



**Government of India**  
**Ministry of Agriculture**  
**Department of Agriculture & Cooperation**  
**Directorate of Plant Protection, Quarantine & Storage**  
**Central Insecticide Board & Registration Committee**  
**N.H. IV, Faridabad-121 001**

# MAJOR USES OF PESTICIDES

## Registered under the Insecticides Act, 1968

AS ON 07.11.2009

**Disclaimer:** The document has been compiled on the basis of available information for guidance and not for legal purposes.

### Fungicides

Crop	Common name of the disease	Dosage per ha			Waiting period from last application to harvest (in days)
		a.i. (g)	Formulation (g/ml)/%	Dilution in water (L)	
<b>Aureofungin 46.15% W.V. SP</b>					
Paddy	Blast Brown leaf spot	-	0.005% 0.005%	500 500	30
Grapes	Downy mildew Anthracnos	-	0.005% 0.005%	750 750	15

	e				
Cumin	Blight Powdery mildew	-	0.02% 0.02%	750	30
Citrus	gummosis	-	1.0%	750 (soil drench)	30
Apple	Powdery mildew White root rot	-	0.005% 0.2%	10 lit/tree 5-10 injection 2gm/tree	-
Potato	Early blight	-	0.005%	750	30
<b>Azoxystrobin 23% SC</b>					
Grapes	Downy mildew Powdery mildew	125 gm	500 gm	500 - 750	7
Chilli	Fruit rot Powdery mildew	125 gm	500 gm	500 - 750	5
Mango	Anthracos e Powdery mildew	0.025%	0.1%	100 ml/100 L of water depending on the size of the tree canopy	5
Tomato	Early & Late blight	125 gm	500 gm	500	3
<b>Benomyl 50% WP</b>					
Wheat	Loose smut	1 gm	2 gm	1 kg of seed	-
Groundnut	Tikka leaf spot	112.5 gm	225 gm	750	-
Tobacco	Frog eye spot	112.5 gm	225 gm	750	-
Grapes	Powdery mildew	150 gm	300 gm	625-700	-
	Anthracos e	150 gm	300 gm	625-700	7
Beans	Powdery	100 gm	200 gm	600	-

	mildew				
	Anthraco se	100 gm	200 gm	600	-
Cucurbits	Powdery mildew	100 gm	200 gm	600	-
	Anthraco se	100 gm	200 gm	600	-
Chillies	Powdery mildew	100 gm	200 gm	600	-
	Fruit rot	100 gm	200 gm	600	-
	Leaf spot	100 gm	200 gm	600	-
Brinjal	Powdery mildew	100 gm	200 gm	600	-
Sugarbeat	Leaf spot	100 gm	200 gm	600	21
Peas	Powdery mildew	100 gm	200 gm	600	2
<b>Bitertanol 25% WP</b>					
Apple	Scab	0.02%	0.075%	10/tree	30
Groundnut	Rust	250 gm	1000 gm	500	30
	Tikka	250 gm	1000 gm	500	30
Tea	Blister Blight	50 gm	200 gm	75	15
Wheat	Karnal but	560 gm	750 gm	750	-
<b>Carbendazim 5% GR</b>					
Paddy	Brown leaf spot	0.62 kg	12.5 Kg	-	-
<b>Carbendazim 50% WP</b>					
Paddy	Blast	125-250 gm	250-500 gm	750 L	-
	Sheath blight	1gm/kg	2gm/kg	(1 ltr/10kg. seed) (seed treatment)	(wet slurry treatment)
	Aerial phase	125-250 gm	250-500 gm	750	-
Wheat	Loose smut	1gm/kg	2 g/kg	(1 ltr/10kg. seed) (seed treatment) before	(wet slurry treatment)

				sowing	
Barley	Loose smut	1gm/kg	2mg/kg	(1 ltr/10kg. seed) (seed treatment) before sowing	(wet slurry treatment)
Tapioca	Set rot	0.5 gm	1 gm	1	-
Cotton	Leaf spot	125	250	750	-
Jute	Seedling blight	1 gm/kg seed	2 gm/kg seed	(1 ltr/10kg. seed) (seed treatment)	(wet slurry treatment)
Groundnut	Tikka leaf Spot	112.5 gm	225 gm	750	-
Sugarbeet	Leaf spot	100 gm	200 gm	400	-
	Powdery mildew	100 gm	200 gm	400	-
Peas Cluster	Powdery mildew	125 gm	250 gm	600	-
Beans	Powdery mildew	175 gm	350 gm	750	-
Cucurbits	Powdery mildew	150 gm	300 gm	600	-
	Anthravnose	150 gm	300 gm	600	-
Brinjal	Leaf spot	150 gm	300 gm	600	-
	Fruit rot	150 gm	300 gm	600	-
Apples	Scab	1.25 gm	2.5 gm	10 per tree	-
Grapes	Anthravnose	150 gm	300 gm	600	-
Walnut	Downy leaf spot	1.5 gm	3 gm	10 per tree	-
Rose	Powdery mildew	0.5 gm	1 gm	2	-
Ber	Powdery mildew	5 gm	10 gm	10 per tree	-
<b>Copper Oxchloride 50% WG</b>					
Grape	Downy mildew	0.12% or 120 g/100 lt. water	0.24% or 240 g/100 lt. water	As required depending upon PP equipment	30
Mango	Anthravnose	-do-	-do-	-do-	10
<b>Copper Sulphate 2.62% SC</b>					
Tomato	Early	-	1.0 L	500	3 days

	blight				
	Late blight	-	1.0 L	500	
Potato	Early blight	-	1.0 L	500	3 days
	Late blight	-	1.0 L	500	
Chilly	Fruit rot-anthracnose	-	1.0 L	500	3 days
Grape	Downy mildew	-	1.0 L	500	3 days
<b>Carbendazim 46.27%</b>					
Grape	Powdery mildew	0.046% or 46g/100l t. water	0.1% or 100 ml/100 li. Water	As required	30
Mango	Powdery mildew	0.046% or 46g/100l t. water	0.1% or 100 ml/100 li. Water	As required	15
<b>Captan 50% WG</b>					
Chillies	Fruit rot (Anthracnose)	750 gm	1500 gm	500	5
Potato	Early blight & Late blight	750 gm	1500 gm	500	21
<b>Captan 75% WP</b>					
Apple*	Scab Fly speck Bitter rot	0.12%**	1667 gm	15-20**	8
Cherry	Brown rot	0.12%**	1667 gm	15-20**	NA
Grape	Downy mildew	1250 gm	1667 gm	1000	8
Cabbage/ Cauliflower Tomato Brinjal Chillies Beans Ornamentals	Damping off (Nursery)	0.25%	2500 gm	1000 Soil drench in the nursery	NA

Potato	Early blight	1250 gm	1667 gm	1000	8
	Late blight	1250 gm	1667 gm	1000	8
Tomato	Early blight	1250 gm	1667 gm	1000	6
	Late blight	1250 gm	1667 gm	1000	6
Chillies	Early blight	1250 gm	1667 gm	1000	8
	Fruit rot	1500 gm	2000 gm	1000	8
Citrus	Brown rot	0.25**	2500 gm	15-20**	NA
	Scab	0.12**	1667 gm	15-20**	NA
Rose	Black spot	1250 gm	1667	1000	NA
Paddy	Leaf spot	750 gm	1000 gm	750	NA
<b>Captan 75% WS</b>					
Chillies (soil drench)	Damping off (soil drench)	15-25 gm per Kg seed	20-30 gm per kg seed	1	
Cabbage	Damping off (soil drench)	15-25 gm per Kg seed	20-30 gm per kg seed	1	
Tomato	Damping off (soil drench)	15-25 gm per Kg seed	20-30 gm per kg seed	1	
Tobacco	Damping off (soil drench)	15-25 gm per Kg seed	20-30 gm per kg seed	1	
<b>Cymoxanil 50% WP</b>					
Grapes	Downey mildew	0.12 %	0.24% or 240 gm/100 Litre water	As required depending upon the crop stage and equipment used	15
<b>Carboxin 75% WP</b>					
Wheat	Flag smut	1.5 -	2 -2.5	N/A	Only one time

		1.875 gm/kg seed	gm/kg seed		seed treatment required
	Loose smut	1.5 - 1.875 gm/kg seed	2 -2.5 gm/kg seed	N/A	-do-
	Bunt	-do-	-do-	N/A	-do-
Barley	Loose smut	-do-	-do-	N/A	-do-
	Covered smut	-do-	-do-	N/A	-do-
Cotton	Angular leaf spot	-do-	-do-	N/A/	-do-
<b>Captan 50% WP</b>					
Apple	Scab	1250 gm	2.5 kg	750-1000	-
Cherry	Brown rot	1250 gm	-do-	750-1000	-
Grapes	Downey mildew	1250 gm	-do-	750-1000	-
Potato	Early blight	1250 gm	-do-	750-1000	-
	Late blight	1250 gm	-do-	750-1000	-
Tomato	Early blight	1250 gm	-do-	750-1000	-
	Late blight	1250 gm	-do-	750-1000	-
<b>Copper Hydroxide 77% WP</b>					
Tea	Blister blight	175 gm	350 gm	750	
Chilly	Anthracnose	625 gm	1250 gm	500	
	Cercospora leaf spot	625 gm	1250 gm	500	
Groundnut	Tikka leaf spot	937 gm	1875 gm	500	
Rice	False smut	1000 gm	2000 gm	750	
<b>Chlorothalonil 75% WP</b>					
Groundnut	Tikka	0.66- 0.863 gm	0.875-1.50 gm	600-800	14
	Rust	0.66- 0.863 gm	0.875-1.50 gm	600-800	14

Potato	Early & late blight	0.66-0.937 gm	0.875-1.250 gm	600-800	14
Apple	Scab	0.150% (or 150 gm/100 lit. water)	0.200% or 200 gm/100 lit. water	10 lit. water per tree	45 days Recommended for use immediately after dormancy upto green tip stage
Grape	Anthracnose	0.150% (or 150 gm/100 lit. water)	0.2% or 200 gm/100 lit. water	100	60 days
	Downey mildew	-do-	-do-	-do-	-do-
Chillies	Fruit rot	600 gm	800 gm	750	10 days
<b>Carpropamid 27.8% SC</b>					
Rice	Blast	0.03%	0.1%	300-500 depending upon crop stage	
<b>Difenoconazole 25% EC</b>					
Apple	Scab	0.004% or 4 g/100 lt. water	0.015% or 15 ml/100 lt. water	As required depending upon the size of the plant and plant projection equipment used.	14
Groundnut	Leaf Spot Rust	0.025% or 25g/100 lt. water	0.1% or 100 ml/100 lt. water	As required depending upon the size of the plant and plant projection equipment	34

				used.	
Rice	Sheath blight	0.0125% or 12.5g/10 0 lt. water	0.05% or 50 ml/100 lt. water	500-1000 (or as per the size of plant canopy)	25
Chilli	Die-back Fruit rot	0.0125% or 12.5g/10 0 lt. water	0.05% or 50 ml/100 lt. water	500	15
<b>Dinocap 48% EC</b>					
Okra	Powdery mildew	108 gm	225 gm	750	--
Chilli	Powdery mildew	108 gm	225 gm	750	--
Beans	Powdery mildew	108 gm	225 gm	750	--
Grapes	Powdery mildew	108 gm	225 gm	750	21
Peaches	Powdery mildew	1.44 gm	3 gm	10	45
Apple	Powdery mildew	1.44 gm	3 gm	10	21
Ber	Powdery mildew	1.44 gm	3 gm	10	30
Mango	Powdery mildew	2.4 gm	5 gm	10	-
Peas	Powdery mildew	144 gm	300 gm	750	-
Fanugreek (Only for Seed crop)	Powdery mildew	144 gm	300 gm	750	-
Cumin	Powdery mildew	144 gm	300 gm	750	-
Poppy	Powdery mildew	144 gm	300 gm	750	-
Rose	Powdery mildew	0.96 gm	2 ml	10 lit water	-
<b>Dodine 65% WP</b>					

Apple	Scab	0.05%	0.075%	10	21
<b>Dimethomorph 50% WP</b>					
Grapes	Downy mildew (Plasmopara viticola)	500 gm	1000 gm	750 L	25
Potato	Late blight (Phytophthora infestans)	500 gm	1000 gm	750 L	16
<b>Dithianon 75% WP</b>					
Apple	Scab	1350 gm	1800 gms	2400 L	14-21
<b>Ediphenphos 50% E.C.</b>					
Paddy	Blast Brown leaf spot	250-300(Ml)	500-600(Ml)	750-1000(L)	21
		250-300(Ml)	500-600(Ml)	750-1000(L)	21
<b>Fenarimol 12%EC</b>					
Apple	Scab	0.005% (5g/100 Lts of water)	0.04ml%( 40 ml/100 Lts of water)	10 Lts./ tree	30
Chillies	Powdery Mildew	0.005%( 5g/100 Lts of water)	0.04ml%( 40 ml/100 Lts of water)	As required depending on stage of crop	15
Pea	Powdery Mildew	0.005%( 5g/100 Lts of water)	0.04ml%( 40 ml/100 Lts of water)	As required depending on stage of crop	15

<b>Flusilazole 40% EC</b>					
Grapes	Powdery Mildew	0.004%	0.01%	As required depending upon the stage of crop and type of plants protection equipment used	15
Apple	Scab	0.004%	0.01%	-	10
Rice	Sheath Blight	120 gm ai/ha	300 ml/ha	500 lts/ha	24
Chilli	Powdery Mildew	40-60g a.i/ ha	100-150 ml/ha	500 lts/ha	5
<b>Fosetyl-AL 80% WP</b>					
Grapes	Downey Mildew	1120-1600gm	1400-2000gm	750-1000g	30
Cardamom	Azhukal disease and Damping off	1800-2400 gm	2250-3000 gm	750-1000g	90
<b>Hexaconazole 5% EC</b>					
Apple	Scab	0.0025%	0.05% (50 ml/100 lt)	As required	30

Rice	Blast Sheath blight	50 gm 50 gm	1000 gm 1000 gm	500 gm 500 gm	40 40
Groundnut	Tikka leaf spot	75 gm	1500 gm	500 gm	30
Mango	Powdery mildew	0.005% (5 g/100 L)	0.1% (100 ml/100 lt)	As required	30
Soybean	Rust	0.005%	0.1% or (100 ml/100 L)	As required	30
Tea	Blister blight	10 gm	200 ml	70-90 with power sprayers 175-200 with knap sacks	7
Grapes	Powdery mildew	25-50 gm	500-1000 gm	500	14
<b>Hexaconazole 2% SC</b>					
Chillies	Powdery mildew & Fruit rot	60 gm	3.0 L	500	7
Potato	Early blight & Late blight	60 gm	3.0 L	500	21
Grapes	Powdery mildew	30-60 gm	1.5-3.0 L	500-750 depending upon crop canopy	14
	Downey mildew	30-60 gm	1.5-3.0 L	500-750 depending upon crop canopy	14
<b>Hexaconazole 5% SC</b>					
Mango	Powdery mildew	0.01% (10 g/100 L)	0.2% or (200 ml/100 lt. water)	As required depending on size of tree and plant protection	27

				equipment used	
Rice	Sheath blight	0.01% (10 g/100 L)	0.2% or (200 ml/100 lt. water)	As required depending on size of tree and plant protection equipment used	40
Grapes	Powdery mildew	25-50 gm	500-1000	500	14
<b>Iprodione 50% WP</b>					
Rapeseed Mustard	Alternaria blight	1.125 Kg -1.5 kg	2.25 kg-3 kg	750-1000	50
Rice	Sheath blight	1.125 kg	2.25 kg	750	35
Tomato	Early blight	0.75 kg	1.5 kg	500	15
Grapes	Anthracnose	0.5- 1.0 kg	1.0 – 2.0 kg	500	20
<b>Isoprothiolane 40% EC</b>					
Rice	Blast	300	750	500-1000	60
<b>Kasugamycin 3% SL</b>					
Rice	Blast	30-50 gm 0.030% 0.050%	1000-1500 ml	750-1000	30
<b>Kresoxim-methyl 44.3% SC</b>					
Paddy	Blast Sheath Blight	250 gm	500 gm	500	30
	Downey mildew				
Grapes	Powdery mildew	300-350 gm	600-700 gm	500	07
Tomato	Early blight	30-37.5% 0.03-0.037%	1000-1250 gm	500-600	03
<b>Kitazin 48% EC</b>					

Rice	Blast, Sheath Blight	0.10% or 100 gram in 100 lit. of water	0.20% or 200 ml in 200 lt. of water	As required depending upon crop stage and plant protection equipment used	15
Chilly	Fruit rot/dieback	0.10% or 100 gram in 100 lit. of water	0.20% or 200 ml in 200 lt. of water	As required depending upon crop stage and plant protection equipment used	3
Tomato	Early blight	0.10% or 100 gram in 100 lit. of water	0.20% or 200 ml in 200 lt. of water	As required depending upon crop stage and plant protection equipment used	5
Potato	Early blight	0.10% or 100 gram in 100 lit. of water	0.20% or 200 ml in 200 lt. of water	As required depending upon crop stage and plant protection equipment used	48
Onion	Purple blotch	0.10% or 100 gram in 100 lit. of water	0.20% or 200 ml in 200 lt. of water	As required depending upon crop stage and plant protection equipment used	63
Pomegranate	Anthraco	0.10% or 100 gram in 100 lit. of water	0.20% or 200 ml in 200 lt. of water	As required depending upon crop stage and plant	10

				protection equipment used	
Grape	Anthraco se	0.10% or 100 gram in 100 lit. of water	0.20% or 200 ml in 200 lt. of water	As required depending upon crop stage and plant protection equipment used	15
<b>Lime Sulphur 22% SC</b>					
Apple	Scale Powdery Mildew	The Liquid is used at one per cent in conventional sprayers: Doses 2-5 lit/ha			2% pre and 1% post blossom
Bean	Rust				-
Cherry	Leaf spot				Three applications: after petal fall 2 week later & after harvest
Grape	Powdery mildew				Feb followed by two dustings in summer
Peach	Leaf curl brown rot Powdery mildew				Only 1 application before the petal swell. Three pre-harvest applications
Pear	Black spot				At white bud, petal fall.
Plum	Black spot				Delayed dormant spray
Rose	Powdery mildew				Delayed dormant spray
<b>Metalaxyl-M 31.8% ES</b>					
Maize	Downy mildew	0.76 g	2.4 ml/kg seed	-	This is used as seed dresser
<b>Mancozeb 75% WG</b>					
Tomato	Early Blight	750 gm	1000 gm	500 Lts	5-6

Patato	Late Blight	750 gm	1000 gm	500 Lt.	3-5
<b>Metriam 70% WG</b>					
Tomato	Alternaria blight (Alternaria solani)	1750 gm	2500 gm	500-750 lt	6
Groundnut	Tikka (Cercospora spp.)	1400 gm	2000 gm	500-750 Lt.	16
<b>M.E.M.C. 6% FS</b>					
Sugarcane	Whip smut	0.025 g/kg seed	0.415 g/kg seed	100 ml	3-5 mint
Potato	Tuber	0.025 g/kg seed	0.415 g/kg seed	100 ml	3-5 mint
<b>Mancozeb 35% SC</b>					
Patato	Early blight & Late blight	0.175% or 175 gm/100 Lt. water	0.5% or 500 gm/100 lt. water	500 Lt water or as required depending upon crop stage and equipment used	35
Tomato	Early blight & Late blight	0.175% or 175 gm/100 Lt. water	0.5% or 500 gm/100 lt. water	500 Lt water or as equired depending upon crop stage and equipment used	10
<b>Metalaxyl 35% WS</b>					
Maize	Sorghum downy mildew Sugarcane downy	Slurry seed treatment with 240g/100	700 g/ 100 kg seed	0.75-1.0/100 kg seed	3½-4 months depending on the variety

	mildew Phillippine downy mildew Brown stripe downy mildew	kg seed			
Bajra	Downy mildew	Slurry seed treatment with 200g/100 kg seed	600 g/ 100 kg seed	0.75- 1.0/100 kg seed	3-3½ months depending on the variety
Sorghum	Downy mildew	Slurry seed treatment with 200g/100 kg seed	600 g/ 100 kg seed	0.75- 1.0/100 kg seed	3.½-4 months depending on the variety
Sunflower	Downy mildew	Slurry seed treatment with 200gm/1 00kg seed	600 g/ 100 kg seed	0.75- 1.0/100 kg seed	3.½-4 months depending on the variety
Mustard	White rust	Slurry seed treatment with 200gm/1 00kg seed	600 gm/ 100 kg seed	0.75- 1.0/100 kg seed	3.½-4 months depending on the variety
<b>Myclobutanil 10% WP</b>					
Apple	Scab	0.004%	0.04%	10/ Tree Lt	21
Grape	Powdery mildew	0.004%	0.04%	500/ ha Lt	15
Chilies	Powdery mildew	0.004%	0.04%	500 Lt	03
	Leaf spot				

	Die back				
<b>Mancozeb 75% WP</b>					
Wheat	Brown & black rust	1.125-1.5 kg	1.5-2 kg	750 Lt	-
	Blight	1.125-1.5 kg	1.5-2 kg	750 Lt	-
Maize	Leaf blight	1.125-1.5 kg	1.5-2 kg	750 Lt	-
	Downy mildew	1.125-1.5 kg	1.5-2 kg	750 Lt	-
Paddy	Blast	1.125-1.5 kg	1.5-2 kg	750 Lt	-
Jowar	Leaf spot	1.125-1.5 kg	1.5-2 kg	750 Lt	-
Potato	Late blight	1.125-1.5 kg	1.5-2 kg	750 Lt	-
	Early blight	1.125-1.5 kg	1.5-2 kg	750 Lt	-
Tomato	Late blight	1.125-1.5 kg	1.5-2 kg	750 Lt	-
	Buck eye rot	1.125-1.5 kg	1.5-2 kg	750 Lt	-
	Leaf spot	1.125-1.5 kg	1.5-2 kg	750 Lt	-
Chilies	Damping off	2.25 g	3 g (soil drench)	1 Lt	-
	Fruit rot	1.125 kg	1.5-2 kg	750 Lt	-
	Ripe rot	1.125 kg	1.5-2 kg	750 Lt	-
	Leaf spot	1.125 kg	1.5-2 kg	750 Lt	-
Onion	Leaf blight	1.125 kg	1.5-2 kg	750 Lt	-
Tapioca	Leaf spot	1.125 kg	1.5-2 kg	750 Lt	-
Ginger	Yellow disease	450 gm	600 gm	300 Lt (for 12-14 quintals)	-
Sugarbeet	Leaf spot	1.125-1.5 kg	1.5-2 kg	750 Lt	-
Cauliflower	Collar rot	2.25 gm	3 gm	1 Lt	-
	Leaf spot	1.125 kg	1.5-2 kg	750 Lt	-
Ground nut	Tikka disease & rust	1.125 kg	1.5-2 kg	750 Lt	-
Grapes	Angular leaf spot	1.125 kg	1.5-2 kg	750 Lt	-

	Downy mildew	1.125 kg	1.5-2 kg	750 Lt	-
	Anthracnose	1.125 kg	1.5-2 kg	750 Lt	-
Guava	Fruit rot	15 g	20 g	10/tree Lt	-
Banana	Cigarend rot	1.125-1.5 kg	1.5-2 kg	1000 Lt	-
	Tip rot	1.125-1.5 kg	1.5-2 kg	1000 Lt	-
	Sigatoka leaf spot	1.125-1.5 kg	1.5-2 kg	1000 Lt	-
Apple	Scab & sooty blotch	22.5/tree	30 gm/tree	10 Lt/tree	-
Cumin	Blight	1.125-1.5 kg	1.5-2 kg	500 Lt	-
<b>Oxycarboxin 20% EC</b>					
Coffee	Leaf rust	200-400 g	1-2 Lt	1000-2000 Lt	21
<b>Propineb 70% WP</b>					
Apple	Scab	0.21% or 210 g/100 Lt. water	0.30% or 300 gram/ 100 Lt. water	As required depending upon size of the tree and plant protection equipment used	30
Pomegranate	Leaf and fruit spots	0.21% or 210 g/100 Lt. water	0.30% or 300 gram/ 100 Lt. water	As required depending upon size of the tree and plant protection equipment used	10
Patato	Early & late Blight	0.21% or 210 g/100 Lt.	0.30% or 300 gram/ 100 Lt. water	As required depending	15

		water		upon crop stage and plant protection equipment used	
Chilli	Dieback	0.35% or 350 g/100 Lt. water	0.5% or 500 gram/ 100 Lt. water	As required depending upon crop stage and plant protection equipment used	10
Tomato	Buck eye rot	0.21% or 210 g/100 Lt. water	0.30% or 300 gram/ 100 Lt. water	As required depending upon crop stage and plant protection equipment used	10
Grapes	Downy Mildew	0.21% or 210 g/100 Lt. water	0.30% or 300 gram/ 100 Lt. water	As required depending upon crop stage and plant protection equipment used	40
Rice	Brown leaf spot	1050 to 1400	1500 to 2000	Use 500 litre spray volume/hact are	
<b>Penconazole 10% EC</b>					
Grapes	Powdery mildew (Ucinula necator)	0.005% or 5 gm/100 Lt. water	50 ml/100 Lt. water	Dependin g upon the requireme nt	30
Apple	Scab (Venturia	0.005% or 5	50 ml/100 Lt. water	10 Lt. water per	30

	inaeqalis)	gm/100 Lt. water		tree	
Mango	Powdery mildew ( <i>Oidium mangiferae</i> )	0.005% or 5 gm/100 Lt. water	50 ml/100 Lt. water	10 Lt. water per tree	30
Pulses (Black- Gram/Green- gram)	Powdery mildew ( <i>Erysiphe Polygoni</i> )	0.005% or 5 gm/100 Lt. water	50 ml/100 Lt. water	500Lt/ha	30
<b>Pyraclostrobin 20% WG</b>					
Tomato	Early blight	75-100 gm	375-500 gm	500	3
<b>Propiconazole 25% EC</b>					
Wheat	Karnal bunt ( <i>Neovossia indica</i> )	125 gm	500 gm	750	30
	Leaf rust/Brown Rust ( <i>Puccinia recondite F. sp. Tritici</i> )	125 gm	500 gm	750	30
	Stem rust ( <i>B.gramini s f. Sp. tritici</i> )	125 gm	500 gm	750	30
	Stripe rust/Yellow Rust ( <i>P.striiformis</i> )	125 gm	500 gm	750	30
Rice	Sheath blight ( <i>Rhizoctonia solani F. sesakii</i> )	125 gm	500 gm	750	30
Groundnut	Early leaf	125 gm	500 gm	750	15

	spot (Cercospora arachidicola)				
	Late leaf spot (C.personata)	125 gm	500 gm	750	15
	Rust (Puccinia arachidis)	125 gm	500 gm	750	15
Tea	Blister blight	31.25- 62.50 gm	125-250 gm	175-250	7
Sayabean	Rust	125 gm	500 gm	500	26
Banana	Sigatoka leaf spot	0.025%	0.10%	500-1000	45
Coffee	Leaf rust	0.02%	0.08%	1000	88
	<b>Pencycuron 22.9% SC</b>				
Rice	Sheath blight	150- 187.5 gm	600-750 ml	500 Lt.	-
	<b>Sulphur 55.16% SC</b>				
Grapes	Powdery mildew	0.165% or 165 g/100 Lt. water	0.30% or 300 ml/ 100 Lt. water	As required	10
Mango	Powdery mildew	0.165% or 165 g/100 Lt. water	0.30% or 300 ml/ 100 Lt. water	As required	10
	<b>Sulphur 80% WP</b>				
Apple	Powdery mildew	2-4 kg	2.5-5.0 Kg	750-1000 Lt.	-
Grapes	Powdery mildew	2-4 kg	2.5-5.0 Kg	750-1000 Lt.	-
Groundnut	Tikka Leafspot	2-4 kg	2.5-5.0 Kg	750-1000 Lt.	-
Cowpea, Moong/Urid	Powdery mildew	2.5 kg	3.13 Kg	750-1000 Lt.	-

Pea	Rust	2.5 kg	3.13 Kg	750-1000 Lt.	-
Sorghum	Grain smut	2.4-3.2 gms/kg/seed	3-4 g/kg/seed	1 Lt/10 kg seed	-
Chillies & Okra	Powdery mildew	2.5 kg	3.13 Kg	750-1000 Lt.	-
Mango	Powdery mildew	2.5 kg	3.13 Kg	750-1000 Lt.	-
Citrus	Powdery mildew	2.5 kg	3.13 Kg	750-1000 Lt.	-
Tea	Red spider mite	0.8 kg	1 kg	200 Lt.	-
	Pink & Purple mite	0.8 Kg	1 Kg	200 Lt	-
<b>Sulphur 80% WG</b>					
Grapes	Powdery mildew	1.50-2.00 kg	1.875-250 Kg	750-1000 Lt.	-
Cowpea	Powdery mildew	1.50-2.00 kg	1.875-250 Kg	750-1000 Lt.	-
Guar	Powdery mildew	1.50-2.00 kg	1.875-250 Kg	750-1000 Lt.	-
Pea	Powdery mildew	1.50-2.00 kg	1.875-250 Kg	750-1000 Lt.	-
Cumin	Powdery mildew	1.50-2.00 kg	1.875-250 Kg	750-1000 Lt.	-
Apple	Scab	1.50-2.00 kg	1.875-250 Kg	750-1000 Lt.	-
Mango	Powdery mildew	1.50-2.00 kg	1.875-250 Kg	750-1000 Lt.	-
<b>Sulphur 40% WP</b>					
Cotton	Mites	1.50-2.00 Kg	3.75-5.00 kg	750-1000 Lt.	-
Beans	Powdery mildew	2.25-3.00 kg	5.65 kg	750-1000 Lt.	-
Cumin	Powdery mildew	1.40 Kg	3.50 kg	1000 Lt.	-
Grapes	Powdery mildew	1.22 kg	3.00 kg	1000 Lt.	-
Groundnut	Tikka Leaf	2.25-3.00	5.65 kg	750-1000	-

	spot	kg		Lt.	
Mango	Powdery mildew	1.50-2.00 Kg	3.75 kg	1000 Lt.	-
Opium	Powdery mildew	1.16 kg	3.00 kg	1000 Lt.	-
Peas	Powdery mildew	2.25-3.00 kg	5.65 kg	750-1000 Lt.	-
Roses	Powdery mildew & Red Spider Mite	1.50-2.00 Kg	3.75 kg	1000 Lt.	-
Sorghum	Mites	0.75-1.00 kg	2.00-2.50 kg	750-1000 Lt.	-
Tea	Pink & Purple Mites	1.00-2.00 kg	2.50-5.00 kg	750-1000 Lt.	-
<b>Sulphur 52% SC</b>					
Tea	Red Spider Mites	1.04 Kg	2.00 Lt.	400.00 Lt.	-
Pea	Powdery mildew	1.04 Kg	2.00 Lt.	400.00 Lt.	-
Chilli	Powdery mildew	1.04 Kg	2.00 Lt.	400.00 Lt.	-
<b>Sulphur 85% DP</b>					
Grape	Powdery mildew	12.75-17 kg	15-20 kg	-	-
Ground nut	Tikka Leaf spot	12.75-17 kg	15-20 kg	-	-
Beans	Powdery mildew	12.75-17 kg	15-20 kg	-	-
(Cow pea, moong, urid)	Rust	12.75-17 kg	15-20 kg	-	-
Pea	Rust	12.75-17 kg	15-20 kg	-	-
	Powdery mildew	12.75-17 kg	15-20 kg	-	-
Rubber	Powdery mildew	31.86 kg	37.5 kg	-	-
Cumins & Coriander	Powdery mildew	12.75-17 kg	15-20 kg	-	-
Tobacco	Powdery	85 kg	100 kg	-	-

	mildew				
	<b>(Streptomycin Sulphate 9%+ Tetracyclin Hydrochloride 1%) SP</b>				
Apple	Fire blight	-	Spray Streptomycine 25 to 50 ppm solution at 20 to 30% bloom. It is advicable to spray trees every 3 to 4 days during blossom time	-	-
Beans	Halo blight	-	Spray Streptomycine 100 to 150 ppm solution thrice at interval of 7 days. For prevention apply first spray 10 days after emergence of leaf.	-	-
Citrus	Citrus canker	-	Spray Streptomycine 50 to 100 ppm solution repeatedly at an interval of 15 to 20 days after the appreance of new growth. Cover the foliage and	-	-

			young fruits fully.		
Cotton	Seeding blight angular leaf spot or black arm disease	-	<p><b>Seed treatment</b> Seed borne infection can be eliminated by soaking the seeds in 40 to 50 ppm solution for a period of two hours. Spray: Streptocyclin 25 to 40 ppm to be sprayed thrice. Before flowering. After flowering. Twenty days after second spray.</p> <p>For prevention of accompanying fungal infection use copper fungicide with spectrocyclin.</p>	-	-
Potato	Black leg and soft rot, bacterial brown wilt	-	<p><b>Seeds treatment:</b> Prior to painting soak potato</p>	-	-

	or ring or the bangle disease of potato		seed tubers in streptomycin 40 to 100 ppm solution for half an hour. Spray: Two to three sprays of 40 to 50 ppm solution at an interval of 20 days. First spray 30 days after planting.		
Tabacco	Wild fire	-	Spray Streptomycin 40 to 100 ppm solution at two leaf stage of the plant Repeated application at an interval of 7 days is necessary till the plants get established in the field.	-	-
Tomato/Chillies	Bacterial leaf spot	-	Spray seedlings with streptomycin 40 to 100 ppm solution in seed beds and fields	-	-

			after the appearance of first true leaves two sprays of streptomycin, one before transplanting and another after are effective for controlling the disease.		
Paddy	Bacterial leaf blight	-	Seeds treatment: Prepare streptomycin 40 ppm solution and soak seeds for 12 hours at room temperature before sowing. Seedling treatment: Dip the seedling in streptomycin 40 to 100 ppm solution. The antibiotic enters the seedlings. Spray: Spray streptomycin 100 to 150 ppm solution at early root	-	-

			stage. Second spray, if necessary before grain set.		
Tea	Blister Blight	-	It is fungal disease and can be controlled by spraying 40 gms with 350 to 420 gms copper oxychloride (50% Wettable power) in 67 liters of water per hactre with air blast sprayer, covering two rows on either side.	-	-
	<b>Triadimefon 25% WP</b>				
Wheat	Bunt of Wheat	0.025%	.500 kg	750	25
	Powdery mildew	65-135 gm	0.260-0.520	750	25
Pea	Rust, Powdery mildew	0.025%	0.100%	750	25
Grapes	Powdery mildew	0.0025%	0.010%	750	25
Coffee	Coffee Rust	0.020%	0.080%	750-1000	25

Mango	Powdery mildew	0.01-0.025%	0.040-0.100%	10-15 depending on tree	40
Chilies	Powdery mildew	38 gm	0.150 kg	750	15
Soybean	Rust	0.025%	0.100%	750	25
<b>Thiophanate Methyl 70% WP</b>					
Papaya	Powdery mildew	500 gm	715 gm	750-1000	4-8
Apple	Scab	500 gm	715 gm	750-1000	3
Wheat	Brown rust	500 gm	715 gm	750-1000	14
	Leaf blight	500 gm	715 gm	500	14
Tomato	Ring rot	500 gm	715 gm	750-1000	7
Bottle gourd	Anthraco se	1000 gm	1430 gm	750-1000	1
Pigeon pea	Fusarium wilt	1000 gm	1430 gm	750-1000	7
Cucurbits	Powdery mildew	1000 gm	1430 gm	750-1000	1
<b>Tebuconazole 25.9% m/m EC</b>					
Chili	Fruit rot Powdery mildew	0.125-0.1875 kg	0.50-0.75 kg	500	5

Groundnut	Tikka & Rust	0.125-0.1875 kg	0.50-0.75 kg	500	49
Rice	Blast, Sheath, Blight	0.1875 kg	0.750 kg	500	10
<b>Thi fluzamide 24% SC</b>					
Rice	Sheath Blight, Rhizoctonia solani	90 gm	375 gm	500	28
<b><u>Thiram 75% WS</u></b>					
Groundnut	Collar rot	37.5 gm	50 gm	1	7-10
Wheat	Flag smut	18.8-22.5 gm	25-30 gm	1	7-10
	Karnal bunt	18.8-22.5 gm	25-30 gm	1	7-10
Barley	Leaf stripe	18.8-22.5 gm	25-30 gm	1	7-10
Maize	Seedling blight	18.8-22.5 gm	25-30 gm	1	7-10
Sorghum	Loose smut	18.8-22.5 gm	25-30 gm	1	7-10
	Seedling blight	18.8-22.5 gm	25-30 gm	1	7-10
Potato	Scab	18.8-22.5 gm	25-30 gm	1	7-10
Rice & cotton	Seed born disease	18.8-22.5 gm	25-30 gm	1	7-10

<b>Tebuconazole 2% DS</b>					
Wheat	Loose smut Flagsmut	0.2 kg/ 10 kg seed 0.2 kg/ 10 kg seed	10 Lt/ 10 kg seed 10 Lt/ 10 kg seed		
Groundnut	Collar rot Root rot Stem rot	0.2 to 0.25 kg/ 10 kg seed	10 to 12.5 Lt/ 10 kg seed		
<b>Tricyclazole 75% WP</b>					
Paddy	Blast	225-300 gm	300-400 gm	500	30
<b>Validamycin 3% L</b>					
Rice	Sheath Blight	60 gm	2000 gm	750	There should be no residues on grains and straw of paddy 14 days before the harvest.
<b>Ziram 80% WP</b>					
Grape	Downy mildew	1.2-1.6 kg	1.5-2.0 kg	750-1000	--
	Anthracnose	1.2-1.6 kg	1.5-2.0 kg	750-1000	--
Apple	scab	1.2-1.6 kg	1.5-2.0 kg	750-1000	21
Potato	Early blight	1.2-1.6 kg	1.5-2.0 kg	750-1000	3
Tomato	Early blight	1.2-1.6 kg	1.5-2.0 kg	750-1000	3
<b>Zineb 75% WP</b>					

Jowar	Red leaf spot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
	Leaf spot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
	Leaf blight	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Paddy	Blast	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Wheat	Rust Blight	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Maize	Leaf Blight	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Ragi (Bajra)	Blast	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Tobacco	Leaf spot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Onion	Downy mildew	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
	Blight	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Potato	Early blight	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
	Late blight	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Tomato	Early blight	1.125-1.5 KG	1.5-2 KG	750-1000 t	
	Late blight	1.125-1.5 KG	1.5-2 KG	750-1000 t	
	Grey leaf mould	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	

Chillies	Fruit rot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
	Leaf spot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Brinjal	Blight	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Cucurbits	Downy mildew	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
	Anthraco nose	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
	Leaf spot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Cauliflower	Leaf spot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Cumin	Early blight	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Apple	Scab	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
	Black rot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Citrus	Greasy spot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Cherries	Leaf spot	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Grapes	Downy mildew	1.125-1.5 KG	1.5-2 KG	750-1000 Lt	
Guava	Fruit rot	1.125-1.5 KG	1.5-2 KG	750-1000 lt	

### **Combination fungicides**

<b>Crop</b>	<b>Common name of the disease</b>	<b>Dosage per ha (a.i.)</b>	<b>Dosage/haa (Formulation)</b>	<b>Dilution</b>	<b>Waiting period</b>
<b>Carbendazim 12% + Mancozeb 63% WP</b>					
Groundnut	Leaf spot and blast	375 gm	500 gm	500 lt.	72
Paddy	Blast	563 gm	750 gm	750 lt.	57

<b>Iprodione 25% + Carbendazim 25% WP</b>					
Rice	Sheath Blight-Blast	250 gm	500 gm	500 lt.	30
<b>Carboxin 37.5% + Thiram 37.5% DS</b>					
Wheat	Loose smut and other seed borne and early soil borne diseases	2.25 gm/Kg seed	3.0 gm/Kg seed	0	About 3 month
Soybean	Collar rot, Charcoal rot and other seedling diseases	2.25 gm/Kg seed	3.0 gm/Kg seed	0	About 3 month
Cotton	Root rot, Bacterial blight	2.5 gm/Kg seed	3.5 gm/Kg seed	0	About 3 months
Groundnut	Collar rot, Seed rot, Root rot, Stem rot	2.25gm/Kg seed	3 gm/Kg seed	0	About 3 months
Pigeon pea	Seed rot, Root rot, Stem rot, Fusarium wilt	3 gm/Kg seed	4 gm/Kg seed	0	About 3 months
Potato	Black scurf	1.87 gm /Kg seed	2.5 gm/Kg seed	0	About 3 months
<b>Metalaxyl 8% + Mancozeb 64% WP</b>					
Grapes	Downy mildew	2000 g or 0.4%	2500 g or 0.5%	500 lt.	Not less than 7 weeks
Tobacco Nursery	Damping off	3600 g or 0.072%	5000 g or 0.1%	5000 lt.	Not less than 7 weeks
	Leaf blight/ Black Shank (Soil drench at sowing and	1440 g or 0.14%	2000 g or 0.2%	1000 lt.	Not less than 7 weeks

	spray at 30 days after sowing)				
Potato	Late blight	1800 gm or 0.18%	2500 gm or 0.25%	1000 lt.	Not less than 7 weeks
Mustard	White rust and Alternaria blight	1800 gm or 0.18%	2500 gm or 0.5%	1000 lt.	Not less than 8 weeks
Black Pepper	Phytophthora foot rot	1.8 g.a.i./vine or 0.09%	2.5 gm/vine or 0.125%	2 lt./vine (spraying) 5 lt. / vine (soil drenching)	Not less than 21 weeks
Pearl millet	Downy mildew	1440 gm or 0.28%	2000 gm or 0.4%	500 lt.	Not less than 7 weeks
<b>Captan 70% + Hexaconazole 5% WP</b>					
Chillies	Fruit rot (Anthracnose)	375-750 gm	500-1000 gm	500 lt.	5 days
Potato	Early blight & Late blight	375-750 gm	500-1000 gm	500 lt.	21 days
<b>Fenamidone 4.44% + Fosetyl AI 66.7% WG</b>					
Grape	Downy Mildew	88.8 + 1334-111.0+ 1667.5 gm	2000-2500 gm	500-750 lt.	90 days
<b>Cymoxanil 8% + Mancozeb 64% WP</b>					
Grapes	Downy mildew	1080-1440 gm	1500 – 2000 gm	500-1000 lt.	10 days
Potato	Late blight of potato	1080 gm	1500 gm	500-750 lt.	10 days
Tomato	Late blight of tomato	1080 gm	1500 gm	500-750 lt.	10 days
Cucumber	Downy mildew	1080 gm	1500 gm	500-600 lt.	10 days
<b>Metalaxyl M 4% + Mancozeb 64% WP</b>					
Grapes	Downy	0.17 %	0.25%	500-1000	8 days

	mildew			lt.	
Potato	Late blight	0.17 % or 1700gm	0.25% Or 2500 gm	500-1000 lt.	24 days
Black pepper	Phytophtho ra foot rot	0.17 % or 1700gm	0.25% Or 2500 gm	2 lt./vine as foliar spray or 3 lt./vine as soil drench	21 days
Mustard	Downy mildew & White rust	0.17 % or 1700gm	0.25% Or 2500 gm	1000 lt.	60 days.
<b>Famoxadone 16.6% + Cymoxanil 22.1% SC</b>					
Grapes	Downy mildew	210 gm	500 ml	500-750 lt.	27
Potato	Late blight	210 gm	500 ml	500 lt.	40
<b>Fenamidone 10% + Mancozeb 50% WDG</b>					
Potato	Late blight	125+625- 150+750 gm	1250-1500 gm	500 lt.	30
Grapes	Downy mildew	150+750 gm	1500 gm	500 -750 lt.	85

\* Warning: When used as a foliar spray on Red Delicious variety of apples, this product may cause resetting.

\*\* In case of fruit trees the values given pertain to the concentration of a.i. in spray solution and volume of spray solution required per tree.