
IRRIGATED COTTON HYBRID - 4 MCU-5 LA X MI VAR-LAX MISUVIN ETC.	Bollworm, Black arm, Anthrac- nose, Alter- naria etc.	Clean up campaign Immediately after the harvest.	The Stalks leaves and bolls on the plants or lying on the soil should be collected and burnt.					
		fumigation—Be'ore Storage.	Use pesticides as in col. 5	Aluminium phosphide	600 gms. per 100 cu. meter of space for 24 hrs.			Fumigation should be done carefully under expert supervision because fumes are dangerous.
		Seed borne diseases Seed treatment before sowing.	Use fungicides as in col. 5	1% Mercurial fungicide	7 gram per kg. of seed.			
Aphids, Jassids, Thrips, Mites	Seed treatment before sowing.	Prepare solution of gum arabic by adding 25 gms. of gum arabic in 85 ml. of water. Pour about 60 ml. of this solution in one kg. of linted or de-linted seed. Shake thoroughly. Add 100 gms. of Carbofuran 50 sp, to this seed and again shake thoroughly. Dry this seed in shade for at least 12 hrs.					Carbofuran is poisonous Do not inhale while treat- ing the seed and while sowing treated seed. Warn the labourers. The people with wound should not handle the material or treated seed.	

OR

Granule Application.—At the time of sowing. Apply granules as in Col. 5 Phorate 10% granules 1-1½ gms. at each spot.

In case seed treatment with Carbofuran 50 SP is not done or Phorate granules are not applied, then give following two applications.

<i>First Application.</i> —2 weeks after germination.	Use insecticides as in Col. 5	1. Phosphamidon 85 WSC	85 ml.	400	0.02
		OR			
		2. Dimethoate 30 EC	400 ml.		0.03
		OR			
		3. Methyl demeton 25 EC	320 ml.		0.02
		OR			
		4. Malathion 50 EC	800 ml.		0.10
		OR			
		5. Formothion 25 EC	320 ml.		0.02
		OR			

		6. Thiometon 25 EC	320 ml.		0.02
		<i>OR</i>			
		7. Fenitrothion 50 EC	800 ml.		0.10
		<i>OR</i>			
		8. Quinalphos 25 EC	640 ml.		0.04
		<i>OR</i>			
		9. Endosulfan 35 EC	450 ml.		0.04
		<i>OR</i>			
		10. Phenthoate 50 EC	320 ml.		0.02
	<i>Second application.—2 weeks after 1st application.</i>	Use insecticides as in Col. 5.	As given in first application.		
Aphids, Thrips, Blackarms, Anthracnose and altarnaria.	Jassids, Mite, Anthracnose and altarnaria.	<i>Third application.—2 weeks after 2nd application (Where Seed is not treated or granules not applied).</i>	Use insecticides as in Col. 5.	As given above in first application.	
		<i>OR</i>			
		<i>First application.—(Where seed treated or granules applied six week after germination).</i>		ADD	
			Copper Oxychloride 50 WDP.	1000 gm.	0.25
			+		
			Agrimycine -100	60 gm.	—
	<i>Second 4th.-application/ 2 weeks after last application.</i>	Use pesticides as given in Col. 5.	I. (a) Malathion 50 EC	1000 ml. 500	0.01
			<i>OR</i>		
			(b) Phosphamidon WSC	85 100 ml.	0.02
			<i>OR</i>		
			(c) Dimethoate 30 EC	500 ml.	0.03
			<i>OR</i>		
			(d) Methyl demeton EC	25 400 ml.	0.02
			<i>OR</i>		
			(e) Formothion 25 EC	400 ml.	0.02
			<i>OR</i>		
			(f) Thiometon 25 EC	400 ml.	0.02
			<i>OR</i>		

If the attack of spotted bollworm is observed, use 0.6% Endosulfan (700 ml in 400 litres of water).

Schedule—contd.

Crop	Pest / Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.		Concentration
1	2	3	4	5	6	7	8	9
				(g) Quinalphos 25 EC	800 ml		0.04	
				OR]				
				(h) Endosulfhan 35 EC	575 ml		0.06	
				OR				
				(i) BHC 50 WDP	2 kg.		0.20	
				+				
				DDT 50 WDP	2 kg.		0.20	
				OR				
				(j) BHC 50 WDP	2 kg.		0.20	
				+				
				Carbaryl 50 WDP	2 kg.		0.20	
				OR				
				(k) Phenthoate 50 EC	400 ml.		0.04	
				OR				
				(l) Fenitrothion 50 EC	1000 ml.		0.10	
				+				
				2. Copper Oxychloride 50 WDP	1250 gm.		0.25	
				+				
				3. Agrimycine—100.	75 gm.		—	
Aphids, Jassids, Thrips, Mites Blackarms, Anth- racnose, Alter- naria and Boll- worms.		<i>Third/5th Application.— 2 weeks after the last application.</i>	Spray pesticides as in col. 5.	1. BHC 50 WDP.	3 kg.	750	0.20	
				+				
				Carbaryl 50 WDP	3 kg.		0.20	
				+				
				Wettable Sulphur	1875 gm.		0.20	

	+		
	Copper Oxychloride	1875 gm.	0.25
	50 WDP.		
	+		
	Agrimycine—100	110 gm.	—
	<i>OR</i>		
2.	Dimethoate 30 EC	750 ml.	0.03
	+		
	Carbaryl 50 WP	3.0 kg.	0.20
	+		
	Copper Oxychloride	1875 gm.	0.25
	50 WP.		
	+		
	Agrimycine—100	110 gm.	—
	<i>OR</i>		
3.	Dimethoate 30 EC	750 ml.	0.03
	+		
	DDT 50 WDP	1500 gm.	0.10
	+		
	Copper Oxychloride	1875 gms.	0.25
	50 WP.		
	+		
	Agrimycine—100	110 gm.	—
	<i>OR</i>		
4.	Endosulfan	1300 ml.	0.06
	35 EC.		
	+		
	Copper Oxychloride	1875 gms.	0.25
	50 WP.		
	+		
	Agrimycine—100	110 gm.	—
	<i>OR</i>		
5.	Fenitrothion 50 EC.	1500 ml.	0.10
	+		

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of pesticide	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.		Concentration
1	2	3	4	5	6	7	8	9
				Copper Oxychloride 50 WP.	1875 gms.		0.25	
				+				
				Agrimycine—100	110 gm.		—	
				OR				
				6. Monocrotophos 36 WSC.	1250 ml.		0.06	
				+				
				Copper Oxychloride 50 WP.	1875 gm.		0.25	
				+				
				Agrimycine—100	110 gm.		—	
				OR				
				7. Quinalphos 25 EC	1500 ml.		0.05	
				Copper Oxychlpride 50 WP.	1875 gms.		0.05	
				+				
				Agrimpine—100	110 gra.		—	
				OR				
				8. Phosalone 35 EC	1070 ml.		0.05	
				+				
				Copper Oxychloride 50 WP.	1875 gm.		0.25	
				+				
				Agrimycine—100	110 gm.		—	
				OR				
				9. Carbaryl 50 WDP	3.0 kg.		0.20	
				+				

Malathion 50 EC	300 ml.	0.02
+		
Copper Oxychloride 50 WP.	1875 gm.	0.25
+		
Agrimycine 100	110 gm.	—
<i>OR</i>		
10. Phenthoate 50 EC	600 gm.	0.04
+		
Copper Oxychloride 50 WP.	1875 gm.	0.25
+		
Agrimycine—100	110 gm.	—
<i>OR</i>		
11. Phosphamidon-85 WSC	150 ml	0.02
+		
DDT 50 WDP	1500 gm.	0.01
+		
Copper Oxychloride 50 WP.	1875 gm.	0.25
+		
Agrimycine—100	110 gm.	—
<i>OR</i>		
12. Phosphamidon 85 WSC	150 ml.	0.02
+		
Carbaryl 50 WP	3 kg.	0.20
+		
Copper Oxychloride 50 WP.	1875 gm.	0.25
+		
Agrimycine—100	110 gm.	—
<i>OR</i>		

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.		Concentration
1	2	3		5	6	7	8	9
				13. Carbaryl 10% dust	12½ kg.			
				+				
				BHC 10 % dust	12½ kg.			
				+				
				Sulphur 300 mesh dust.	12½ kg.			
				+				
				Copper Oxychloride 4 % dust.	12½ kg.			
				OR				
				14 DDT 5 % dust	12½ kg.			
				+				
				BHC 10 % dust	12½ kg.			
				+				
				Sulphur dust 300 mesh.	12½ kg.			
				+				
				Copper Oxychloride 4 % dust.	12½ kg.			
				OR				
				15. Endosulfan dust.	4 % 12½ kg.			
				+				
				Copper Oxychloride 4 % dust.	12½ kg.			
				1. BHC 50 WP	4 kg.	1000	0.20	
				+				
				Carbaryl 50 WP.	4 kg		0.20	
				+				
				1. BHC 50 WP	4 kg.	1000	0.20	
				+				
				Carbaryl 50 WP.	4 kg		0.20	
				+				

Fourth/Sixth application.—2 weeks after last application.

Spray the crop with pesticides as shown in col. 5.

	Copper Oxychloride 2½ kg. 50 WP.	0.25
	+	
	Agrimycine — 100 150 gm.	...
	<i>OR</i>	
2.	Dimethoate 30 EC. 1000 ml.	0.03
	+	
	Carbaryl 50 WP. 4 kg.	0.20
	+	
	Copper Oxychloride 2½ kg. 50 WP.	0.25
	+	
	Agrimycine — 100 150 gm.	...
3.	Dimethoate 30 EC 1000 ml.	0.03
	+	
	DDT 50 WP 2 kg.	0.10
	+	
	Copper Oxychloride 2½ kg. 50 WP.	0.25
	+	
	Agrimycine — 100 150 gm.	...
	<i>OR</i>	
4.	Endosulfan 35 EC 1725 ml.	0.06
	+	
	Copper Oxychloride 2½ kg. 50 WP.	0.25
	+	
	Agrimycine — 100 150 gm.	...
	<i>OR</i>	
5.	Fenitrothion 50 EC 2000 ml.	0.10
	+	
	Copper Oxychloride 2½ kg. 50 WP.	0.25
	+	

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.		Concentration
1	2	3	4	5	6	7	8	9
				Agrimycine — 100	150 gm.		...	
				OR				
				6. Monocrotophos WSC.	36 1675 ml.		0.06	
				+				
				Copper Oxychloride 50 WP.	2½ kg.		0.25	
				+				
				Agrimycine — 100	150 gm.		...	
				OR				
				7. Quinalphos EC.	25 2000 ml.		0.05	
				+				
				Copper Oxychloride 50 WP.	2½ kg.		0.25	
				+				
				Agrimycine — 100	150 gm.		..	
				OR				
				8. Carbaryl 50 WDP	4 kg.		0.20	
				+				
				Copper Oxychloride 50 WP.	2½ kg.		0.25	
				+				
				Agrimycine 100	150 gm.		...	
				OR				
				9. Phosphamidon WSC.	85 200 ml.		0.02	
				+				
				DDT 50 WDP	2 kg.		0.10	
				+				

	Copper Oxychloride 50 WDP,	2½ kg.	0.25
	+		
	Agrimycine 100	150 gm.	...
	<i>OR</i>		
10.	Phosphamidon 85 WSC,	200 ml.	0.02
	+		
	Carbaryl 50 WDP	4 kg.	0.20
	+		
	Copper Oxychloride 50 WDP,	2½ kg.	0.25
	+		
	Agrimycine 100	150 gm.	...
	<i>OR</i>		
11.	Phenthoate 50 EC	800 ml.	0.04
	+		
	Copper Oxychloride 50 WDP,	2½ kg.	0.25
	+		
	Agrimycine-100	150 gm.	...
	<i>OR</i>		
12.	Phosalone 35 EC	1425 ml.	0.05
	+		
	Copper Oxychloride 50 WDP,	2½ kg.	0.25
	+		
	Agrimycine-100	150 gm.	...
	<i>OR</i>		
13.	Carbaryl 50 WP	4.0 kg.	0.02
	+		
	Malathion 50 WP	400 ml.	0.02
	+		
	Copper Oxychloride 50 WP,	2½ kg.	0.25
	+		
	Agrimycine-100	150 gm.	...

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.		Concentration
1	2	3	4	5	6	7	8	9

OR

14. Endosulfan- 4% 15 kg. ...

+

Copper Oxychloride 15 kg. ...
4% dust.

OR

15. BHC 10% dust. 15 kg. ...

+

Carbaryl 10% dust. 15 kg. ...

+

Copper Oxychloride 15 kg. ...
4% dust.

OR

16. DDT 5% dust. 15 kg. ...

+

BHC 10% dust. 15 kg. ...

+

Copper Oxychloride 13 kg
4% dust.

*Fifth Application/Seventh
Application. - 2 weeks
after last application.*

As in 4th application with Zineb 2 kg. in place of Copper Oxychloride but for the control of Mites add Wettable Sulphur 2½ kg. in 1 and 8 or 15 kg. Sulphur dust in 15th and 16th mentioned above.

If incidence of Heliothis is noticed, use schedule given below from fifth spraying.

1. BHC 50 WP 4kg. 1000 0.20

+

DDT 50 WP 4kg. 0.20

+

Zineb 75 WDP 2kg. 0.20

+

J-34, DE-SHI

	Wettable Sulphur 80 WP	2½ kg.	0.25
	<i>OR</i>		
2.	Endosulfan 35 EC	1500 ml.	0.05
	+		
	Zineb 75 WDP	2 kg.	0.20
	<i>OR</i>		
3.	BHC 50 WP	4 kg.	0.20
	+		
	Carbaryl 50WP	4 kg.	0.20
	+		
	Zineb 75 WDP	2 kg.	0.20
	+		
	Wettable Sulphur 80 WP	2½ kg.	0.25
	<i>OR</i>		
4.	Carbaryl 10% dust	20 kg.	
	+		
	Sulphur dust 300 mesh	15 kg.	
	<i>OR</i>		
5.	BHC 10% dust	15 kg.	
	+		
	Carbaryl 10% dust	15 Kg.	
	+		
	Sulphur dust	15 Kg.	

Sixth/Eighth Application.—Spray the pesticides as in col. 2 weeks after last application. No. 5. As in fourth application

FOR LATE VARIETIES LIKE H-4 DEVI-RAJ, (170-CO2) MC-U-5.

Seventh/Ninth application.—2 weeks after last application. Do, As in fifth application

Eighth/Tenth application.—2 weeks after last application. Do, As in fourth application

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation				Remarks		
			Treatment	Name of pesticides	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.		Concentration	
1	2	3	4	5	6	7	8	9	
		<i>Ninth/Eleventh applica- tion.—2 weeks after last application.</i>	Spray the pesticides as in Col. No. 5	As in fifth application <i>Without Zineb</i>					
Red Cotton Bug	<i>Field treatment.—Imme- diately the pest is observed. Dusting should be done both on the crop and soil.</i>		Dust the pesticides as in col. No. 5.	BHC 10% dust + DDT 5% dust	10 Kg. 10 Kg.			Repeat if necessary 2 weeks after 1st appli- cation.	
			<i>Note. : In the areas where cotton is sown in March and April, Copper Oxychloride/Zineb should not be included till onset of monsoon.</i>					If the incidence of mite is observed spray the crop with Wettable Sulphur 80 one Kg. in 400 lits. of water.	
Weeds		Spraying 1-2 days after sowing.	Spray as given in Col. 5	Diuren 80 WP <i>OR</i> Alachlor 48 EC	2.5 kg. 4 Lit.	500	0.40 0.38		
		<i>OR</i>	—do—	Treflan 44.5 WP <i>OR</i> Fluchlorain 48 EC	2220 gm. 2080 ml.		0.20 0.20		
		<i>OR</i>	—do—	MSMA 35 WP	5 kg.		0.35	Not easily taken up by the roots. Rapidly inactivate upon contact, with soil. Hence treated soil can be planted after 5 days under other crops.	
RAINFED COTTON H-4.		<i>Clean-up Campaign.— Seed Treatment.</i>	As given under irrigated cotton						
		<i>Field application</i>							
		As given under irrigated cotton from first to seventh application. Total seven applications are to be given.							
RAINFED COTTON BURI-147 BURI-1007 J-34 Deshi	Bollworms Black arm, Anthrac- nose, Alter- naria etc.	<i>Clean-up Campaign.—Im- mediately after the harvest.</i>	Collection and burning of stalks, leaves and bolls on the plant or lying on the soil.						

	<i>Seed Treatment.—Before sowing.</i>	As given under irrigated cotton.					
	Fumigation		Do.				
Seed borne diseases.	<i>Seed Treatment.—Before sowing.</i>	Treat the seed with fungicide as in Col. 5.	1% Mercurial fungicide		7 gms. per kg. of seed		
Aphids, Jassids, Thrips, Anthracnose Black-arm, etc.	<i>Field application.—First application 8 weeks after sowing.</i>	Spray the pesticide as in Col. 5.	1. (a) Malathion 50 EC	600 ml.	300	0.1	
				<i>OR</i>			
			(b) Endosulfan 35 EC	450 ml.		0.05	
				<i>OR</i>			
			(c) Phosphamidon 85 WSC	60 ml.		0.02	
				<i>OR</i>			
			(d) Dimethoate 30 EC	300 ml.		0.03	
				<i>OR</i>			
			(e) Methyldemeton 25 EC	240 ml.		0.02	
				<i>OR</i>			
			(f) Formothion 25 EC	240 ml.		0.02	
				<i>OR</i>			
				(g) Thiometon 25 EC	240 ml.		0.02
	<i>OR</i>						
	(h) Fenitrothion 50 EC	600 ml.		0.10			
	<i>OR</i>						
	(i) Quinalphos 25 EC	480 ml.		0.04			
	<i>OR</i>						
	(j) Phenthoate 50 EC	240 ml.		0.04			
	+						
	2. Copper Oxychloride 50 WP	750 gm.		0.25			
	+						
	3. Agrimycine 100	45 gm.		—			
Aphids, Jassids, Thrips, Anthracnose, Black-arm, bollworm, etc.	<i>Second application.—2 weeks after first application.</i>	Spray/dust pesticides as in Col. 5.	1. BHC 50 WP	2kg.	500	0.20	
				+			

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation				Remarks	
			Treatment	Name of pesticide	Qty. per hect.	Water reqd. by hand sprayer Lit./Hect.		Concentration
1	2	3	4	5	6	7	8	9
				Carbaryl 50 WP	2kg.		0.20	
				+				
				Copper Oxychloride 50 WP	1250 gm.		0.25	
				+				
				Agrimycine 100	75 gm.		—	
				<i>OR</i>				
				2. Dimethoate 30 EC.	560 ml.		0.03	
				+				
				Carbaryl 50 WP	2 kg.		0.20	
				+				
				Copper Oxychloride 50 WP	1250 gm.		0.25	
				+				
				Agrimycine 100	75 gm.		—	
				<i>OR</i>				
				3. Dimethoate 30 EC	500 ml.		0.03	
				+				
				DDT 50 WP	1 kg.		0.10	
				+				
				Copper Oxychloride 50 WP	1250 gm.		0.25	
				+				
				Agrimycine 100	75 gm.		—	
				<i>OR</i>				
				4. Monocrotophos WSC	36 825 ml.		0.06	
				+				
				Copper Oxychloride 50 WP	1250 gm.		0.25	
				+				
				Agrimycine—100	75 gm.		—	

OR

5. Quinalphos 25 EC.	1000 ml.	0.05
+		
Copper Oxychloride	1250 gm.	0.25
50 WP		
+		
Agrimycine—100	75 gm.	—

OR

6. Endosulfan 35 EC	870 ml.	0.06
+		
Copper Oxychloride	1250 gm.	0.25
50 WP		
+		
Agrimycine—100	75 gm.	—

OR

7. Fenitrothion 50 EC	1000 ml.	0.10
+		
Copper Oxychloride	1250 gm.	0.25
50 WP		
+		
Agrimycine—100	75 gm.	—

OR

8. Phosalone 35 EC	700 ml.	0.05
+		
Copper Oxychloride	1250 gm.	0.25
50 WP		
+		
Agrimycine—100	75 gm.	—

OR

9. Carbaryl 50 WP	2 kg.	0.2
+		
Malathion 50 EC	200 ml.	0.02
+		
Copper Oxychloride	1250 gm.	0.25
50 WP		
+		
Agrimycine—100	75 gm.	—

OR

Schedule—contd.

Crop	Pest/Disease/ Weed	Time of application	Schedule of Operation					Remarks
			Treatment	Name of pesticide	Qty. per hect.	Water reqd. hand sprayer Lit./Hect.	Concentration	
1	2	3	4	5	6	7	8	9
				10. Phenthoate 50 EC	400 ml.		0.04	
				+ Copper Oxychloride	1250 gm.		0.25	
				50 WP				
				+ Agrimycine—100	75 gm		—	
				OR				
				11. Phosphamidon WSC	85 100 ml.		0.02	
				+ DDT 50 WP	1000 gm.		0.10	
				+ Copper Oxychloride	1250 gm.		0.25	
				50 WP				
				+ Agrimycine—100	75 gm.		—	
				OR				
				12. Phosphamidon WSC	85 100 ml.		0.02	
				+ Carbaryl 50 WP	2 kg.		0.20	
				+ Copper Oxychloride	1250 gm.		0.25	
				50 WP				
				+ Agrimycine—100	75 gm.		—	
				OR				
				13. DDT 5 % dust	12½ kg.			
				+ BHC 10 % dust	12½ kg.			

Sulphur 300 mesh	12½ kg.
+	
Copper Oxychloride 4 % dust	12½ kg.
OR	
14. Endosulfan 4 % dust	12½ kg.
+	
Copper Oxychloride 4 % dust	12½ kg.
OR	
15. Carbaryl 10 % dust	12½ kg.
+	
BHC 10 % dust	12½ kg.
+	
Copper Oxychloride 4 % dust	12½ kg.
+	
Sulphur 300 mesh	12½ kg.

Third Application.—2 weeks after second application. Spray/dust the pesticides as in col. 5. As given in 3rd/5th application in irrigated cotton.

Fourth Application.—2 weeks after third application. Spray the pesticides as in col. 5. As given in 3rd/5th application in irrigated cotton without Sulphur.

If Heliothis incidence is noticed, follow schedule as given for Heliothis in irrigated cotton.

Red cotton bug	<i>**Field application.</i> —As and when the pest is observed.	Dust the pesticides as in col. 5.	BHC 10 % dust + DDT 5 % dust	10 kg. 10 kg.	<i>**Dusting should be done both on the crop and the soil.</i>
DESHI COTTON	Dahiya	<i>Field application.</i> —As and when the disease is noticed (in the month of August-2nd week).	Do.	Sulphur dust (200 to 300 mesh)	20 kg. <i>Dusting should be done in the morning or evening, when there is no wind.</i>

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