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

MAJOR USES OF PESTICIDES
(Registered under the Insecticides Act, 1968)

UPTO- 31.10.2019

(Based on certificate issued)

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

INSECTICIDES

1.Insecticides registered for agriculture use

2.Insecticides combination registered for agriculture use

3.Insecticides registered for Public Health use

4.Insecticides registered for Household use

APPROVED USES OF REGISTERED INSECTICIDES

Agricultural use (AS ON 31.10.2019)

Abamectin 1.9% EC					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulation (gm/ml)**	**Dilution in Water (Liter)**	
Rose (Ornamental)	Red Spider Mites (*Tetranychus urticae*)	0.00048-0.00096 %	0.025-0.050 %	500	3
Grapes	Mites	0.014/L	0.75 ml/L water	500-1000	3
ACEPHATE 75% SP					
Cotton	Jassids Boll Worms	292 584	390 780	500-1000 500-1000	15
Safflower	Aphids	584	780	500-1000	15
Rice	Stem Borer, Leaf Folder, Plant Hoppers, Green Leaf Hopper	500-750	666-1000	300-500	15

ACEPHATE 97% DF					
Cotton	Jassids & Bollworm complex	436.5 - 582.0	450-600	500	48
Paddy	Stem borer, Leaf folder, Plant hoppers, Green leaf hopper	727.5	750	500	21

ACEPHATE 95% SG					
Rice	Yellow stem borer, Leaf Folder, Brown Plant Hopper	562.5	592	500	30

ACETAMIPRID 20% SP

Cotton	Aphids, Jassids Whiteflies	10 20	50 100	500-600	15
Cabbage	Aphids	15	75	500-600	7
Okra	Aphids	15	75	500-600	3
Chilli	Thrips	10-20	50-100	500-600	3
Rice	BPH	10-20	50-100	500-600	7

ALPHACYPERMETHRIN 10% EC					
Cotton	Boll Worms	15-25	165-280	600-1000	7

ALPHACYPERMETHRIN 10% SC					
Cotton	Boll Worms	25-30	250-300	500-1000	10

ALUMINUM PHOSPHIDE 56% 3 g tab, 10g pouch				
Name of Commodity	**Common name of the pest**	**Dose**	**Exposure Period**	**Aeration Waiting period**
Stored Whole Cereals and Seed Grains Millet, Pulses Dry Fruits, Nuts Spices & Oil Seeds	Rice Weevil *(S.o)* Lesser Grain Borer, Khapra Beetle *(T.g),* Rust Red Flour Beetle, Saw Toothed Grain Beetle , Caddle Beetle, Drug Store Beetle , Cigarette Beetle , Pulse Beetle	3 tablets (3gm) Per ton OR 150 gm/100m^3 OR 10 gm Pouch Per ton of Commodity OR 150 gm/100 m^3.	Minimum 5 Days *(S.o.)* 7 Days *(T.g.)*	One hour of Partial aeration in case non-polyethylene packed commodities allowed by 6-8 hrs of full aeration. For polyethylene packed commodities minimum aeration period is 48hrs. The waiting period for the release of stock is 48hrs in both the cases. Recommendation for bag stock 15 days.

Mild Products : Deoiled Cakes, Rice Bran Flour, Gra Animal & Poultry Fe Split Pulses (Dal) & other Processed Food	Long Headed Floor Beetle, Coffee Borer, Dried Fruit Beetle, Flat Grain Beetle, Carpet Beetle	3 tablets/10 (gm) per ton or 225 gm/100m^3	5 days	Aeration is waiting Period 7 days to be checked PH3 detector strips.
Empty Godowns & Sheds	Rice Moth, Almond Moth, Mites, Fruit Fly, Granary Weevil, Caddle or Flour worm, Red Flour Beetle, Indian Meal Moth, Larger cabinet Moth,Wheat Kernel Damage in the field Cockroach.	14 tablets/1000 Cu ft. or 150 gm/ 100m^3 or 4 pouch 10 gms each/1000 CFT & or 150 gm/100m^3	72 hrs	Aeration Period 24 hrs detectors trips or phosphine detect tubes should be used in the premises to signal safety of atmosphere.
Rodents Burrows	Rodents	1 Tablet/Burrow	-	-

ALUMINUM PHOSPHIDE 15%, 12g tablet				
Stored whole cereals and seed grains.	Rice weevil, Rust red flower beetle	1 tablet (12G) per ton or 600 100 m^3	Non polythene Packed commodities: Partial-1 hour. Full-(6-8) hour. Polythene Packed commodities: Minimum 48 hrs.	7-14
Millets, pulses, dry fruits, nuts, spices & oilseeds (Air tight cover or godowns)	Lesser Grain Borer, Khapra Beetle, Saw Toothed Grain Beetle , Rice Moth, Almond Moth	900 g/100 m^3		5
Milled products: De-oiled cakes, rice bran	Rust red flower beetle	3 tablets / ton	48 hrs	5

Flour suji meals and Crushed grain (animal & poultry feed) split pulses (dals)	Saw Toothed Grain Beetle , Rice Moth, Almond Moth, long headed flour beetle & mites	900 g/100 m^3	48 hrs	3
Other processed food and Empty Godowns & Sheds (under air tight condition)	**All insect pests.**	**14 tablets /1000 tons or 600 g/1000m^3**	**48 hrs 24 hrs**	**3**

ALUMINUM PHOSPHIDE 6% tablet				
Crop & Non-Crop Area	Field rodents	0.72 g a.i/Burrow	One tablet of 12 gm /Burrow	-

ALUMINIUM PHOSPHIDE 77.5% GR				
Commodity	**Insect**	**Dose/m3**	**Exposure Period**	**Waiting Period**

AZADIRACHTIN 0.15% W/W MIN. NEEM SEED KERNEL BASED E.C.					
Cotton	White fly, Bollworm	-	2500 – 5000	500-1000	5
Rice	Thrips, Stem borer, Brown Plant hopper, Leaf folder	-	1500 – 2500	500	5
Stored Grain	Red rust Flour beetle, Lesser grain borer, Rice Weevil, Khapra beetle	3.35 gm	7 days	24hours	

AZADIRACHTIN 0.3% (3000 PPM) MIN. NEEM SEED KERNEL BASED E.C.					
Cotton	American bollworm	-	4000	1000	5

AZADIRACHTIN 1% MIN. E.C. NEEM BASED.

Tea	Thrips Red Spider mites	- -	4000-5000 4000-5000	450 600	1 1

AZADIRACHTIN 1% (10000 PPM) MIN. NEEM BASED E.C. CONTAINING					
Tomato	Fruit borer *(Helicoverpa armigera)*	-	1000-1500	500	3
Brinjal	Fruit and Shoot borer *(Leucinodes orbonalis)*	-	1000-1500	500	3

AZADIRACHTIN 0.03% MIN. NEEM OIL BASED E.C. CONTAINING					
Cotton	Bollworm *(H. Armigera)*, Aphids	-	2500-5000 2500-5000	500 500	5 5
Rice	Leaf roller, Stem borer, BPH	-	2000	1000	5

AZADIRACHTIN 0.03% (300 PPM) NEEM OIL BASED WSP CONTAINING					
Bengal Gram	Pod Borer *(Helicoverpa armigera)*	-			7
Red Gram	Pod Borer (Melangromyza sp)	-	2500-5000	500-1000	7
Cotton	Aphids, Jassids, White Flies, Bollworms,	-	2500-5000	500-1000	7
Okra	Fruit borer, White flies Leaf Hopper	-	2500-5000	500-1000	7
Brinjal	Shoot & Fruit borer, beetles	-	2500-5000	500-1000	7
Cabbage	Aphids, DBM, Cabbage worm, Cabbage looper	-	2500-5000	500-1000	7
Jute	Semi looper, Hairy caterpillar	-	2500-5000	500-1000	7

AZADIRACHTIN 5% W/W MIN. NEEM EXTRACT CONCENTRATES

Tea	Caterpillar, Pink mite Red Spider mites, Thrips	-	200	400	5
Tobacco	Tobacco caterpillar, Aphids	-	200	400	5
Rice	Brown Plant Hopper, Leaf Folder, Stem Borer	-	200	400	5
Cotton	White Fly, Leaf Hoppers, *H.armigera,* Aphids	-	375	750	5
Cauliflower	Spodoptera, Diamond back moth, Aphids	-	200	400	5
Bhindi	Leafhopper, whitefly, Aphid, Pod Borer	-	200	400	5
Tomato	Aphids, Whitefly, Fruit borer	-	200	400	5

BACILLUS THURINGIENSIS VAR. GALLERIAE					
Cabbage & Cauliflower	Diamond back moth *(Plutella xylostella)*	-	06-1.0	500	
Tomato	Fruit borer *(H. armigera)*	-	1.0-1.5	500	
Bhindi	Fruit borer *(Earias spp.)*	-	1.0-1.5	500	
Chillies	Fruit borer *(podoptera litura)*	-	1.5-2.0	1000	
Cotton	Bollworm *(Helicoverpa armigera)*	-	2.0-2.5	1000	
Rice	Leaf folder *(Cnaphalocrocis medinalis)*	-	1.0-3.0	1000	

BACILLUS THURINGIENSIS-K					
Cotton	Bollworm	-	750-1000	750-1000	Nil

***BACILLUS THURINGIENSIS SEROVAR KURSTAKI* (3A, 3B, 3C) 5% WP**					
Cotton	American Bollworm	25.00-50.00	500-1000	500-1000	-
	Spotted Bollworm	37.50-50.00	750-100	500-1000	
Red gram	Pod Borer	50.00-62.50	1000-1250	500-1000	-
Cabbage	Diamond back moth	25.00-50.00	500-1000	500-1000	-

BACILLUS THURINGIENSIS VAR. KURSTAKI, SEROTYPE H-39, 3B, STRAIN Z-52 BIO-TECH. INTERNATIONAL					
Cotton	Bollworms, Spodoptera	0.75-1.0 kg.	500-750	-	
Rice	Stem borer & Leaf folder	1.50 kg.	500-750	-	
Gram	Heliothis	0.75 kg.	500-750		
Pigeon Pea	Heliothis	0.75 kg.	500-750	-	
Soybean	Spodoptera, Heliothis, Spilosoma, Semilooper, Leaf miner	0.75 kg.	500-750		
Tobacco	Spodoptera, Heliothis	1.50-2.00 kg.	500-750	-	
Castor	Hairy caterpillar, Ahea janata	1.00 kg.	500-750		
Teak	Defoliator *(Hyblaea pured)* Skeletonizer *(Eutectona machaeralis)*	0.25-0.50% Sol.	As required		

BARIUM CARBONATE		
Places	**Pest**	**Dose a.i.**
Godowns, Residential Premises Public halls	Rats, Mice, & Field rodents	10-20% Technical material to be mixed with bait

BETA CYFLUTHRIN 2.45% SC					
Crop	**Common name of the pest**	**a.i (gm)**	**Formulation**	**Dilution in Water (Liter)**	**Interval between last application to harvest (days)**
Cotton	Bollworm	12.5-18.75	500-750	500-1000	20

***BEAUVERIA BASSIANA* 1.15% W.P.**					
Cotton	Bollworm	-	2000	400	-
Rice	Leaf folder	-	2.5kg/hac	750-850	-

***BEAUVERIA BASSIANA* 1% WP**			**STRAIN NO: NBRI – 9947**		
Chick pea	Pod borer	-	3 kg.	500	-

***BEAUVERIA BASSIANA* 10% SC**					
Cabbage	DBM	1-1.5	-	500-750	-

***Beauveria bassiana* 1.15% WP**			
Crop	**Common nar**	**Dosage / ha**	**Waiting**

	of the pest	a.i (gm)	Formulation (gm/ha)	Dilution in Water	Period (days)
Chickpea	Gram pod borer (*Helicoverpa armigera*)	-	2500	500	-

INTERNATIONAL PANAACEA LTD. STRAIN NO. IPL/BB/MI/01					
Okra	Fruit borer / spotted bollworm	-	3.75-5.0 kg	400-500	-

BENFURACARB 3% GR					
Rice	Stem borer, Leaf folder, BPH	1000	33000		20

BENFURACARB 40% EC					
Red gram	Pod borer	1000	2500	500	20

BIFENAZATE 50% WP					
Rose	Two Spotted Mite (Tetranychusurticae)	375	750	3000	Not applicable

BIFENAZATE 22.6% SC					
Rose	Two Spotted Mite (Tetranychusurticae)	120	500	2000	Not applicable

Bifenthrin 8% SC					
Tea	Red Spider mite, Tea Mosquito bug	40 40	500 500	400 400	11
Apple	Mites	60 gm (0.006% Conc.)	7.5 ml/tree	10 lit/tree	21

Bifenthrin 8.8% CS					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulation (gm/ml)**	**Dilution in**	
Rice	Stem borer Leaf folder	44	500	500	21

BIFENTHRIN 10% EC					
Cotton	Bollworm White Fly	80	800	500	15
Rice	Stem borer, leaf folder & Green leaf hopper	50	500	500	21
Sugarcane	Termites	100	1000	500	10 months

BIFENTHRIN 2.5% EC

(1) Pre and post construction: Bifenthrin 2.5%EC shall be applied at 0.05% a.i. conc. i.e. 20.0ml formulated product diluted in 1 liter of water for the control of termites in building during pre and post construction. Treatment should be as per IS 6313 (Part-2):2001 for pre construction chemical treatment and IS 6313 (Part-3): 2001 for post construction treatment of the existing building.

(2) Recommendation for use of control of Wood borer (Powder Post Beetle) in plywood, veneer and wood:

Use	Method of application	Dosage (a.i.)	Dilution
Plywood	Glue Line Poisoning Dipping	10g/ meter^3 of wood 0.025% Solution	400ml formulation per meter^3 of wood Mix 1 lit of formulation in 99 lit of water to make 0.025% Solution
Veneer	Dipping	0.025% Solution	Mix 1 lit of formulation in 99 lit of water to make 0.025% Solution
Wood	Dipping/brushing	0.025% Solution	Mix 1 lit of formulation in 99 lit of water to make 0.025% Solution

BIFENTHRIN 8%SC					
Tea	Red Spider mite, Tea mosquito bug	40	500	400	11

Apple	Mites	60	7.5ml/lit	10 lit/tree	21

BROMADIOLONE 0.25% CB					
Paddy	Field Rat, Large Bandicota Indian house rat, Indian Field	0.005			
Wheat , Gram	Field Rat, Indian house rat	0.005			
Groundnut, Sugarcane	Field Rat, Large bandicota	0.005			
Coconut/ Bamboo	Indian house rat	0.005			
Residential premises	Field Rat, Large bandicota	0.005			
Poultry Farm	Indian House rat House mouse	0.005			

BROMADIOLONE 0.005% RB					
Paddy	Field Rat, Large Bandicota Indian house rat	0.005			
Wheat	Indian Field mouse Field Rat	0.005			
Gram	Indian house rat, Field Rat, Indian	0.005			
Groundnut, Sugarcane	Field Rat, Large bandicota	0.005			
Coconut/ Bamboo	Indian house rat, Field Rat Large bandicota	0.005			
Residential premises	Indian House rat, House mouse,	0.005			
Poultry Farm	Indian house rat House mouse Large bandicota	0.005			

BUPROFEZIN 25% SC					
Cotton	White Fly Aphids Jassids, Thrips	250	1000	500-750	20
Chilies	Yellow Mite	75-150	300-600	500-750	5
Mango	Hoppers	0.025%to 0.05%	1-2 ml/liter of water	5-15 liter per tree	20
Grapes	Mealy bugs	250-375	1000-1500	500-1000	7
Rice	BPH, GLH,WBPH	200	800	400-500	20

BUPROFEZIN 70% DF					
Okra	Jassids	200	286	500	5

CARBOFURAN 3% CG					
Barley	Aphid Jassids Cyst nematode	1000 1250 1000	33300 41600 33300		
Bajra	Shoot fly	1500	50000		
Sorghum	Shoot fly, Stem borer	1000 250	33300 8300		
Jute	Nematodes	1000	33300		
Groundnut	Pod borer White grub	1500 1000	50000 33300		
French bean	White grub	700	23300		
Potato	Aphid, Jassids	500 1000	16600 33300		
Tomato	White fly	1200	40000		
Apple	Woolly aphid	5/tree	166/tree		
Citrus	Nematode Leaf miner	360 1500	12000 50000		
Maize	Stem borer Shoot fly Thrips	1000 1000 1000	33300 33300 33300		
Paddy	Brown plant hopper Gall midge, Stem borer, GLH, Hispa Nematodes	750 750 750 1500	25000 25000 25000 50000		
Mustard	Mustard leaf miner White fly	2000 1000	66600 33300		
Soybean	Root knot nematode	1500	50000		
Sugarcane	Top borer	2000	66600		
Bhindi	Jassids	1000	33300		
Chillies	Aphid , Thrips	1000	33300		
Cabbage	Nematode	1000	50000		

Wheat	Ear cockle nematode Cereal cyst nematode	3000 2000	10000 66600		
Brinjal	Root knot nematode Reniform nematode	2000 2000	66600 66600		
Banana	Rhizome weevil Aphid Nematode	1 g/ suckers 50g/suckers 1.5g/suckers	33g/sucker 166g/sucker 50g/suckers		
Peach	Leaf curl aphid	1000	33300		
Mandarins	Soft greens scale	0.4g/plant	13.3g/plant		
French bean	White grubs Grey & Stem weevil	750 1000	23300 33300		
Pea	Shoot fly & Aphid	1000			
Tea	Cock chafer grub	0.3g/plant	33.10g/plant		

CARBOSULFAN 6% G					
Rice	Stem borer Gall midge Green leaf hopper Leaf folder	1000	16700		37

CARBOSULFAN 25% EC					
Rice	Green leaf hopper White plant hopper Brown plant hopper Gall midge Stem borer	200-250	800-1000	500-1000	14
Chilli	Leaf folder White aphid	200-250 200-250	800-1000 800-1000	500-1000 500-1000	14 8

CARBOSULFAN 25% DS					
Cotton	Jassid, Aphids and Thrips	15 gm/kg Seed.	60gm/kg seed	Not required	--

CARTAP HYDROCHLORIDE 4% GRANULES					
Rice	Stem borer, Leaf folder, Whorl Maggot	750 750-1000 750-1000	18750 18750-25000 18750-25000	--	--

CARTAP HYDROCHLORIDE 50% SP					
Rice	Stem borer, Leaf folder	500	1000	500 – 1000	--

CARTAP HYDROCHLORIDE 75% SG					
Rice	Yellow Stem borer, Leaf folder	318.75-375	425-500	250-500	35-89

CHLORANTRANILIPROLE 18.5% SC					
Rice	Stem borer and leaf folder	30	150	500	47
Cabbage	Diamond back moth	10	50	500	3
Cotton	American bollworm Spotted bollworm Tobacco caterpillar	30	150	500	9
Sugarcane	Termite Early shoot borer Top borer	100-125 75 75	500-625 375 375	1000 1000 1000	208
Tomato	Fruit borer	30	150	500	3
Chilli	Fruit borer	30	150	500	3
Brinjal	Shoot & Fruit borer	40	200	500-750	22
Pigeon pea	Pod borer	30	150	500-750	29
Soybean	Green Semi looper, Stem fly, Girdle beetle	30	150	500-750	22
Bengal gram	Pod borers	25	125	500	11
Black gram	Pod borers	20	100	500	20
Bitter gourd	Fruit borers & Caterpillars	20-25	100-125	500	7
Okra	Fruit Borer	25	125	500	5

CHLORANTRANILIPROLE 0.4% GR					
Rice	Yellow Stem borer and leaf folder	40	10 000	---	53
Sugarcane	Early shoot borer, top borer	75	18.75	-	147

CHLORFENAPYR 10% SC

Cabbage	Diamond back moth (*Plutella xylostella*)	75-100	750-1000	500	7
Chilli	Mites (*Polyphagotarsonemus latus*)	75-100	750-1000	500	5

CHLORFLUAZURON 5.4% EC					
Cabbage	Diamond back moth, Tobacco leaf eating caterpillar	75	1500	500	7
Cotton	American bollworm, Tobacco leaf eating caterpillar	75-100	1500-2000	500	10

CHLORPYRIFOS 10% G					
Rice	Stem borer, Leaf Roller, Gall midge	1000	10000		30

CHLORPYRIFOS 20% EC					
Paddy	Hispa Leaf roller Gall midge, Stem borer Whorl maggot	250 375 250 250	1250 1875 1250 1250	500-1000 500-1000 500-1000 500-1000	
Beans	Pod borer , Black bug	600	3000	500-1000	
Gram	Cut worm	500	2500	500-1000	
Sugarcane	Black bug Early shoot & stalk borer Pyrilla	150 250-300 300	750 1250-1500 1500	500-1000 500-1000 500-1000	
Cotton	Aphid, Bollworm , White fly, Cut worm	250 750	1250 3750	500-1000	
Ground nut	Aphid Root grub	200 225	1000 1125	500-1000 500-1000	
Mustard	Aphid	100	500	500-1000	
Brinjal	Shoot & fruit borer	200	1000	500-1000	
Cabbage	Diamond back moth	400	2000	500-1000	
Onion	Root grub	1000	5000	500-1000	
Apple	Aphid	0.05%	3750-5000	1500-2000	
Ber	Leaf hopper	0.03%	2250-3000	1500-2000	
Citrus	Black citrus, Aphid	0.02%	1500-2000	1500-2000	
Tobacco	Ground beetle	350	1750	500-1000	

Termite control

A) **Non cropped area:**

1) Building (Pre & Post construction treatment @1%a.i.)
2) Forestry @1%a.i.

B) Cropped area:

Wheat: 3 – 4 ml/kg seed

Barley: 4 – 6ml/kg seed

Gram: 5-30ml/kg seed

Soil treatment

Wheat: 2-3 lit./ha.

Sugarcane: 6.25lit/ha

CHLORPYRIFOS 50% EC					
Rice	Stem borer, Leaf roller	375-400	750-800	500-1000	15
Cotton	Bollworms	500-600	1000-1200	500-1000	30

For non- agricultural use: - For protecting building from termite attack at pre and posts Construction stages, apply Chlorpyriphos 50% EC @ 0.5% and 1.0% concentration.

CHLORPYRIFOS 1.5% DP					
Paddy	Stem borer Green leaf hopper Brown plant hopper Leaf folder, Gall midge Grass hopper	375	25000		7
Bengal gram	*Helicoverpa armigera*	375	25000		7

CHROMAFENOZIDE 80% WP					
Paddy	Leaf folder, Stem borer	75-100	94-125	500	32

CLOTHIANIDIN 50% WDG					
Rice	Brown plant hopper	10-12	20-24	500	12
Cotton	Jassids	15-20	30-40	500	20
	White fly	20-25	40-50	500	20
Cotton (Soil drench)	Jassids, Aphids, Thrips & White Fly	100-125	200-250	1000	76
Sugarcane (Soil drench)	Termite	125	250	1000	310

Tea	Mosquito Bug *(Helopeltis theiovora)*	60	120	500	5

COUMATETRALYL 0.75% W/W					
Indoor or outdoor	Rats (rattus rattus) *R. norvegicus Bandicota bengalensis, B. Indica, Tetra indica, Meriones hurrianae*	1 mg per spot	2.5 per spot		
Indoor	Mice	1	2.5		

COUMATETRALYL 0.0375% BAIT					
Indoor or outdoor	Rats *(rattus rattus), R. norvegicus, Bandicota bengalensis, B. Indica, Tetra Indica, meriones hurrianae)*	1 mg per spot	2.5 per spot		
Indoor	Mice	1	2.5		

CYANTRANILIPROLE 10.26% OD					
Grapes	Thrips- *Scirtothrips dorsalis* Flea beetle- *Scelodonta strigicollis*	70	700	1000	5
Pomegranate	Thrips – *Scirtothrips dorsalis*	75 (0.0075%)	750 (0.075%)	1000	5
	Whitefly- *Siphoninus phillyreae* Aphids- *Aphis punicae*	90 (0.009%)	900 (0.09%)		
Cabbage	Cabbage Aphid- *Brevicoryne brassicae* Mustard Aphid- *Lipaphis erysimi* Diamond back moth- *Plutella xylostella* Tobacco caterpillar- *Spodoptera litura*	60	600	500	5

Chilli	Thrips- *Scirtothrips dorsalis* Fruit borer- *Helicovepra armigera* Tobacco caterpillar- *Spodoptera litura*	60	600	500	3
Tomato	Leaf miner – *Liriomyza trifolii* Aphids – *Aphis gossypii* Thrips- *Thrips tabaci* White fly – *Bemesia tabaci* Fruit borer – *Helicovepra armigera*	90	900	500	3
Gherkins	Leaf miner – *Liriomyza trifolii* Red pumpkin beetle - *Aulacophora foveicollis* Aphids- *Aphis gossypii* Thrips- *Thrips palmi* White fly - *Bemesia tabaci* Pumpkin caterpillar – *Diaphania indica* Fruit fly- *Bactrocera cucurbitae*	90	900	500	5

Cyenopyrafen 30% SC					
Apple	Mite	60 – 90	200 – 300	1000	15
Chilli	Mite	60 – 90	200 – 300	400 – 600	07

CYFLUMETOFEN 20% SC					
Tea	Red spider mite	125-150	625-750	400-500	5

CYPERMETHRIN 0.25% DP					
Brinjal	Fruit & shoot borer	50-60	20000-24000		3

CYPERMETHRIN 10% EC

Cotton	Spotted bollworm American bollworm Pink bollworm	50-70 50-70 50-70	550-760 550-760 550-760	150-1000 150-1000 150-1000	7 7 7
Cabbage	Diamond backmoth	60-70	650-760	100-400	7
Okra	Fruit borer	50-70	550-760	150-400	3
Brinjal	Fruit & shoot borer	50-70	550-760	150-400	3
Wheat	Shoot fly	50	550	500-800	14
Sunflower	Bihar hairy caterpillar	60-70	650-760	500-700	14

CYPERMETHRIN 25% EC					
Cotton	Bollworms, Jassids, Thrips	40-70 20-30	160-280 80-120	400-800 200-300	- -
Bhindi	Shoot & fruit borer Jassids	37-50 37-50	150-200 150-200	500 500	3 3
Brinjal	Shoot & fruit borer Jassids, Epilachna grub	37-50	150-200	500	1

DAZOMET TECHNICAL					
Tobacco nursery	Root-knot nematode, Stunt nematode, Reniform nematode	30-40	30-40		
Tomato nursery	Root-knot nematode	30-40	30-40		
Floriculture (Carnation & Gerbera)	Root-knot nematode	30-40	30-40		

DELTAMETHRIN 11% W/W EC					
Cotton	Bollworms	12.5	125	400-600	30
Rice	Stem borer, Leaf folder Green leaf hopper, Whorl maggot	15	150	500	13
Tea	Tea Thrips	10.0	100	400	15

DELTAMETHRIN 25% TABLET					
Cotton	Bollworms	12.5	50	400-600	30

DELTAMETHRIN 1.8% EC					
Cotton	Bollworms sucking insects	12.5 10.0	781 625	400-600 400-600	30
Rice	Stem borer, Leaf folder	10 – 12.5	625 -780	500	7

DELTAMETHRIN 2.5% WP					
Wheat & Rice (Grain & seed in stacks)	Rice weevil, Leaser grain borer, Khapra beetle, Red flour beetle, Saw toothed grain beetle, Rice moth, Almond moth	30	1200	1 litre/30 m^2	
Walls, ceilings floors of godowns	As above	30	1200	1.5-2.5 litre. /50m^2	
Public health	Mosquito	625-1250	25000-50000		

DELTAMETHRIN 2.8% EC					
Cotton	Bollworm, Sucking Insects	12.5 10.0	500 400	400-600 400-600	-
Tea	Thrips, Caterpillar, Leaf roller, Lopper	3-4 10 2.5-3.75	120-150 400 100-150	400-600 400-600 400-600	3 3 3
Bhindi	Shoot & fruit borer Jassid	10-15 10	400-600 400	400-600 400-600	1 1
Groundnut	Leaf miner	12.5	500	400-600	3
Mango	Hoppers	0.03-0.05%	0.33to 0.5ml/lit	As per spray field requirement	1
Chilli	Fruit borer	10-12.5	400-500	400-600	5
Brinjal	Shoot & Fruit Borer	10-12.5	400-500	500	3
Red Gram	Pod Borer & Pod Fly	12.5	500	500	10

D.D. MIXTURE

Used against nematodes

DICHLORVOS 76% EC					
Paddy	BPH	375	470	500-1000	
Wheat	Caterpillar	500	627	500-1000	
Soybean	Leaf eating caterpillar	225-300	282-376	500-1000	
Castor	Hairy caterpillar	625	783	500-1000	
Groundnut	Red hairy caterpillar	375-750	470-940	500-1000	
Mustard	Painted bug	500	627	500-1000	
Sunflower	Caterpillar	500	627	500-1000	
Cucurbit	Red pumpkin beetle	500	627	500-1000	
Cashew	Apple borer	0.05%	940-1253	1500-2000	

DICOFOL 18.5% EC					
Tea	Red spider mite, Scarlet mite , Pink mite, Purple mite, Yellow mite	230	1250	250	15-20
Okra	Red Spider mite	250-500	1350-2700	500-1000	15-20
Citrus	Red Spider mite	0.05%	2700-4050	1000-5000	15-20
Litchi	Red Spider mite	0.05%	2700-4050	1000-5000	15-20
Cotton	Red Spider mite	500-1000	2700-5400	500-1000	15-20
Brinjal	Yellow mite	500-1000	2700-5400	500-1000	15-20
Bottle & Bitter gourd	Red Spider mite	250-500	1350-2700	500-1000	15-20

DIAFENTHIURON 50%WP					
Cotton	Whiteflies, Aphids, Thrips Jassids	300	600	500-1000	21
Cabbage	Diamond Back Moth	300	600	500-750	7
Chilli	Mites	300	600	500-750	3
Brinjal	Whitefly	300	600	500-750	3
Cardamom	Thrips, Capsule borer	400	800	1000	7
Citrus	Mites	1.0 g/l	2.0 g/l	2-3 liter/hec.	30
Cotton	Whiteflies, Aphids, Thrips, Jassids	239	500	500	30

DIFLUBENZURON 25% WP

Cotton	Tobacco Caterpillar, Bollworms	75-87.5 75	300-350 300	500-1000 500-1000	

DIMETHOATE 30% EC					
Bajra	Milky weed bug	180-200	594-660	500-1000	
Maize	Stem borer Shoot fly	200 350	660 1155	500-1000 500-1000	
Sorghum	Midge	500	1650	500-1000	
Castor	Jassids, Mites Semi looper	250 350	825 1155	500-1000 500-1000	
Mustard	Leaf minor, Aphid , Sawfly	200	660	500-1000	
Safflower	Aphid	200	660	500-1000	
Bhindi	Aphid Leaf hopper, Jassid	700 600	2310 1980	500-1000 500-1000	
Brinjal	Shoot borer	200	660	500-1000	
Cabbage & Cauliflower	Aphid , Painted bug Mustard aphid	200	660	500-1000	
Chillies	Mite	300	990	500-1000	
Onion	Thrips	200	660	500-1000	
Potato	Thrips	200	660	500-1000	
Tomato	Aphids White fly	200 300	660 990	500-1000 500-1000	
Apple	Stem borer	0.03%	1485-1980	1500-2000	
Apricot	Aphid	0.03%	1485-1980	1500-2000	
Banana	Aphid, Lace wing bug	0.03%	1485-1980	1500-2000	
Citrus	Black citrus aphid	0.03%	1485-1980	1500-2000	
Fig	Fig jassid Mealy bug	0.03% 0.03%	1485-1980 2475-3300	1500-2000 1500-2000	
Mango	Hopper	0.05%	2475-3300	1500-2000	
Rose	Scale Thrips	750 400	2475 1320	500-1000 500-1000	

DINOTEFURAN 20% SG					
Rice	Brown plant hopper	30-40	150-200	500	21
Cotton	White Fly, Jassids, Aphids & Thrips	25-30	125-150	500	15

EMAMECTIN BENZOATE 5% SG					
Cotton	Boll worms	9.5-11.0	190-220	500	10
Okra	Fruit & Shoot Borer	6.75-8.5	135-170	500	5
Cabbage	DBM	7.5-10	150-200	500	3

Chilli	Fruit borer, Thrips & Mites	10	200	500	3
Brinjal	Fruit and Shoot borer	10	200	500	3
Red gram	Pod borer	11.0	220	500-750	14
Chickpea	Pod borer	11.0	220	500	14
Grapes	Thrips	11	220	500-1000	5
Tea	Tea loopers	10.0	200	500	1

EMAMECTIN BENZOATE 1.9% EC					
Cotton	Boll worms	11.0	580	500	15
Chilli	Fruit borer , Thrips	7.13	375	500	03
Chick pea	Pod borer	7.13	375	500	14

***ENDOSULFAN 2% DP**					
Arhar	Pod borer	500	25000		8
Gram	Pod borer	500	25000		40
Bhindi	Fruit & shoot borer	500	25000		4
Brinjal	Fruit & shoot	500	25000		7

Endosulfan*:- Endosulfan has been banned by the Supreme Court of India w.e.f. 13-05-2011 for production, use & sale, all over India, till further orders vide ad-Interim order in the Writ Petition (Civil) No. 213 of 2011.

***ENDOSULFAN 35%EC**					
Cotton	Jassids, Aphid , Thrips , White fly, Leaf roller	210 280 350-420	600 800 1000-1200	500-1000 500-1000 500-1000	70 70 70
Jute	Bihar hairy caterpillar, Yellow mites	140-175 175	400-500 500	500-1000 500-1000	21 21
Paddy	White jassid Stem borer Gall midge Rice Hispa	175 210 210 175	500 600 600 500	500-1000 500-1000 500-1000 500-1000	21 21 21 21
Maize	Aphid Stem borer Pink borer	175 140 210	500 400 600	500-1000 500-1000 500-1000	21 21 21
Wheat	Aphid Termite Pink borer	175 175 210	500 500 600	500-1000 500-1000 500-1000	21 21 21
Gram	Aphid Caterpillar	175 210	500 600	500-1000 500-1000	40 40

Mustard	Aphid Gall midge	175 263	500 750	500-1000 500-1000	21 21
Bhindi	Aphid	140	400	500-1000	21
Chillies	Aphid	140	400	500-1000	21
Tea	Aphid, Catterpillars Mealy bugs, Scale insects Thrips, Fush worm,Thrips , *Helicoverpa*	288-350 285-350	750-1000 814.28-100	375-500 500-1000	7
Mango	Hopper Fruit fly Termite	0.05% 0.2% 438-656	1429 5414 1250-1875	1000 1000 1000	7 7 -
Ground nut	Jassid, Hairy Caterpillar, Semilooper	350-437 420-525	1000-1249 1200-1500	500-1000 500-1000	21 21

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***ENDOSULFAN 4% DP**					
Cotton	Jassids, Aphid, Thrips, White flies, Leaf roller, Pink Boll worm	210 280 350-420	5250 7000 8750-10500		21 21 21
Jute	Bihar hairy caterpillar , Yellow mites,	140-175 175	3500-4400 4400		21 21
Paddy	White Jassid, Stem borer, Gall midge, Rice Hispa	175 210	5250 5250		21 21
Maize	Aphid, Stem borer, Pink borer,	140-175 140-210	3500-4400 3500-5250		21 21
Wheat	Aphid, Termite, Pink borer	140-175 140-210	3500-4400 3500-5250		21 21
Gram	Aphid, Caterpillar, Peas semilooper	140-175 140-210 175	3500-4400 3500-5250 4400		21 21 21
Mustard	Aphid, Gall midge	140-175 175	3500-4400 4400		21 21
Groundnut	Aphids,	140-175	3500-4400		21
Bhindi	Aphids,Jassids	140-175	3500-4400		21
Onion	Aphids, Jassids	140-175	3500-4400		21

Chillies	Aphids Jassids	140-175	3500-4400		21
Potatoes	Aphids / Jassids	140-175	3500-4400		21

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ETHION 50% EC					
Tea	Red spider mites, purple mites & yellow mite, thrips & scale	250	500	500-1000	03
Cotton	White fly, Bollworms	750-1000 1000	1500-2000 2000	500-1000 500-1000	- 25
Chilli	Mites & thrips	750-1000	1500-2000	500-1000	05
Gram	Pod borer	500-750	1000-1500	500-1000	21
Pigeon pea	Pod borer	500-750	1000-1500	500-1000	21
Soybean	Girdle beetle & stem fly	750	1500	500-1000	30

ETHOFENOPROX 10%EC					
Rice	BPH, Stem borer, Leaf folder ,Gall midge, Whorl maggot, GLH, WBPH	50-75	500-750	500	15

ETHYLENE DICHLORIDE + CARBON TETRACHLORIDE 3:1						
Crop	**Common name of the pest**	**Cond.**	**Weight of vol.**	**Exposure period**	**Conc. In air (ppm)**	**Aeration/ Waiting**
Stored whole cereals Millets Pulses &	Rice weevil, Lesser grain Borer, Khapra Beetle, Rust red flour beetle, Pulse beetle, Dried fruit Beetle	Air tight cover	300-400gm/m3 (230-307 ml)	48-72 hr. for cover fumigation	10 ppm	Partial aeration For at least 1 hr. followed by 24 hr. complete aeration waiting period of 24 hr

Godown fumigation	-do-	-do-	150 gm/ m3	7 days	-do-	Partial aeration for at least 1 hr. followed by 24 hr. complete aeration waiting period of 24 hr.

ETOXAZOLE 10% SC					
Brinjal	Red Spider Mite	40	400	400-500	5
Tea	-do	40	400	400	5

FENAZAQUIN 10% EC					
Tea	Red spider mite, Pink Mite, Purple mite	100	1000	400-600	7
	Scarlet mite	125	1250	400-600	7
Chilli	Yellow mite	125	1250	400-600	10
Apple	Red spider mite and two spotted mite	40	400	1000	30
Okra	Red spider mite	125	1250	500	7
Brinjal	Red spider mite	125	1250	500	7
Tomato	Two spotted spider mite	125	1250	500	7

FENOBUCARB (BPMC) 50% EC					
Rice	Brown Plant Hopper, Green Leaf Hopper	250-750	500-1500	500	30

FENPROPATHRIN 10% EC					
Cotton	Pink boll worm, Spotted boll worm American boll worm	75-100	750-1000	750-1000	14

FENPROPATHRIN 30% EC

Cotton	Pink boll worm Spotted boll worm American boll worm White fly	75-100	250-340	750-1000	14
Chilli	Thrips, Whitefly, Mites	75-100	250-340	750-1000	7
Brinjal	Whitefly, Shoot and Fruit borer, Mites	75-100	250-340	750-1000	10
Okra	Whitefly, Shoot and Fruit borer, Mites	75-100	250-340	750-1000	7
Tea	Mites	50-60	165-200	400-500	7
Paddy	Yellow Stem borer, Leaf folder	100	333	500	30

FENPYROXIMATE 5% EC					
Tea	Red spider mite, Pink Mite, Purple mite	15-30	300-600	400-500	7
Chilli	Yellow mite	15-30	300-600	300-500	7
Coconut	Eriophyde mite	0.5gm/.tree (Root feeding) 0.056 – 0.075gm/tree	10ml/lit. 0.75 – 1ml/ lit.	As required	

FENVALERATE 20% EC					
Cauliflower	Diamond back moth , American boll worm, Aphids, Jassids	60-75	300-375	600-750	7
Cotton	Boll worm, Aphids, Jassids, Thrips	75-100 25-40	375-500 125-200	700-900 250-400	7 7
Brinjal	Shoot & fruit borer Aphids	75-100 75-100	375-500 375-500	600-800 600-800	5 5
Okra	Shoot & fruit borer Jassids	60-75 60-75	300-375 300-375	600-750 600-750	7 7

FENVALERATE 2% CONC.					
Cotton	Spotted & Spiny, Pink American/ Egyptian boll worm	80-100	4000-5000		

FENVALERATE 0.4% DP					
Cotton	Spotted Bollworm Pink bollworm	80-100 80-100	20000-25000 20000-25000	- -	7 7

FIPRONIL 5% SC					
Rice	Stem borer, Brown plant hopper, Green leaf hopper, Rice leaf hopper, Rice gall midge, Whorl maggot, White backed plant hopper	50-75	1000-1500	500	32
Cabbage	Diamond back moth	40-50	800-1000	500	7
Chillies	Thrips, Aphids, Fruit borers	40-50	800-1000	500	7
Sugarcane	Early shoot borer & root borer	75-100	1500-2000	500	9 months
Cotton	Aphid, Jassid, Thrips, White fly Boll worms	75-100 100	1500-2000 2000	500 500	6 7

Fipronil 18.87% w/w SC					
Cotton	Thrips	75	375	375 -500	21

FIPRONIL 2.92% EC					
Pre-construction	Termite	0.25%	100	1	IS:6313-2001 (Part-2)
Post-construction (Building)	Termite	0.25%	100	1	IS:6313-2001 (Part-3)

FIPRONIL 0.3% GR					
Rice	Stem borer, Brown plant hopper, Green leaf hopper Rice leaf hopper, Rice gall midge, Whorl maggot,	50-75	16670- 25000		32

Sugarcane	Early shoot borer Root borer	75-100	25000- 33300		9
Wheat	Termites	0.06	20 kg	-	91

Fipronil 0.6% w/w GR					
Rice	Stem borer & Leaf folder	60	10	65	-

FIPRONIL 80%WG					
Rice	Stem borer, Leaf folder	40-50	50 – 62.5	375 -500	19
Grapes	Thrips	40-50	50-62.5	750-1000	10
Onion	Thrips	60	75	500	15
Cabbage	Diamond Back Moth	75	93.75	500	15

FLONICAMID 50% WG					
Rice	Brown plant hopper, white backed plant hopper, Green leaf hopper	75	150	500	36
Cotton	Aphids, Jassids, Thrips & Whiteflies	75	150	500	25

FLUBENDIAMIDE 20% WG					
Rice	Stem borer, Leaf borer	25	125	500	30
Cotton	American bollworm	50	250	500	30
Tomato	Fruit borer	48	100	375-500	5
Cabbage	Diamond back moth	18.24	37.5-50	375-500	7
Tea	Semilooper	30	150	400	7
Chilli	Fruit borer	50 – 60	250-300	500	5

FLUBENDIAMIDE 39.35% M/M SC					
Rice	Stem borer, Leaf folder	24	50	375-500	40
Cotton	Bollworms (American & Spotted bollworm)	48-60	100-125	375-500	25

Pigeon pea	Pod borer	48	100	500	10
Black gram	Fruit borer	48	100	500	11
Chilli	Fruit borer	48-60	100-125	500	7
Tomato	Fruit borer	48	100	375-500	5
Cabbage	Diamond moth back	18.24	37.5-50	375-500	7
Soybean	Defoliators (*Helicoverpa armigera, Spodoptera litura* and Semilooper)	72	150	500	17

Flubendiamide 0.7% GR					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulation (gm/ml)**	**Dilution in Water (Liter)**	
Paddy	Stem borer	85-100	12.14-14.28	Not applicable	25

FLUFENOXURON 10% DC					
Rose	Mites	50	500	500-1000	6

FLUMITE 20% SC / FLUFENZINE 20%SC					
Brinjal	Mite	80-100	400-500	500-1000	5
Tea	Pink mite, Purple mite Red spider	80-100 100-120	400-500 500-600	500-1000 500-1000	7 7

Fluopyram 34.48 % w/w SC					
Tomato	Root Knot Nematode (*Meloidogyne incognita*)	250 (2 application) OR 500 (Single application)	625 (2 application) OR 1250 (Single application)	1000	5

Flupyradifurone 17.09% w/w SL					
Okra	Jassids & Whitefly	250	1250	500	3

FLUVALINATE 25% EC					
Cotton	Aphids, Jassids, Red cotton bug, Bollworm	50-100 50-100	200-400 200-400	500-1000 500-1000	7 7

HEXYTHIAZOX 5.45% W/W EC					
Tea	Scarlet mite, Red spider mite	15-25	300-500	400/ha	5
Chilli	Yellow mites	15-25	300-500	625/ha	3
Apple	European Red Mite	0.002%	0.04%	10ltr./tree	15

IMIDACLOPRIDE 70% WG					
Cotton	Jassids, Aphids, Thrips	21 – 24.5	30 – 35	375 – 500	7
Rice	Brown Plant Hoppers, White Backed Plant Hoppers	21 – 24.5	30 – 35	300 – 375	7
Okra	Jassids, Aphids, Thrips	21 – 24.5	30 – 35	375 – 500	3
Cucumber	Aphids & Jassids	24.5	35.0	500	5

IMIDACLOPRID 48% FS				**PER 100KG SEED**	
Cotton	Aphids, Whitefly, Jassid Thrips	300 – 540	500 – 900		NR
Okra	Jassid, Aphid	300 – 540	500– 900		
Sunflower	Jassid, Whitefly	300 – 540	500 – 900		
Sorghum	Shoot fly	720	1200		
Pearl millet	Shoot fly and termites	720	1200		
Soybean	Jassids	75	125	-	-
Maize	Shoot fly	0.6	1.0	-	-
Rice	Thrips	0.15	0.25	-	-

IMIDACLOPRID 70% WS				PER 100KG SEED	
Cotton	Aphids, Whitefly, Jassids, Thrips	350 – 700	500 – 1000		NR
Okra	Jassid, Aphid	350 – 700	500 – 1000		
Chillies	Jassid, Aphid, Thrips	700 – 1050	1000 – 1500		
Sunflower	Jassid, Whitefly	490	700		
Sugarcane	Termite	70 – 105	100 – 150		
Sorghum	Shoot fly	700	1000		
Pearl millet	Termites and shoot fly	700	1000		
Mustard	Mustard sawfly & painted bug	490	700		

IMIDACLOPRID 30.5% M/M SC					
Cotton	Aphid, Jassids, Thrips	21-26.25	60-75	500 – 750	26
Rice	Brown plant hopper, White backed plant hopper	21-26.25	60-75	500-750	37

For non- agricultural use:- For protecting building from termite attack at pre and post Construction stages, apply **Imidacloprid 30.5% m/m SC @ 0.075% a.i.** concentration.

IMIDACLOPRID 17.8% SL					
Cotton	Aphid, Whitefly, Jassid Thrips	20 – 25	100 – 125	500 – 700	40
Paddy	BPH, WBPH, GLH	20 – 25	100 – 125	500 – 700	40
Chilly	Jassid, Aphid, Thrips	25 – 50	125-250	500-700	40
Sugarcane	Termite	70	350	1875	45
Mango	Hopper	0.4 – 0.8 g/tree	2-4 ml/tree	10 litre	45
Sunflower	Jassid, Thrips, Whitefly	20	100	500	30
Okra	Aphid, Jassid, Thrips	20	100	500	3
Citrus	Leaf miner, psylla	10	50	Depending on size of tree & Protection equipment use	15
Groundnut	Aphid , Jassid	20-25	100-125	500	40
Tomato	Whitefly	30-35	150-175	500	3

Grapes	Flea bettle	0.06-0.08	300-400	1000	32

IMIDACLOPRID 0.3% GR					
Paddy	Stem borer	0.045	15.0 kg	-	26

INDOXACARB 14.5% SC					
Cotton	Bollworm	75	500	600-1000	16
Cabbage	Diamond back moth	30-40	200-266	400-750	7
Chillies	Fruit borer	50-60	333-400	300-600	5
Tomato	Fruit borer	60-75	400-500	300-600	5
Pigeonpea	Pod borer complex	50-60	353-400	500-1000	15

INDOXACARB 15.8% EC					
Cotton	Bollworm	75	500	500-1000	14
Cabbage	Diamond back moth	40	266	500-1000	5
Pigeon pea	Pod borer complex	50	333	500-700	12
Rice	Leaf folder, Piller, Green semilooper, stem fly	30	200	500	14
Soybean	Tobacco caterpillar, Green semilooper, stem fly	30	333	500	31

LAMBDA-CYHALOTHRIN 4.9% CS					
Cotton	Bollworms	25.0	500	500	21
Paddy	Stem borer, Leaf folder	12.5	250	500	15
Brinjal	Shoot & fruit borer	15	300	500	5
Okra	Fruit borer	15	300	500	5
Tomato	Fruit borer	15	300	500	5
Grapes	Thrips & Flea beetle	12.5	250	500-1000	7
Chilli	Thrips & pod borer	25	500	500	5
Soybean	Stemfly & Semilooper	15.0	300	500	31

LAMBDA-CYHALOTHRIN 2.5% EC					
Cotton	Bollworms, Jassids, Thrips	15-25	600-1000	400-600	21

Rice	Leaf folder, Stem borer GLH, Gall midge, Hispa, Thrips	12.5	500	400-600	15

LAMBDA-CYHALOTHRIN 5% EC					
Cotton	Bollworms, Jassids, Thrips	15-25	300-500	400-600	21
Rice	Leaf folder, stem Borer, GLH, Gall Midge, Hispa,Thrips	12.5	250	400-600	15
Brinjal	Shoot & fruit borer	15	300	400-600	4
Tomato	Fruit borer	15	300	400-600	4
Chilli	Thrips , mite, pod borer	15	300	400-600	5
Pigeon pea	Pod borer, pod fly	20-25	400-500	400-600	15
Onion	Thrips	15	300	300-400	5
Bhindi	Jassids , shoot borer	15	300	300-400	4
Chickpea	Pod borer	25	500	300-400	6
Groundnut	Thrips, leaf Hopper, leaf miner	10-15	200-300	400-500	10
Mango	Hoppers	0.0025-0.005%	0.5-1.0 ml/l of water		7

LUFENURON 5.4% EC					
Cabbage	Diamond backmoth	30	600	500	14
Cauliflower	Diamond backmoth	30	600	500	5
Pigeon pea	Pod borer, podfly	30	600	500-1000	65
Cotton	American bollworm	30	600	500-750	48
Black gram	Pod borer	30	600	500	10
Chilli	Fruit borer	30	600	500	5

Magnesium Phosphide Degesch plates

Recommended for fumigation of un-manufactured tobacco for export, as per importing Country requirement.

MALATHION 5% DP					
Paddy	Rice Hispa	1250	25000	-	-
Sorghum	Earhead midge	1000	20000	-	At 90% emergence of ear head

MALATHION 50% EC

Paddy	Rice Hispa	575	1150	500-1000	
Sorghum	Earhead midge	500	1000	500-1000	
Pea	Pod borer	750	1500	500-1000	
Soybean	Leaf weevil	750	1500	500-1000	
Castor	Jassids Semi looper	750 1000	1500 2000	500-1000 500-1000	
Sunflower	White fly	500	1000	500-1000	
Bhindi	Aphid Jassids, Spotted Boll Worm	500 625 750	1000 1250 1500	500-1000 500-1000 500-1000	
Brinjal	Mites	750	1500	500-1000	
Cabbage	Mustard aphid	750	1500	500-1000	
Cauliflower	Head borer	750	1500	500-1000	
Radish	Stem borer	750	1500	500-1000	
Turnip	Tobacco caterpillar	600	1200	500-1000	
Tomato	White fly	750	1500	500-1000	
Apple	Sanjose scale, Wooly aphid	0.05%	1500-2000	1500-2000	
Mango	Mealy scale, Mango hooper	0.075%	2250-3000	1500-2000	
Grape	Beetle	500	1000	1500-2000	

METAFLUMIZONE 22% SC					
Cabbage	Diamond back moth	165-220	750-1000	500	3

METALDEHYDE		
Crop	**Name of pests**	**Dose**
Citrus, Rubber, Paddy, Tea, Vegetables	Snails, Slugs, Giant African Snails	Available in ready to use 2.5% Dust.

METHOMYL 40% SP					
Cotton	Bollworm	300-450	750-1125	500-1000	10
Pigeon Pea	Pod borers	300-450	750-1125	500-1000	7
Tomato	Pod borers	300-450	750-1125	500-1000	5/6
Chilli	Pod borers & Thrips	300-400	750-1125	500-1000	5/6
Groundnut	*Spodoptera litura*	300-350	750-850	500	7
Grapes	Mealy bug	500	1250	500-1000	10

METHYL BROMIDE 98% W/W

Stored Whole Cereals and Seed ,Millet, Pulses	Rice Weevil *(S.O)* Lesser Grain Bore, Khapra Beetle *(T.g),* Rust Red Flour Beetle, Saw Drug Store Beetle ,	Air tight cover	24 gms/m3	6-8 hours waiting Period 24 hrs.	As when residues not to exceed 25 ppm
Mild Products : Flour,	Khapra Beetle *(T.g),* Rust Red Flour Beetle, lesser grain borer	Air tight cover	24 -32 gms/m3	12-24 hours waiting Period 72 hrs.	As when residues not to exceed 25 ppm
Dry Fruits, Nuts Spices & Oil Seeds	Rust Red Flour Beetle	Air tight cover	24 -32 gms/m3	24 hrs waiting Period 72 hrs	As when residues not to exceed 25 ppm

MILBEMECTIN 1% EC					
Rose	Two spotted spider mite	4.5	450	1000	5
Chilli	Yellow /white mite	3.25	325	500	7

MONOCROTOPHOS 15% SG					
Cotton	Aphids, Jassids, Thrips & Whiteflies	200	1333	500-1000	58

MONOCROTOPHOS 36% SL					
Paddy	BPH GLH Leaf roller/folder Yellow stem borer	500 250 250 500	1250 625 625 1250	500-1000 500-1000 500-1000 500-1000	- - - -
Maize	Shoot fly	250	625	500-1000	-
Black gram	Pod borer	250	625	500-1000	
Green gram	Pod borer	175	437	500-1000	
Pea	Leaf minor	400	1000	500-1000	
Red gram	Plume mouth Pod borer Pod fly	250 500 250	625 1250 625	500-1000 500-1000 500-1000	

Sugarcane	Shoot borer Mealy bug Pyrilla Scale Insect Stalk borer	600-800 600 200 600 750	1500-2250 1500 500 1500 1875	500-1000 500-1000 500-1000 500-1000 500-1000	
Cotton	Bollworms Aphid, Leaf Hopper, Grey weevil, Thrips White fly	450-800 175 175 500 175 150	1125-2250 437 437 1250 437 375	500-1000 500-1000 500-1000 500-1000 500-1000 500-1000	
Citrus	Black aphids Mite	0.040% 0.025%	1500-2000 937-1250	500-2000 500-2000	10 lit./trees 10 lit./trees
Mango	Bug mite Gall maker Hopper, Mealy bug Shoot borer	0.040% 0.04% 0.04% 0.04% 0.04%	1500-2000 1500-2000 1500-2000 1500-2000 1500-2000	500-2000 500-2000 500-2000 500-2000 500-2000	10 lit./trees 20 lit./trees 20 lit./trees 20 lit./trees 20 lit./trees
Coconut	Black headed Caterpillar	3.5 -7gm per tree	8.75-17.5ml per tree	Lower dose to be applied o plants below 9 years & high Or more than 9 years of age.	
Coffee	Green bug	625	1562	500-1000	
Cardamom	Thrips	375	937	500-1000	

NOVALURON 10% EC					
Cotton	American Bollworm	100	1000	500-1000	40
Cabbage	Diamond back moth	75	750	500-1000	5
Tomato	Fruit borer	75	750	500-1000	1-3
Chilli	Fruit borer, Tobacco Caterpillar	33.5	375	500	3
Bengal gram	Pod borer	75	750	500	7

NOVALURON 8.8% SC					
Cotton	American boll worm Tobacco caterpillar	100	1000	500-1000	20

NUCLEAR POLYHEDROSIS VIRUS OF HELICOVERPA ARMIGERA 0.43% AS				
Cotton	*Helicoverpa armigera*	2700	400-600	-
Tomato	*Helicoverpa armigera*	1500	400-600	-

NPV OF HELICOVERPA ARMIGERA 2.0% AS				
Pigeon pea	Pod borer	250-500	500-750	-
Chick pea	Pod borer	250-500	500-750	-
Tomato	Fruit borer	250-500	500	-

NPV OF *HELICOVERPA ARMIGERA* 2.0% AS STRAIN NO. GBS/HNPV -01				
(A) GANESH BIO-CONTROL SYSTEM				
Pigeon pea	Pod borer (*Helicoverpa armigera*)	250-500 ml	500-750	-
Gram	Pod borer (*Helicoverpa armigera*)	250-500 ml	500-750	-
(B) BIO-TECH INTERNATIONAL STRAIN NO. BIL/HV-9				
Pigeon pea	Pod borer (*Helicoverpa armigera*)	250-500 ml	500-750	-
Chick pea	Pod borer (*Helicoverpa armigera*)	250-500 ml	500-750	-
Tomato	Fruit borer (*Helicoverpa armigera*)	250-500 ml	500	-

(a) **INDORE BIO-TECH INPUT & RESEARCH STRAIN NO. IBL-17268**				
Pigeon pea	Pod borer (*Helicoverpa armigera*)	250-500 ml	500-750	-
Chick pea	Pod borer (*Helicoverpa armigera*)	500-1000 ml	500-750	-
NPV OF *HELICOVERPA ARMIGERA* 0.43% AS STRAIN NO. BIL/HV-9				
Cotton	*Helicoverpa armigera*	2700 ml	400-600	-
Tomato	*Helicoverpa armigera*	1500 ml	400-600	-

NPV OF SPODOPTERA LITURA 0.5%AS				
Tobacco	*Spodoptera litura*	1500	400-600	-

NPV OF HELICOVERPA ARMIGERA 0.5%AS				
Chick pea	*Pod borer*	250	500	-

OXYDEMETON – METHYL 25% EC					
Paddy	Blue leaf hopper White leaf hopper	125 250	500 1000	500-1000 500-1000	
Maize	Shoot fly	250	1000	500-1000	
Sorghum	Shoot fly	250	1000	500-1000	
Cotton	Aphid, Jassid/ leaf hopper	300	1200	500-1000	
Ground nut	Aphid/ Leaf minor	250	1000	500-1000	
Mustard	Aphid	250	1000	500-1000	
Sesamum	Leaf hopper	300	1200	500-1000	
Bhindi	White fly Jassid/ Leaf beetle	250 400	1000 1600	500-1000 500-1000	
Chilli	Aphid Mites Thrips	400 500 250	1600 2000 1000	500-1000 500-1000 500-1000	
Onion	Thrips	300	1200	500-1000	
Tomato	White fly	250	1000	500-1000	
Potato	Aphids	250	1000	500-1000	
Apple	Sanjose scale Wooly Aphid	0.07% 0.025%	4200-5600 1500-2000	1500-2000 1500-2000	
Banana	Tingyi bug Aphids	0.025% 0.05%	1500-2000 3000-4000	1500-2000 1500-2000	
Mango	Hoppers	0.025%	1500-2000	1500-2000	
Peaches	Leaf curl aphids	0.025%	1500-2000	1500-2000	
Coffee	Green bug Leaf minor	625 1000	2500 4000	500-1000 500-1000	
Tobacco	White fly/Aphids	250	1000	500-1000	

PERMETHRIN 25% EC					
Cotton	Bollworms,	100-125	400-500	500-1000	-

PAECILOMYCES LILACINUS 1.15% WP					
Brinjal	Root Knot Nematode	3kg	500kg Organic Manure/organic Fertilizer	-	-

PHENTHOATE 2% DP

Sorghum	Red spider mite, Pink mite, Purple mite, Scarlet mite	400	20000	-	90% emergence of earhead
Safflower	Aphid	400	20000	-	-

PHENTHOATE 50% EC					
Paddy	Rice case worm	500	1000	500-1000	-
Ground nut	Leaf Webber	500	1000	500-1000	-

PHORATE 10% CG					
Bajra	Shoot fly White grub	3000 2500	30000 25000	-	-
Barley	Aphid	1000	10000		
Maize	Shoot fly Stem borer	3000 1000	30000 10000		
Paddy	Gall fly, Hispa, Leaf hopper , Plant hopper, Stem borer , Root weevil	1000 750	10000 7500		-
Sorghum	Shoot fly, Aphids White grub	1875 2500	18750 25000	-	-
Wheat	Shoot fly	1875	18750	-	-
Black gram	Stem fly, White fly	1000	10000	-	-
Green gram	Stem fly Jassids	1000 1500	10000 15000		
Pigeon pea	Jassids Stem fly	1500 1000	15000 10000		
Soybean	Stem fly	1500	15000		
Sugarcane	Top borer White grub	3000 2500	30000 25000		
Cotton	Aphid, Jassids, Thrips, White fly	1000	10000		
Groundnut	Aphid, Leaf minor White grub	1500 2500	15000 25000		
Mustard	Mustard aphid, Painted bug	1000 1500	10000 15000		

Seasamum	Jassids, White fly	1000	10000		
Brinjal	Aphid, Jassids, Lace wing bug, Red spider mite Thrips	1500 1000	15000 10000		
Cauliflower	Aphid	2000	20000		
Chillies	Aphid , Mite, Thrips	1000	10000		
Potato	Aphid	1000	10000		
Tomato	White fly	1500	15000		
Apple	Woolly aphid	10- 15/ plant	100-150gm/ plant		
Banana	Aphid	2.5 -1.25/ plant	25 -12.5/ plant		
Citrus	Leaf minor	1500	15000		

PHOSALONE 35% EC					
Barely	Aphid	500	1428	500-1000	
Sorghum	Ear head midge	400	1143	500-1000	
Jute	Red spider mite	350	1000	500-1000	
Brinjal	Fruit borer	500	1428	500-1000	
Cabbage	Aphid	500	1428	500-1000	
Tomato	Fruit borer	450	1285	500-1000	
Tea	Aphid, Pink mite Purple mite	360 360	1028 1028	500-1000 500-1000	

PHOSALONE 4% DP					
Sorghum	Earhead midge,	1000	25000	--	--

PHOSPHAMIDON 40% SL					
Paddy	Stem borer, Leaf borer, Green leaf hopper, Brown plant hopper, White backed plant hopper	500 350 350 350	1250 875 875 875	500 500 500 500	30

Brinjal	Jassid, Aphid, White fly	250-300	625-750	500	10

PROFENOFOS 50% EC					
Cotton	Bollworm, Jassids, Aphids, Thrips, Whiteflies	750-1000 500	1500-2000 1000	500-1000 500-1000	15 15
Soybean	Semi looper & Girdle beetle	500	1000	500	40

PROPARGITE 57% EC					
Tea	Red spider mite, Pink mite, Purple mite, Scarlet mite	430-612	750-1250	400	7
Chillies	Mite	850	1500	500-625	7
Apple	European red Mite, Two spotted mite	2.85-5.7 /tree	5-10 ml/tree	10 lit/tree	9
Brinjal	Two spotted spider mite	570	1000	400	6

PYMETROZINE 50% WG					
Paddy	Brown Plant Hopper	150	300	500	19

Pyriproxyfen 10% EC					
Cotton	Whitefly	100	1000	500	31
Cotton	Whitefly	50-60	500-700	500	50
Chilli	Whitefly, Aphids	50	500	300	7

Pyridaben 20% w/w WP					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulation (gm/ml)**	**Dilution in Water**	
Tea	Red Spider mite	100	500	500	07
Cotton	White fly	100	500	500	28

PYRIDALYL 10% EC					
Cotton	Bollworms	75-100	750-1000	500-750	7
Okra	Fruit & shoot borer	50-75	500-750	500-750	3
Cabbage	Diamond back moth	50-75	500-750	500-750	3

QUINALPHOS 25% GEL					
Chillies	Aphid,	250	1000	500-1000	
Paddy	Brown plant Hopper, Leaf roller, Stem borer, Hispa	250	1000	500-1000	

QUINALPHOS 5% GRANULE					
Sorghum	Stem borer	750	15000	-	
Paddy	Gall midge, Stem borer	250	5000	-	

QUINALPHOS 20% AF					
Rice	Brown plant hopper , Green leaf hopper, Leaf folder, Stem borer	250-300	1250-1500	750-1000	40
Okra	Shoot/Fruit borer	250-300	1250-1500	750-1000	7
Cotton	Bollworms, American bollworm, Pink Bollworm , Spotted bollworm	350-500	1750-2500	750-1000	7
Tomato	Fruit borer	300-350	1500-1750	750-1000	7
Tea	Hopper caterpillar	0.05%	1000	400	7
Tur	Pod borer	500	2500	750-1000	30
Groundnut	Spodoptera	250-375	1250-1775	750-1000	30

QUINALPHOS 25% EC					
Paddy	Brown plant hopper, Hispa/bune beetle, Leaf roller, Stem borer	375 500 250 325	1500 2000 1000 1300	500-1000 500-1000 500-1000 500-1000	40 40 40 40
Sorghum	Mite, Shoot fly	375	1500	500-1000	
Wheat	Aphid Ear head Caterpillar , Mite	250 400 400	1000 1600 1600	500-1000 500-1000 500-1000	
Bengal gram	Pod borer	250	1000	500-1000	
Black gram	Bihar hairy Caterpillar	375	1500	500-1000	
French bean	Stem fly	250	1000	500-1000	
Red gram	Pod borer, Pod fly	350	1400	500-1000	30
Soybean	Leaf weevil	250	1000	500-1000	
Jute	Leaf roller Semi looper Yellow mite	375 375 375	1500 1500 1500	500-1000 500-1000 500-1000	
Groundnut	Leaf Hopper Leaf miner Thrips	350 250 350	1400 1000 1400	500-1000 500-1000 500-1000	30 30 30
Mustard	Sawfly	300	1200	500-1000	
Sesamum	Leaf webber Jassids	500 500	2000 2000	500-1000 500-1000	
Bhindi	Fruit borer Leaf hopper Mite	200 250 250	800 1000 1000	500-1000 500-1000 500-1000	
Cauliflower	Stem borer	500	2000	500-1000	
Chillies	Aphid Mite	250 375	1000 1500	500-1000 500-1000	
Tomato	Fruit borer	250	1000	500-1000	
Apple	Wooly Aphid	0.05%	3000-4000	500-1000	
Banana	Tingid bug	0.05%	3000-4000	500-1000	
Citrus	Scale Citrus butterfly	0.07% 0.025%	4200-5600 1500-2000	500-1000 500-1000	
Pomegranate	Scales	0.08%	4800-6400	500-1000	

Cardamom	Thrips	0.03%	600-1200	500-1000	30
Tea	Thrips	190	760	500-1000	7

QUINALPHOS 1.5% DP					
Sorghum	Earhead bug, Earhead midge	375 400	25000 26600	At milk stage	
Paddy	Brown plant hopper	300	20000		40
Gram	Pod borer	350	23300	At pod formation	
Red gram	Pod borer	350	23300		30
Soybean	Leaf weevil	250	16600		
French bean	Stem fly	300	20000		
Cotton	Aphid, Jassids, Thrips, Bollworm	300 450	20000 30000	From square formation	
Ground nut	Thrips, Jassids Red hairy Caterpillar	350 375	23300 25000		30 30
Safflower	Aphid	300	20000		
Chillies	Aphid	300	20000		

SODIUM CYANIDE		
Places	**Name of pest**	**Dose**
Agriculture land & Grain storage	Rats, & Soil insects	-

SPINETORAM 11.7 % SC					
Cotton	Thrips, Tobacco caterpillar Spotted boll worm	50 50-56 50-56	420 420-470 420-470	500-1000 500-1000 500-1000	30
Soybean	Tobacco caterpillar	54	450	500-625	30
Chillies	Thrips, Fruit borer Tobacco caterpillar	56-60 56-60 56-60	470-500 470-500 470-500	400-500 400-500 400-500	7

SPINOSAD 45.0% SC					
Cotton	American bollworm	75-100	165-220	500	10
Chillies	Fruit borer, Thrips	73	160	500	3
Red gram	Pod borer	56-73	125-162	800-1000	47
Brinjal	Fruit & Shoot borer	73-84	162-187	500	03
Grapes	Thrips	25ml/100lit	250	1000	15

SPINOSAD 2.5% SC					
Cabbage & Cauliflower	Diamond back moth	15.0-17.5	600-700	500	3

SPIROMESIFEN 22.9% SC					
Brinjal	Red spider mite	96	400	500	5
Cotton	White fly & mite	144	600	500	10
Apple	European Red Mite & Red Spider mite	72(0.03%)	300	1000	30
Chilli	Chilli Yellow Mite	96	400	500 -750	7
Tea	Red Spider mite	96	400	400	7
Okra	Red spider mite	96-120	400-500	500	3
Tomato	Whiteflies & Mites	150	625	500	3
Cotton	White fly & mite	144	600	500	10

Spirotetramat 15.31% w/w OD					
Chilli	Thrips & Aphids	60	400	500	5

THIACLOPRID 21.7% SC					
Cotton	Aphid, Thrips, Jassid	24 – 30	100 – 125	500	52
	Whitefly	120 – 144	500 – 600	500	52
Paddy	Stem borer	120	500	500	30
Chilli	Thrips	54-72	225-300	500	5
Tea	Mosquito bug	90	375	400	7
Brinjal	Shoot & fruit borer	180	750	500	5
Soybean	Girdle beetle	180	750	500	17
Apple	Thrips	0.01-0.012%	0.04-0.05%	As per size of tree	30

THIOCYCLAM HYDROGEN OXALATE					
Rice	Stem borer,Leaf folder	500	1000	500	30

THIODICARB 75% WP					
Cabbage	Diamond back moth	750 to 1000	1000 to 1330	500	7
Cotton	Bollworms	750	1000	500	30
Brinjal	Shoot & Fruit borer	470 to 750	625 to 1000	500	6
Chilli	Fruit borer	470 to 750	626 to 1000	500	6
Black gram	Pod borer (*Helicoverpa spp.)* & (*Maruca spp.)*	468-562	625-750	375-500	17
Pigeon Pea	Pod Borer	470-750	625-1000	500	30

THIAMETHOXAM 30% FS					
Cotton	Aphid, whiteflies, Jassids	3	10.0		This is used as seed dresser
Sorghum	Shoot fly	3	10.0		
Wheat	Termites	1	3.3		
Soybean	Shoot fly	3.0	10.0		
Chilli	Thrips	2.1	7.0		
Okra	Jassids	1.7	5.7		
Maize	Stem Fly	2.4	8.0		
Sunflower	Jassids, Thrips	3.0	10.0		

THIAMETHOXAM 70% WS					
Cotton	Aphid, Thrips whiteflies, Jassids	300	430		Use as seed dresser at the time of sowing
Okra	Aphids, Jassids	200	286		
Tomato	Aphids & Thrips	420	600		
Sunflower	Jassids & Thrips	280	400		
Wheat	Termites & Aphids	121	175		
Maize	Shoot fly & Aphids	245	350		
Rice	Thrips & Green Leaf Hopper	105	150		

THIAMETHOXAM 75% w/w SG

Groundnut	Termites	94	125	500-1000	57
Sugarcane	Termites & Early shoot borer	120	160	500-1000	230
Rice	Green Leaf Hopper & Brown Plant Hopper	113	150	Dissolve in 500ml Water and mix With 20 Kg sand/ha	60
Cotton	Jassids & Thrips	94	125	50-100ml/plant	109

THIAMETHOXAM 25% WG					
Rice	Stem borer, Gall midge, Leaf folder, WBPH, BPH, GLH, Thrips	25	100	500-750	14
Cotton	Jassid, Aphid, Thrips White flies	25 50	100 200	500-750 500-750	21 21
Okra	Jassid, Aphid,White flies	25	100	500-1000	5
Mango	Hoppers	25	100	1000	30
Wheat	Aphid	12.5	50	500	21
Mustard	Aphid	12.5-25.0	50-100	500-1000	21
Tomato	White flies	50	200	500	5
Brinjal	White flies	50	200	500	3
Tea	Mosquito bug	25	100	400-500	7
Potato	Aphids -foliar application -Soil drench	 25 50	 100 200	 500 400-500	 77 77
Citrus	Psylla	25	100	1000	20
Rice-Nursery (Soil Drenching)	Green Leaf Hopper, Thrips & Whorl Maggot	500	2000	250 ml/sq. mtr	86

TOLFENPYRAD 15% EC					
Cabbage	Diamond Back moth, Aphids	150	1000	500	5
Okra	Aphids, Jassids, Thrips and white fly	150	1000	500	3

TRICHLORFON 5% GR		
Crop	**Common Name of the Pest**	**(Dosage per hectare) Active ingredient (gm%)**
Castor	Pod borer	2000 gm.
Groundnut	Red hairy caterpillar	500 gm.
Wheat	Army worm, Cut worm	750 gm.
Vegetables (Brinjal, cabbage, cauliflower, cucurbits, tomato)	Fruit and shoot borer Diamond back moth Tobacco caterpillar Red pumpkin beetle	500 gm. 500 gm. 750 gm. 500 gm.

TRICHLORFON 5% DUST		
Castor	Pod borer	2000 gm.
Groundnut	Red hairy Caterpillar	500 gm.
Wheat	Army worm, Cut worm	750 gm.
Vegetables (Brinjal, cabbage, cauliflower, cucurbits, tomato)	Fruit and shoot borer Diamond back moth Tobacco caterpillar Red pumpkin beetle	500 gm. 500 gm. 750 gm. 500 gm.

TRICHLORFON 50% EC		
Castor	Pod borer	2000 gm.
Groundnut	Red hairy caterpillar	500 gm.
Wheat	Army worm, Cut worm	750 gm.
Vegetables (Brinjal, cabbage, cauliflower, cucurbits, tomato)	Fruit and shoot borer Diamond back moth Tobacco caterpillar Red pumpkin beetle	500 gm. 500 gm. 750 gm. 500 gm.

TRIAZOPHOS 20% EC					
Rice	Stem Borer, Leaf Folder, Hispa, Green leaf hopper, Brown plant hopper, White backed plant hopper	250-500	1250-2500	500	40

Triazophos 20% WG

Rice	Stem Borer, Leaf Folder, Hispa, Brown plant hopper	300	1500	500	18

TRIAZOPHOS 40% EC					
Cotton	Bollworms (Pink and spotted), whitefly	600-800	1500-2000	500-1000	21
Rice	Stem Borer, Rice Hispa, Leaf Folder, Green leaf hoppe Brown plant hopper, White backed plant hopper.	250-500	625-1250	500-1000	40
Soybean	Stem borer, Girdle beetle, Leaf miners	250	625	500	30

VERTICILLIUM LECANII 1.15%WP				
Cotton	White flies	2500 (formulated)	500 litres of water	-
C**itrus**	Mealy bug	2.5kg	500-550L	-

***Verticillium lecanii* 1.50% Liquid formulation (Foliar spray)**					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulation (lit/ha)**	**Dilution in**	
Tomato	White fly (*Bemisia tabaci*)	-	2.0	500	-

ZINC PHOSPHIDE 80 % Powder			
Crop	**Pest organism**	**Dosage**	**Technical**
For rodent control in Field and residential premises *(To be used under the supervision of trained personal)*	(*Rattus rattus*, *Bandicota bengalensis, Rattus meltade , tatera indica, Meriones hurrianae,* *Mus platythrix, Mus musculus, Rattus*	1.5-2.5% active ingredient in bait	Mix 10 g of Zinc phosphide with 10g of edible oil and then mix with 380g of food material. Keep 10g of poisoned bait at each points.

COMBINATION PRODUCT

Acephate 50% + Bifenthrin 10 % WDG					
Cotton	Leaf hopper Thrips, Bollworms	400+80	800	500-750	20

Acephate 25% w/w + Fenvalerate 3% w/w EC					
Crop	**Common name of the pest**	**Dosage per hectare**			**Waiting period in days**
		a.i. (g)	**Formulation (ml)**	**Dilution (Litre)**	
Cotton	American bollworm Sucking Insects	500+60 500+60	2000 2000	500 500	15 15

Acephate 50% + Imidacloprid 1.8% SP					
Cotton	Aphid ,Jassids, Thrips, White flies, Bollworms	518	1000	500	40

Acetamiprid 0.4% + Chlorpyriphos 20% EC					
Paddy	Stem borer, Brown Plant Hopper(BPH), White Backed Plant Hopper (WBPH)	10+500	2.5	500-800	10

Acetamiprid 1.1% + Cypermethrin 5.5% EC					
Cotton	Aphids,Jassids,Thrips Bollworms	10+50	1000	400-1000	30days

Betacyfluthrin 8.49% + Imidacloprid 19.81% OD					
Brinjal	Aphids, Jassids shoot & fruit borer	15.75+36.75 - 18 + 42	175-200	500	7

Bifenthrin 3% + Chlorpyriphos 30% w/w EC					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulation (gm/ml)**	**Dilution in**	

Paddy	Stem borer, Leaf folder	(24+240) –(30+300)	800 -1000	500	21

Buprofezin 9% + Acephate 24% w/w WP					
Rice	Brown Plant Hopper	54+ 144	600	500	20

Buprofezin 15% + Acephate 35% w/w WP					
Paddy	BPH, WBPH	187.5+ 437.5	1250	500	20

Buprofezin 20% + Acephate 50% w/w WP					
Paddy	Stem Borer, Leaf Folder & Brown Plant Hopper	Buprofezin-200 & Acephate-500	1000	500	20

Buprofezin 22% + Fipronil 3% SC					
Rice	Brown Plant Hopper	110 + 15	500	400 - 500	32

Buprofezin 23.1 % + Fipronil 3.85% w/w SC					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulat (gm/ml)**	**Dilution in Water**	
Rice	Brown plant hopper (*Nilaparvatha luegens*)	173.25 + 28.88	750	500	30

Cartap Hydrochloride 50% w/w + Buprofezin 10% w/w WP					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulat (gm/ml)**	**Dilution in Water (Liter)**	
Rice	Yellow Stem borer, Brown Plant hopper, Leaf folder, Green leaf hopper, White backed plant hopper	480	800	500	20

Cypermethrin 10% + Indoxacarb 10% w/w SC					
Cotton	Jassids, Thrips and Ballworm	50+50	500	400-1000	7

Cypermethrin 3% + Quinalphos 20% EC					
Brinjal	Shoot & Fruit borer		350-400	500-600	7
Cotton	Americal bollworm Spotted bollworm Jassids		1000-1250	500-600	15

Chlorpyrifos 50% + Cypermethrin 5%EC					
Cotton	Aphid, Jassids, Thrips, Whitefly, *Spodoptera litura,* Spotted bollworm, Pink Bollworm, American bollworm	500+50	1000	500-1000	15
Rice	Stem borer, Leaf folder	312+32 to 375+38	625-750	500-700	15

Chlorpyriphos 16% + Alphacypermethrin 1%					
Cotton	Spotted bollworm Pink Bollworm , American bollworm	425	2500	500-750	15

Deltamethrin 0.72% w/w + Buprofezin 5.65% w/w EC					
Rice	Brown plant Hopper, Leaf folder	0.78+62.5 – 0.94+75.0	1250+1500	500	30

Deltamethrin 1% + Trizophos 35%EC					
Cotton	Spotted Bollworm, Pink Bollworm, American bollworm, White flies	10+350-12.5+450	1000-1250	600-1000	21

Brinjal	Shoot & Fruit Borer, Jassids, Aphid, Epllachna beetle	10+350-12.5+450	1000-1250	500	3

Diafenthiuron 47% + Bifenthrin 9.4% w/w SC					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulatio (gm/ml)**	**Dilution in Water**	
Cotton	Thrips (*Thrips tabaci*), Leaf hopper (*Amrasca devastans*), White fly (*Bemisia tabaci*), Aphid (*Aphis gossypii*)	293.75+58.7	625	500	30
Chilli	Thrips (*Scirtothrips dorsali*), Aphids (*Aphis gossypii*)	293.75+58.7	625	500	07

Emamectin Benzoate 1.5% + Fipronil 3.5% SC						Re-entry period after each application (Hrs)
Chilli	Thrips & Fruit borer	(7.50+17.50) - (11.25+26.25)	500-750	500	3	48

Ethion 40% + Cypermethrin 5% w/w EC					
Cotton	American bollworm	400+50	1000	500	15

Ethiprole 40 + Imidacloprid 40%WG					
Rice	BPH WBPH	37.5+37.5 50+50	93.75 125	375 375	15
***Endosulfan 35% + Cypermethrin 5% EC**					
Cotton	Bollworms	875 + 125	2500	500-1000	15

Endosulfan*:- Endosulfan has been banned by the Supreme Court of India w.e.f. 13-05-2011 for production, use & sale, all over India, till further orders vide ad-Interim order in the Writ Petition (Civil) No. 213 of 2011.

Fenobucarb 20% + Buprofezin 5% w/w SE					
Paddy	BPH GLH	400+100	2000	500	30

Flubendiamide 4% + Buprofezin 20% w/w SC					
Paddy	Yellow stem borer, Leaf Folder, BPH	35+175	175+700	500	30
Flubendiamide 3.5% + Hexaconazole 5% w/w WG					
Paddy	Stem borer, Leaf folder	35+50	1000	500	20

Flubendiamide 19.92% w/w+ Thiacloprid 19.92% w/w					
Chilli	Thrips Fruit borer	48+48-60+60	200-250	500	5

Fipronil 40% + Imidacloprid 40% WG					
Sugarcane	White grub *(Holotrichia consanguinea)*	175+175-200+200	437.5-500	1000-1250	296

Fipronil 4% + Acetamiprid 4% W/W					
Cotton	Aphid, Jassids & White fly	40+40	1000	500	30

Fipronil 4% + Thiamethoxam 4% w/w SC					
Rice	Brown Plant Hopper, Green Leaf Hopper & White Backed Plant Hopper	44+44	1100	500	45

Fipronil 7% + Hexythiazox 2% w/w SC					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i. (gm)	**Formulation (gm/ml)**	**Dilution in Water (Liter)**	
Chilli	Mites and Thrips	70+20	1000	500	07

Imidacloprid 18.5% + Hexaconazole 1.5% FS					
Groundnut	Termites, Thrips, Jassids, Root grubs, Collar rot, Stem rot, Tikka leaf spot & Rust	Imidacloprid : 37 & Hexaconazole : 3	200	Not Applicable	This is used as seed dresser
Wheat	Termites, Aphids, Smut & Rust	Imidacloprid : 37 & Hexaconazole : 3	200		

Imidacloprid 6% + Lambdacyhalothrin 4% SL					
Paddy	Stem borer, Hispa, Plant Hopper & Gandhi Bug	18+12	300	500	10

Indoxacarb 14.5% + Acetamiprid 7.7% w/w SC					
Cotton	Jassids, White flies & Bollworm	88.8-111	400-500	500	30
Chillies	Thrips, & Fruit borer	88.8-111	400-500	500	5

Novaluron 5.25% + Indoxacarb 4.5% SC					
Tomato	Fruit borer & leaf eating caterpillar	43.31 + 37.13 - 45.94 + 39.38	825-875	500	5

Phosphamidon 40% + Imidacloprid 2% SP					
Paddy	Brown plant hopper, Green leaf hopper, Stem borer	252-294	600-700	750	22

Profenofos 40% + Cypermethrin 4% EC					
Cotton	Bollworm complex	440-660	1000-1500	500-1000	14

Profenofos 40% + Fenpyroxymate 2.5%w/w EC					
Chilli	Thrips, Mites & Borer	0.4+0.025	1000	500	7

Pyriproxyfen 5% EC + Fenpropathrin 15% EC					
Cotton	Whitefly, Bollworms	25+75 – 37.5 +112.5	500-750	500-750	14
Brinjal	Whitefly, shoot and fruit borer	25+75 – 37.5 +112.5	500-750	500-750	7
Okra	Whitefly, fruit borer	25+75 – 37.5 +112.5	500-750	500-750	7
Chilli	Whitefly, fruit borer	25+75 – 37.5 +112.5	500-750	500-750	7

Pyriproxyfen 5% + Difenthuiron 25% SE					
Crop	**Common name of the pest**	**Dosage / ha**			**Waiting Period (days)**
		a.i (gm)	**Formulation (gm/ml)**	**Dilution in Water (Liter)**	
Cotton	Whitefly (*Bemisia Tabaci*), Thrips (*Thrips tabaci*), Jassid (*Amrasca biguttula biguttula*), Aphid (*Aphis gossypii*)	(250+50) to (312.5+62.5)	1000 - 1250	500	35

Pyriproxyfen 5% EC + Fenpropathrin 15% EC					
Cotton	Whitefly	60+60	600	500	19

Pyriproxyfen 10% + Bifenthrin10 % w/wEC					
Cotton	Whitefly	60+60	600	500	19

Spirotetramat 11.01% w/w + Imidacloprid 11.01% w/w SC					
Okra	Red Spider Mites	60+60	500	500	3
Brinjal	Whitefly & Red Spider Mites	60+60	500	500	5

Thiamethoxam 12.6% + Lambda cyhalothrin 9.5%ZC:					
Cotton	Jassids, Aphids & Thrips and Bollworm	44	200	500	26
Maize	Aphid, Shoot fly, Stem borer	27.5	125	500	42
Groundnut	Leaf hopper Leaf eating caterpillar	27.5	150	500	28
Soybean	Stem fly, Semilooper Girdle beetle	27.5	125	500	48
Chilli	Thrips, Fruit borer	33	150	500	3
Tea	Tea Mosquito bug, Thrips & Semilooper	33	150	400	1
Tomato	Thrips, Whiteflies & Fruit borer	27.5	125	500	5

Acetamiprid 0.4%+Chlorpyriphos 20% EC					
Paddy	Stem Borer, BPH & WBPH	10+500	2.5	500-800	10

Cypermethrin 10% + Indoxacarb 10%SC:					
Cotton	Jassids, Thrips & Bollworm	50+50	500	400-1000	7

Chlorantraniliprole 9.3% + Lambda Cyhalothrin 4.6% ZC:					
Pigeon pea	Pod borer	30.0	200	500	18
Cotton	Bollworms complex	37.5	250	500	20

Chlorantraniliprole 0.5 % w/w + Thiamethoxam 1.0 % w/w GR:					
Rice	Stem borer Leaf Folder Brown Plant Hopper Green Leaf Hopper	30+60	6Kg/ha.	-	60 days

Chlorantraniliprole 8.8% w/w + Thiamethoxam 17.5 % w/w SC:							
				Application method		**Application time**	
Tomato	Leaf Miner, Whitefly & Fruit borer	150	500	Soil drench (Single application)	50-100 ml/plant	8-10 days after transplanting	36 days

Thiamethoxam 0.9 % w/w + Fipronil 0.2 % w/w GR					
Ground nut	White grub , Termite	108+24 to 135+30	12 – 15	106	48

Public health use

ALPHACYPERMETHRIN 5 % WP				
Pest	**Hebitat**	**a.i. (mg/m^2)**	**Formulation (gm)**	**Dilution (Ltr.)**
Adult Mosquito		25 (2 cycles application to repeat after 3 month) 40 (single cycle application)	Dilute 250 gm of Alphacypermethrin 5 % WP in 10 litre of water to cover500 sq m area. Dilute 250 gm of Alphacypermethrin 5 % WP in 10 litre of water to cover500 sq m area.	250 400

ALPHACYPERMETHRIN Impregnated long lasting nets 0.667% w/w (200 mg/m^2) (For Import only)	
Ready to use Impregnated Bed Net	To control mosquitoes under Public Health

AZADIRACHTIN 0.15% EC				
Pest	**Hebitat**	**a.i. (gm)**	**Formulation (gm)**	**Surface**
Mosquito larvae	Stagnant water, drainage, water puddle, iron containers, machinery scraps, iron box, iron tanks, plastic scraps, pit.	1 .0 5.0 933.3	1 .0 5.0 933.3	10.7 m^2 53.6 m^2 1 hectare

***BACILLUS SPHAERICUS* 1593 M SERO TYPE H 59 5B**				
Anophles sp. *Culex sp.*	For Drains, Cesspits Cesspools, paddy fields, ponds. Camsuarina pits, unused wells, unused overhead tanks, Domestic wells (Not for drinking requirements)	112	1 ltr/10 ltr of water	-

***BACILLUS THURINGIENSIS* var. Israelensis 0.5%WP**					
Mosquito spp.	Anopheles,Culex andAedes (Habitate-CEMENT Tank,Coolers,Drains,pool pits,Highly polluted underground tanks,Container Drums and Tyres.)	0.75mg/m2	-	200	-

***BACILLUS THURINGIENSIS* var. Israelensis 5%WP.**					
Mosquito spp.	Anopheles,Culex and Aedes (Habitate-CEMENT Tank,Coolers,Drains,pool pits	0.75g/m2	7.50kg/ha..	200 L	-
	Highly polluted water(underground tanks,Container Drums and Tyres.)	1.00g/m2	10.00 kg/ha.	200 L	-

***BACILLUS THURINGIENSIS* var. Israelensis WP.**			
Name of insect	**Dosage/ha**		**Interval between application**
	a.i. (gm)	**Formulation (Kg.)**	
Anopheles and *Culex sp*. (larvae)		2 – 5 Kg/ha	2-4 weeks

BACILLUS THURINGIENSIS VAR-ESRAELENSIS , Serotype H-14 (VECTOBAC 12 AS) Potency 1200 ITU / MG (VCRC Serotype H-14 strain			
Culex	Drains, Cesspits Casuarina pits, Disused wells	5.0 litres.	1 liter in 100 lts of water
Anopheles	Paddy fields, Ponds, pools	10.0 litres.	1 liter in 50 lts of water
Aedes	Tree holes, disused tyres	10.0 litres.	1 liter in 50 lts of water
Culex	Drains, Cesspits Casuarina pits, Disused wells	5.0 litres.	1 liter in 100 lts of water

BIFENTHRIN 10%WP			
Pests	**a.i (mg/m2)**	**Formulation (gm)/500 m2**	**Dilution in Water (Litre)**
Adult Mosquito	25 (2 rounds of spraying 3 months apart	125	Dilute 125 gm of Bifenthrin 10% WP in 10 liters of water to cover 500m^2 area.

Bti 12% AS (Vectobac)		
Anopheles sp.	Clean water, cement tanks	1-2 ltrs.
Culex sp.	Polluted water, cess pits, cement tanks, stagnant and flowing drains	2-4 ltrs.

CHLORPYRIPHOS METHYL 40% EC	
--	Used to control of adult vector mosquitoes

CYFLUTHRIN 10% WP			
Common name of pest	**Dosage**		
	a.i mg .m^2	**Formulation (gm)**	**Dilution**
Under public Health programme (Adult mosquitoes)	25 (2 cycles Application to be Repeated after 3mths. 40 (single cycles application)	250 400	Dilute 250 gm of Cyfluthrin 10 WP in 10 litres of water to cover 500 m^2 area. Dilute 400 gm of Cyfluthrin 10 WP in 10 litres of water to cover 500 m^2 area.

DDT 50%WP		
Insects	a.i. gm/m	
Adult mosquitoes	1-2gm	

DELTAMETHRIN 0.15% + Pipro0nyl 0.55%		
Insects	a.i. gm/m	
Adult mosquitoes	Mosquitoes control under Public Health	

DELTAMETHRIN 1.25% W/W OR 1.0% W/V				
Insect	**Method of application**	**Dosage per hectare**		
		a.i. (gm)	**Formulation (ml)**	**Dilution in diesel Oil (Litre)**

Adult Mosquitoes	Thermal fogging	0.5	50	10
	Ultra low volume application	0.5	50	0.5

DELTAMETHRIN 2.5 % WP				
Insect	**Method of application**	**Dosage per hectare**		
		a.i. (gm)	**Formulation (ml)**	**Dilution in diesel Oil (Litre)**
Adult Mosquitoes	For public health purpose only	625-1250 mg/50 sq.m	25-50 g/50 sq.m	1.5-2.5 Ltr./50 sqm

DELTAMETHRIN IMPREGNATED BED NET 55MG/M2 (For Import only)	
Ready to use insecticide Impregnated Bed net	Mosquitoes control under Public Health

DIFLUBENZURON 2% GR.			
Name of the	**Habitat**	**Dosage/ha (Kg)**	**Waiting period**
Mosquito larvae	Water bodies (Cess pits, Drains, & Disused wells and pools)	1.25 – 3.0	-

FENITROTHION 40% WP			
Common name of pest	**a.i (gm)**	**Formulation**	**Dilution in water (litres)**
Mosquitoes & files	400	1000	80

LAMBDA CYHALOTHRIN 10%WP				
Pest	**Use**	**Dosage 500m^3 floor area**		
		a.i. (gm)	**Formulation gm)**	**Dilution in water (Litre)**
Mosquitoes	For public health only	7.5-15	75-150	10

MALATHION 25% WP					
Crop	**Common name of the pest**	**Dosage / sq. m**			**Waiting Period (days)**
		a.i (gm)	**Formulation (gm)**	**Dilution in Water (Liter)**	
-	Adult mosquitoes	2 per sq. m	8 per sq. m	100	Repeat after 6-8 weeks

NOVALURON 10%EC

Place of Application	Insect	Dosages		
		a.i. (gm)	Formulation (ml)	Waiting Period
Clean surface water	*An. Stephensi An.Aegypti*	30	0.03ml/m2	--
Polluted Surface water	*Culex quinquefasciatusand An.Subpictus*	60	0.06ml/m2	--

PYRIPROXYFEN 0.5% GR.			
Breeding habitats	Dosage/ha		Interval between application
	a.i. (gm)	Formulation(Kg.)	
Clean water/ domestic containers	10 (0.01ppm)	2.00	8 weeks
Polluted/ Peri-domestic breeding habitat	20 (0.02ppm)	4.00	8 weeks

PIRIMIPHOS METHYL 50%EC			
Location	Name of the p	Dosage	Waiting period
Mosquito breeding surface	Mosquito larvae	25ml/ha	-

TEMEPHOS 50% EC				
Regime of application	Common name of pest	Dosage per hectare		Waiting period (days)
		a.i. (g)	Formulation (ml)	
Mosquito larval treatment area ponds, swamps, drainage ditches, canals and other Breeding areas.	Mosquitoes larvae	37.5-125	75-250	200

Household Insecticides

ALPHAMETHRIN 0.1 w/w (RTU)		
Common name of pest	Dose /sq. m- a.i (mg)	Formulation (ml)
Cockroaches, Adult mosquitoes,	25-50	25 - 50

Adult houseflies		

ALPHACYPERMETHRIN 0.5% Chalk	
Ready to use household insecticides	To control cockroaches.

ALLETHRIN 0.5% Coil	
Ready to use household insecticides	Used to control of house hold flying insect like houseflies and mosquitoes

ALLETHRIN 0.5% Mosquito Coil	
Ready to use household insecticides	To control of adult mosquitoes

ALLETHRIN 0.2% Coil Adult Mosquitoes	
Ready to use household insecticide.	To control of mosquito.

ALLETHRIN 0.5% Coil Adult Mosquitoes	
Ready to use household insecticide.	To control of mosquito.

ALLETHRIN 4% Mat Adult Mosquitoes	
Ready to use household insecticide.	To control of mosquito.

ALLETHRIN 5% Aerosol	
Ready to use household insecticide.	To control of mosquito.

ALLETHRIN 3.6% LV	
Ready to use household insecticide.	To control of mosquito.

BIFENTHRIN 0.05% Mosquito coil (8 hours Min.)	
Ready to use household insecticide.	Used to control adult mosquitoes.

CYFLUTHRIN 10% WP			
Common name of pest	**Dosage**		
	a.i in mg /sq. m.	**Formulation gms / sq.m.**	**Use**
Adult mosquitoes Cockroaches house Flies & Mosquitoes (in house)	25 20	0.250 for each spray 0.200	100 gm of Cyfluthrin 10% WP to be diluted in 8 liters of potable water 40 gm of Cyfluthrin 10%WP to be diluted in 10% litres. Water.

CYFLUTHRIN 10% WP			
Common name of pest	**Dosage**		
	a.i mg .m^2	**Formulation (gm)**	**Dilution**
For house hold use Cockroach Housefly Mosquitoes	25-40	250-400	Dilute 250-400 gm of Cyfluthrin 10% WP in 10 litres of water to cover 500 m^2 area.

CHLORPYRIPHOS 2% w/w	
Ready to use household insecticides	Used for protecting wood from the attack of termites & borers.

CHLORPYRIPHOS METHYL 40% EC
Used to control adult mosquitoes

CYPHENOTHRIN 7.2% W/W VP (For use by pest control operator only)	
Common name of pest	
American Cockroaches & German Cockroaches	To control of American Cockroaches & German Cockroaches (In house)

CYPERMETHRIN 3% Smoke Generator	
Ready to use household insecticide.	To control Cockroaches in house, hotels & warehouse.

CYPERMETHRIN 1.0% Dust	
Ready to use household insecticide.	To control Cockroaches in house.

CYPERMETHRIN 1% Chalk	
Ready to use household insecticide.	To control Cockroaches in house.

CYFLUTHRIN 5% EW				
Ready to use	Cockroaches, House flies, mosquitoes, in-house. Bed net impregnation	8 ml.	1.0	50 ml diluted solution/ m^2

CYFLUTHRIN 0.025% + TRANSFLUTHRIN 0.04% Aerosol	
Ready to use	Used for controlling /repelling Mosquitoes. Houseflies & cockroaches in homes.

DELTAMETHRIN 2.5% Flow

Name of insect pe	Type of use	Dosage /m^2 area of bed net	
		a.i.	Formulation
Adult Mosquitoes	For impregnation of polyester , nylon and cotton bed net	25 mg	1 ml

DELTAMETHRIN 2.5% WP				
Name of insect pe	Habitate	Dosage /m^2 area of bed net		
		a.i.	Formulation	Dilution in water
Lesser grain borer Rice moth, Saw toothed grain beetle Red flour beetle, Khapra beetle Almond moth	(Grain and seeds in stacks)	30 mg/sq.m	1.2 g/sq.m	1 ltr.for 30 sq.m
Rice weevil	(Grain and seeds in stacks)	30 mg/sq.m	1.2 g/sq.m	1 ltr.for 30 sq.m
Rice weevil	Walls, ceilings & floor	30 mg/sq.m	1.2 g/sq.m	1 ltr.for 30 sq.m

DIFLUBENZURON 2% Tablets			
Name of pest	Habitat	Dosage	Dilution in water
Mosquitoes Larvae	Unused Coolers	0.5-1.0 ppm	½ -1 Tablet in 40 lit. water

DIFLUBENZURON 20%+ DELTAMETHRIN 2% SC			
Name of the insect pest	Habitat	Dosage/ha (Kg)	Waiting period
House fly maggot	Poultry Manure and kitchen garbage	1.50-2.00 ml/ltr. Water (5 litre of water / 10 sq.m Area)	-

Diflubenzuron 25% WP			
Name of pest	Habitat	Dosage	Dilution in water
Mosquitoes Larvae	Clean surface water, Polluted surface water Sewage pits, soak pits, latrines, septic tanks.	25-50 gm a i /ha 50-100gm a i /ha 1 mg a i / liter.	
House fly maggots	In poultry manure Garbage,	5.0 gm/10 sq m	5 liters water/10 sq m.

control	Filth & dumping areas		

DELTAMETHRIN 0.05% + Allethrin 0.04% w/w		
Common name of house hold insec	**Dosage per hectare**	
	a.i. (g)	**Formulation (ml)**
Cockroaches, House flies, Mosquitoes	12.5-25	25-50

DELTAMETHRIN 2.5% + D-TRANS ALLETHRIN 2% w/w EC		
Insects	**Dosage per sq. meter**	
	a.i. (mg)	**Qty. of soln. (ml)**
Cockroach, Houseflies, Mosquitoes	12.5-25 + 10-20	25-50

DELTAMETHRIN 0.02% w/w + ALLETHRIN 0.13% w/w	
Ready to use	Tto control cockroaches, mosquitoes and flies.

DELTAMETHRIN 0.5% w/w Chalk	
Ready to use household insecticide	To control Cockroaches, ants and bedbugs.

D-Trans Allethrin 0.1% w/w + Permethrin 0.03% w/w + Imiprothrin 0.02% w/w Aerosol (All Insect Killer Aerosol)	
Ready to use	To control cockroaches, mosquitoes and house flies.

DELTAMETHRIN 1%RTU	
Ready to use household insecticide.	To control Cockroaches in house. One litre of insect control of paints sufficient for an area of 22 sq. meter. Two coats of insect control paint are recommended giving 18 hours of drying between the coats.

D-TRANS ALLETHRIN 2% Mosquito Mat	
Ready to use household insecticide.	To control Adult Mosquitoes in house.

D-TRANS ALLETHRIN 0.1% w/w Mosquito Coil	
Ready to use household insecticide.	To control and repel of Adult Mosquitoes in the house.

D- ALLETHRIN 21.97 % w/w Mos. Mat.	
Used to control Adult Mosquitoes	Open Area like Park, Garden and Farm Houses etc only.

Emamectin Benzoate 0.1% w/w Gel Bait			
Common name of Insect/Pest	**Gram a.i. Dose**	**Formulation Dose**	**Application Usage s**
American Cockroach (*Periplaneta americana*)	0.001 g a.i. per square meter	1 .0 gram of gel bait per square meter (2 - 5 spots)	Place "Ready to Use Gel Bait" (RB) for use as spot or cracks and crevices treatment in residential institutional, commercial and industrial areas e.g. application at or near harbourage or aggregation areas, such as corners, areas where cockroaches forage or crack and crevices, holes, hidden surfaces, any other places where cockroaches are typically known to hide etsc. for the control of cockroaches.
German Cockroach (*Blattella germanica*)	0.001 g a.i. per square meter	1.0 gram of gel bait per square meter (1 - 2 spots)	

FENITROTHION 20% OL			
Pest	**a.i. (gm)**	**Formulation (ml)**	**Instruction for use**
Bedbug (*Cimex spp)*	2.0	10.0	Take 10 ml of BILFOL 20 and dilute in 200 ml of kerosene. Apply spot spray thoroughly in all bed bug infested areas like charpoy furniture etc. taking care that the spray is the directed into cracks and crevices where bedbugs are hiding. 200 ml of spray wash will approx cover $10m^2$ it can also be applied with a brush where ever bedbugs occur.

FIPRONIL 0.03% & 0.5%Gel	
Ready to use household insecticide.	Used to control of German & American Cockroaches.

Fipronil 0.05% GEL

House hold	Common name of	Dosage per sq. m	
House hold	American Cockroach (*Periplaneta americana*), German Cockroach (*Blatella germanica*)	0.03g (in a bait gun)	3 to 4 spot per square meter

IMIPROTHRIN 0.1% + CYPHENOTHRIN 0.13% w/w	
Ready to use	Used for controlling cockroaches in homes.

IMIPROTHRIN 0.7% w/w + CYPERMETHRIN 0.2% w/w aerosol	
Ready to use household insecticides	Used against Cockroaches.

IMIPROTHRIN 0.05% + CYPERMETHRIN 1.0% CL	
Ready to use	Used for controlling cockroaches in houses.

Imidacloprid 0.03% w/w Gel	
Species	Recommended Dose
Pharaoh ant (*Monomorium pharaonis*) Small black ant (*Monomorium indicum*) Crazy ant (*Paratrechina longicomis*) Ghost ant (*Tapinoma melanocephelum*)	Low infestation level (one spot of 200 mg/m^2 of infested area). Moderate to high infestation level (one spot of 300 mg/m^2 of infested area).
• Scoring of ant activity will be done based on the following: Low activity=1-50 ants passing from a given point in the time period of one minute. Medium activity=51-200 ants passing from a given point in the time period of one minute. High activity= 201 ants passing from a given point in the time period of one minute.	

IMIDACLOPRID 2.15% w/w GEL	
Ready to use household insecticide.	Used to control of German & American Cockroaches.

IMIDACLOPRID 21%w/w + Beta Cyfluthrin 10.5 % w/w SC		
Name of Insect pests	Places	Dosage
American Cockroaches & German Cockroaches	Private Houses,Factories,Offices,Market places,Restaurants,Hotels,Shopes,Ships, Hospital etc.	Diluter 4 ml of Imidacloprid 21%w/w + Beta Cyfluthrin 10.5 % w/w SC with 1 L of water. Apply 50 ml of this solution to spray per square meter ar or apply 1 L of this solution

		cover 20 square meter area

LAMBDA CYHALOTHRIN 0.5% Chalk	
Ready to use household insecticides	Used to control Cockroaches.

LAMBDA CYHALOTHRIN 2.43% CS			
Purpose and target pest	**Dosage per sq. m of netting**		
	a.i. (mg)	**Concentration of spray fluid**	**Quantity of spray fluid (ml)**
Impregnation of bed nets to prevent attack from mosquitoes	10.0	0.05%	800-1000 (depending on the type of the net)

LAMBDA CYHALOTHRIN 2.43% CS		
Common name of pest	**Dosage**	
	a.i.	**Formulation**
Adult mosquitoes	20-30 mg/m2	10-15 ml/litres of water to cover $50m^2$ area
Adult House flies		
Cockroaches		

LAMBDA CYHALOTHRIN 2.43% CS		
Target insect	**Dosage**	
	Mg a.i./m^2	**Method of application**
Non porous surfaces- Mosquitoes House flies & Cockroaches	12.5	Mix 20 ml of product in 1 liter of water & spray the solution uniformly @ 25 ml /m^2 on non porous & @ 50 ml /m^2 on porous surfaces.
Porous surfaces – Mosquitoes House flies & Cockroaches	25	

LAMBDA CYHALOTHRIN 2.43% CS			
Name of pest	**Dosage per sq. m**		
	a.i. (mg)	**Formulation (ml)**	**Dilution in water**
Cockroaches	50	1.0	Dissolve 500 ml of formulated material in 10 litre water to cover 500 square meter area.
Housefly , Adult mosquitoes	0.2	0.004	Dissolve 4 ml of formulated materi in 20 litre water to cover 1000 square meter area.

Indoor			
Name of pest	**Dosage per sq. m**		
	a.i. (mg)	**Formulation (ml)**	**Dilution in water**
Anopheles stephensi, Culex quinquefasciatus, Aedes aegypti	0.5	0.01	Dissolve 5 ml of formulated material in kerosene to cover 500 square meter area.
Outdoor			
Name of pest	**Dosage per sq. m**		
	a.i. (mg)	**Formulation (ml)**	**Dilution in water**
Anopheles stephensi, Culex quinquefasciatus, Aedes aegypti	3.5	70	Dissolve 70 ml Formulation in kerosene to cover 1 hectare Area.

MALATHION 2% House Hold Spray	
Ready to use	To control of Bed, Bugs, Flies, Ants, Mosquitoes, Gnats, Moths, Cockroaches in houses.

METOFLUTHRIN 0.005% (Mosquito Coil)-Min. 7 Hrs. Burning time	
Ready to use household insecticide.	To control of mosquitoes in houses.

PERMETHRIN 2% w/w (Olyset@Net) for Import only	
Ready to use household insecticides	For control of mosquitoes both indoors and outdoors. After unpacking and before using the new bed net, keep it in and open place for 12 hrs away from the sunlight.

PROTEAMPHOS 1% Spray	
Ready to use household Insecticide.	To control of Cockroaches, Bed bugs, Flies, fleas, Mosquitoes & silverfish.

PROPOXUR 0.75% + CYFLUTHRIN 0.025% Aerosol	
Ready to use household insecticide.	Cockroaches , Mosquitoes & houseflies

PROPOXUR 20% EC			
Common name of pest	**a.i (gm)**	**Formulation (ml)**	**Dilution in water (litres)**
Flying insect- Mosquitoes, files, cockroaches , bed bugs, flase , ticks crickets , woodlice , mite, silver fish, spider ants etc.	200	1000	40

PIRIMIPHOS METHYL 1% spray			
Location	**Pest**	**Dosage**	**Explosure period (min. hrs.)**
Spot spray in houses	Cockroach , bed bugs, flea etc.	100 ml/1m^2	1
Space spray in houses	Mosquitoe houseflies	50 ml/100m^3	1

PYRETHRIN 0.05% + MALATHION 1%	
Insects	Used to control of Cockroaches, Mosquitoes, Flies

PROPOXURE 2% Bait	
Ready to use household insecticides	Used to control of cockroaches and flies.

PYRETHRIN 0.2% w/w	
Ready to use household insecticide.	To control of cockroaches, houseflies & mosquito.

PROPOXURE 1% Spray	
Ready to use household insecticide.	Used to control of cockroaches and house flies, adult mosquitoes.

PRALLETHRIN 1% w/w Red Mosquitoes Mat	
Ready to use household insecticide.	Used to control of adult mosquitoes.

PRALLETHRIN 0.04% Coils (Min.11Hrs) (label expansion)	
Ready to use household insecticide.	Used to control mosquitoes in Houses

PRALLETHRIN 0.04% Coils (Min.6Hrs) (label expansion)	
Ready to use household insecticide.	Used to control mosquitoes in Houses

PRALLETHRIN 0.8% w/w Red Mosquitoes Mat	
Ready to use household insecticide.	Used to control of Mosquitoes.

PRALLETHRIN 0.5% w/w Mosquitoes Coil	
Ready to use household insecticide.	Used to control of adult mosquitoes.

PRALLETHRIN 1.2% Mat	
Ready to use household insecticide.	Used to control of adult mosquitoes.

PRALLETHRIN 0.04% w/w Mosquito Coil	
Ready to use household insecticide.	Used to control of adult mosquitoes.

PRALLETHRIN 19% w/w VP	
Ready to use household insecticide.	Used to control of adult mosquitoes.

PRALLETHRIN 2.4% w/w Liquid	
Ready to use household insecticide.	Used to control of Mosquitoes.

S – BIOALLETHRIN 2.4% Mosquitoes Mat	
Ready to use household insecticide.	Used to control of adult mosquitoes.

THIAMETHOXAM 0.01 %W/W GEL BAIT			
Commo Name of the Insect/P t	**Dose g.a.i.**	**Formulation Dose**	**Application/ age**

Black Carpente Ants (Campon us spp.)	0.0001g .i. per spot (2-4 spo per square meter)	1.0 ram of gel bait per spot (2-4 spots per square meter)	Locate the ant trails or location where ants are most active. Place"Read y to Use Gel Bait" (RB) for controlling ants for use as spot or cracks and crevices treatment in residential, Institutional , commercial and industrial areas e.g. application at or near harbourage or aggregation areas, such as corners areas where ants forage or crack and crevices, holes, hidden surfaces any other places where ants

			are typically known to hide.

TRANSFLUTHRIN 0.88% & 1.6% Liquid Vaporizer	
Ready to use household insecticide.	Used to control of adult mosquitoes and house fly.

TRANSFLUTHRIN 1.6% Liquid Vaporizer (For 30 Nights (25 ml)	
Ready to use household insecticide.	Used to control of adult mosquitoes.

TRANSFLUTHRIN 20% w/w MV Gel	
Ready to use household insecticide.	Used to control of Mosquitoes in the house.

TRANSFLUTHRIN 0.03% w/w Mosquito Coil	
Ready to use household insecticide.	Used for controlling / repelling of Mosquitoes in the house.

TRANSFLUTHRIN 1% EU (Smoke generator)	
Use / recommendation	It is used for controlling/repelling adult mosquitoes in the houses (Effective for 6 hrs.)

TRANSFLUTHRIN 1.2% Liquid Vaporizer (For 60 Nights (45 ml) & 90 nights (67ml.)	
Ready to use household insecticide.	Used to control of adult mosquitoes.

TRANSFLUTHRIN 12% AE	
Ready to use household insecticide.	Used to controlling/ repelling of adult mosquitoes in the houses (effective for 12 hours)

ZINC PHOSPHIDE 1% bait (Household Product)	
To be ready to use household insecticide	To control Rats

Ad-hoc approval for Fall Army Worm

Sr. no.	Molecule	Dose per ha. (a.i.) in gm. / ml.
1	Spinetoram 11.7% SC **(For Current Season)**	30
2	Chlorantraniliprole 18.05% SC **(For Current Season)**	40 & 50
3	Thiamethoxam 12.6% + Lambda Cyhalothrin 9.5% ZC **(For Current Season)**	27.5
4	Cyantraniliprole 19.8% + Thiamethoxam 19.8% FS **(Approval only up to 31st December, 2019).**	Seed treatment @ 6 ml/kg of seed.
5	**Bio-pesticide as below-** *Metarhizium anisopliae* *Metarhizium rileyi (Nomuraea rileyi)* *Beauveria bassiana* *Verticilium lecani*	1 × 108cfu/g) @ 5g/litre whorl application. Repeat after 10 days if required.
6	*Bacillus thuringiensis* v. *kurstaki* NPV	@ 2g/l (or) 400g/acre.

Government of India
Ministry of Agriculture & Farmers Welfare
Department of Agriculture, Cooperation & Farmers Welfare
Directorate of Plant Protection, Quarantine & Storage
Central Insecticide Board & Registration Committee N.H.-IV,
Faridabad-121001

MAJORUSES OFPESTICIDES
Registered under the InsecticidesAct,1968

AS ON 31.10.2019
FUNGICIDES

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

Fungicides single product formulations uses
Fungicides combination uses

Fungicides

Crop	Common name of the disease	Dosage perha			Waitingperiod fromlast applicationto harvest(in days)
		a.i. (g)	Formulation (g/ml)/%	Dilutionin water(L)	
Azoxystrobin 23% SC					
Grapes	Downy mildew Powdery mildew	125gm	500 ml	500-750	7
Chilli	Fruitrot Powdery mildew	125gm	500 ml	500-750	5
Mango	AnthracnosePowdery mildew	0.025%	0.1%	100ml/ 100 litofwater depending onthesize ofthetree canopy	5
Tomato	Early& Lateblight	125gm	500ml	500	3
Potato	Late Blight	125 gm	500 ml	500	12
Cucumber	Downey mildew Powdery mildew	125 gm	500	500	5
Cumin	Blight & Powdery mildew	115 gm	500	500	28
Bitertanol25%WP					
Groundnut	Rust	250gm	1000gm	500	30
	Tikka	250gm	1000gm	500	30
Wheat	Karnalbunt	560gm	2240gm	750	-
Captan 50% WG					
Chillies	Fruitrot (Anthracnose)	750gm	1500gm	500	5
Potato	Early blight&Lateblight	750gm	1500gm	500	21
Captan 50% WP					
Apple	Scab	1250gm	2.5kg	750-1000	-

Cherry	Brownrot	1250gm	2.5kg	750-1000	-
Grapes	Downey mildew	1250gm	2.5kg	750-1000	-
Potato	Early blight	1250gm	2.5kg	750-1000	-
	Lateblight	1250gm	2.5kg	750-1000	-
Tomato	Early blight	1250gm	2.5kg	750-1000	-
	Lateblight	1250gm	2.5kg	750-1000	-
Captan 75% WP					
Apple*	ScabFly speck Bitterrot	0.12%**	1667gm	15-20**	8
Cherry	Brownrot	0.12%**	1667gm	15-20**	NA
Grape	Downy mildew	1250gm	1667gm	1000	8
Cabbage/ Cauliflower, Tomato, Brinjal, Chillies, Beans, Ornamental	Damping off (Nursery)	0.25%	2500gm	1000 Soildrench inthe nursery	NA
Potato	Early blight	1250gm	1667gm	1000	8
	Lateblight	1250gm	1667gm	1000	8
Tomato	Early blight	1250gm	1667gm	1000	6
	Lateblight	1250gm	1667gm	1000	6
Chillies	Early blight	1250gm	1667gm	1000	8
	Fruitrot	1500gm	2000gm	1000	8
Citrus	Brownrot	0.25**	2500gm	15-20**	NA
	Scab	0.12**	1667gm	15-20**	NA
Rose	Blackspot	1250gm	1667	1000	NA
Paddy	Leafspot	750gm	1000gm	750	NA
Captan75%WS					
Chillies (soildrench)	Damping off (soil drench)	15-25 gmper kgseed	20-30gm perkgseed	1	
Cabbage	Damping off (soil drench)	15-25gmper kgseed	20-30gm perkgseed	1	

Tomato	Damping off (soil drench)	15-25 gmper kgseed	20-30gm perkgseed	1	
Tobacco	Damping off (soil drench)	15-25 gmper kgseed	20-30gm perkgseed	1	
Carbendazim 5% GR					
Paddy	Brownleaf spot	0.62kg	12.5 kg	-	
Carbendazim 46.27% SC					
Grape	Powdery mildew	0.046% or 46 g /100 litwater	0.1%or100 ml/ 100litWater	Asrequired	30
Mango	Powdery mildew	0.046% or 46 g/100 litwater	0.1%or100 ml/100litW ater	Asrequired	15
Carbendazim 50%WP					
Paddy	Blast	125-250 gm	250-500gm	750L	-
	Sheath blight	1gm/ kg seed	2 gm/ kg seed	(1ltr/10 kg seed)(seed treatment)	(wet slurry treatment)
	Aerial phase	125-250 gm	250-500gm	750	-
Wheat	Loosesmut	1gm/kg seed	2g/kg seed	(1ltr/10 kg seed)(seed treatment before sowing)	(wet slurry treatment)
Barley	Loosesmut	1 gm/kg	2 gm/kg	(1ltr/10 kg seed)(seed treatmentbefore sowing)	(wet slurry treatment)
Tapioca	Setrot	0.5gm	1gm	1	-
Cotton	Leafspot	125	250	750	-
Jute	Seedling blight	1gm/kg seed	2gm/kg seed	(1ltr/10kg seed) (seed treatment)	(wet slurry treatment)
Groundnut	Tikkaleaf Spot	112.5 gm	225gm	750	-
Sugar beet	Leafspot	100gm	200gm	400	-
	Powdery mildew	100gm	200gm	400	-
Peas Cluster	Powdery mildew	125gm	250gm	600	-

Beans	Powdery mildew	175gm	350gm	750	-
Cucurbits	Powdery mildew	150gm	300gm	600	-
	Anthracnose	150gm	300gm	600	-
Brinjal	Leafspot	150gm	300gm	600	-
	Fruitrot	150gm	300gm	600	-
Apples	Scab	1.25gm	2.5gm	10pertree	-
Grapes	Anthracnose	150gm	300gm	600	-
Walnut	Downyleaf spot	1.5gm	3gm	10pertree	-
Rose	Powdery mildew	0.5gm	1gm	2	-
Ber	Powdery mildew	5gm	10gm	10pertree	-
Carboxin75%WP					
Wheat	Flagsmut	1.5 -1.875 gm/ kg seed	2-2.5 gm/ kgseed	N/A	Onlyonetime seedtreatment required
	Loosesmut	1.5 - 1.875 gm/ kg seed	2-2.5 gm/kgseed	N/A	Onlyonetime seedtreatment required
	Bunt	1.5 - 1.875 gm/ kg seed	2-2.5 gm/ kgseed	N/A	Onlyonetime seedtreatment required
Barley	Loosesmut	1.5 - 1.875 gm/ kg seed	2-2.5 gm/ kgseed	N/A	Onlyonetime seedtreatment required
	Covered smut	1.5 - 1.875 gm/ kg seed	2-2.5 gm/ kgseed	N/A	Onlyonetime seedtreatment required
Cotton	Angular leafspot	1.5 - 1.875 gm/ kg seed	2-2.5 gm/ kgseed	N/A/	Onlyonetime seedtreatment required
Carpropamid27.8%SC					
Rice	Blast	0.03%	0.1%	300-500 depending uponcrop stage	
Chlorothalonil 75% WP					
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& lateblight	0.66 - 0.937 gm	0.875-1.250 gm	600-800	14
Apple	Scab	0.150%(150 gm/100L water)	0.200%(200g m/100L water)	10 L water per tree	45 days
Grapes	Anthracnose and Downy mildew	0.15%(150 gm/100L water)	0.2%(200gm/ 100L water)	100	60
Chilli	Fruit rot	600	800	750	10
Cauliflower	Leaf spot	1.5 g a.i./L	2.0 g/L	500	3
Watermelon	Downy mildew and Leaf spot	1.5 g a.i./L	2.0 g/L	500	3
Copper Oxychloride 50% WG					
Grape	Downy mildew	0.12% or120 g/100lt. water	0.24%or 240g/100lt. water	Asrequired depending uponPP equipment	30
Mango	Anthracnose	0.12% or120 g/100lt. water	0.24%or 240g/100lt. water	Asrequired depending uponPP equipment	10
Copper oxy chloride 50% WP					
Citrus	Leaf Spot	1.25	2.5	750-1000	-
	Canker	1.25	2.5	750-1000	-
Cardamom	Clump Rot	1.87-3.75	3.75-5.5	750-1000	-
	Leaf Spot	1.25	2.5	750-1000	-
Chillies	Leaf Spot	1.25	2.5	750-1000	-
	Fruit Rot	1.25	2.5	750-1000	-
Betel	Foot Rot	1.25	2.5	750-1000	-
	Leaf Spot	1.25	2.5	750-1000	-
Banana	Fruit Rot	1.25	2.5	750-1000	-
	Leaf Spot	1.25	2.5	750-1000	-
Coffee	Black Rot	1.87-3.75	3.75-5.5	750-1000	-
	Rust	1.87-3.75	3.75-5.5	750-1000	-
Potato	Early Blight	1.25	2.5	750-1000	-
	Late Blight	1.25	2.5	750-1000	-
Tobacco	Downy Mildew	1.25	2.5	750-1000	-

	Black Sank	1.25	2.5	750-1000	-
	Frog eye leaf	1.25	2.5	750-1000	-
Tomato	Early Blight	1.25	2.5	750-1000	-
	Late Blight	1.25	2.5	750-1000	-
	Leaf Spot	1.25	2.5	750-1000	-
Grapes	Downy Mildew	1.25	2.5	750-1000	-
Coconut	Bud Rot	1.25	2.5	750-1000	-
COPPER HYDROXIDE 53.8% DF					
Potato	Late blight	525	1500	500	22
Grape	Downy mildew	525	1500	500	12
Paddy	False smut	525	1500	500	10
	Bacterial leaf blight	525	1500	500	10
Chilli	Anthracnose	350	1500	62	22
Rice	False smut - Bacterial leaf blight	525	1500	35	10
Copper Hydroxide 77% WP					
Rice	Falsesmut	1000gm	2000gm	750	
Cymoxanil50%WP					
Grapes	Downey mildew	0.12%	0.24%or 240gm/100 Litrewater	Asrequired depending upon the crop stage and equip-ment used	15
Cyazafamid 34.5% SC					
Potato	Late blight	80g	200ml	500	27
Tomato	Late blight	80g	200ml	500	3-5
Grapes	Downy mildew	80g	200ml	500	7
Difenoconazole 3% WS					
Wheat	Loose smut	6.0 g/100 kg seed	200 g /100 kg seed	10-20 ml water / kg seed	This is used as seed dresser
Difenoconazole25% EC					
Apple	Scab	0.004% or4 g/100lt.	0.015%or 15ml/100 lt.water	Asrequired depending upon the size of the plant and	14

		water		plant protection equipment used	
Rice	Sheath blight	0.0125% or 12.5g/100lt. water	0.05%or50 ml/100lt. water	500-1000 (or as per the size of plant canopy)	25
Chilli	Die-back Fruitrot	0.0125% or 12.5g/100 lt. water	0.05%or50 ml/100lt. water	500	15
Cumin	Blight (*Alternaria burnsii)* Powdery mildew *(Erysiphae polygonii)*	0.0125% or 12.5 g/100 lit. water	0.05% or 50 ml/100 lit. water.	500	15
Onion	Purple blotch *(Alternaria porri)*	0.025% or 25 g/100 lit. water	0.1% or 100 ml/100 lit. water.	500	20
Pomegranate	Fruit rot	0.025% or 25g/100ltr. water	0.1% or 100 ml/100 lit. water.	500	7
Grape	Anthracnose Powdery mildew	0.0075% or 7.5 g/l00lit water	0.03% or 30ml/100lit of water	500	42
Dimethomorph50%WP					
Grapes	Downy mildew (Plasmoparaviticola)	500gm	1000gm	750L	25
Potato	Lateblight (Phytophthora infestans)	500gm	1000gm	750L	16
Dinocap 48% EC					
Mango	Powdery mildew	2.4gm	5gm	10	-
Rose	Powdery mildew	0.96gm	2ml	10litwater	-
Dithianon 75%WP					
Apple	Scab	1350gm	1800gms	2400L	14-21

Dodine 40% SC					
Apple	Alternaria leaf blight/Blotch	0.05	0.075	10 ltr. / tree	21
	Premature leaf fall	0.05	0.075	10 ltr./ tree	21
Dodine 65% WP					
Apple	Scab	0.05%	0.075%	10	21
Ediphenphos 50% EC					
Paddy	Blast	250-300	500-600	750-1000	21
	Brownleaf spot	250-300	500-600	750-1000	21
Flusilazole 40% EC					
Rice	Sheath Blight	120g ai/ha	300ml/ha	500	24
Chilli	Powdery Mildew	40-60 g a.i/ha	100-150 ml/ha	500	5
Fluxapyroxad 333 g/l FS					
Sorghum	Anthracnose	0.33	1.0 ml/kg seed	Sufficient to coat the seeds uniformly	N.A (Seed Dresser)
Fosetyl-AL 80% WP					
Grapes	Downey mildew	1120- 1600 gm	1400- 2000 gm	750-1000	30
Cardamom	Azhukal diseaseand Damping off	1800-2400gm	2250-3000 gm	750-1000	90
Hexaconazole2%SC					
Chillies	Powdery mildew& Fruitrot	60gm	3.0L	500	7
Potato	Early blight& Lateblight	60gm	3.0L	500	21
Grapes	Powdery mildew	30-60 gm	1.5-3.0L	500-750 depending uponcrop canopy	14
Hexaconazole 5% EC					
Apple	Scab	0.0025%	0.05% (50ml/100lt)	Asrequired	30
Rice	Blast Sheath blight	50gm	1000 ml	500	40
Groundnut	Tikkaleaf spot	75gm	1500 ml	500	30

Mango	Powdery mildew	0.005% (5g/100 lit)	0.1% (100ml/100 lt)	Asrequired	30
Soybean	Rust	0.005% (5g/100 lit)	0.1%or (100ml/100 lit)	Asrequired	30
Tea	Blister blight	10gm	200ml	70-90 with power sprayers 175-200 withknap Sack sprayer	7
Grapes	Powdery mildew	25-50gm	500-1000ml	500	14
Hexaconazole 5 % SC					
Mango	Powdery mildew	0.01% (10 g/100 lt water)	0.2%or (200ml/100 lt.water)	Asrequired depending onsizeof treeand plant protection equipment used.	27
Rice	Sheath blight	0.01% (10 g/100lt water)	0.2%or (200ml/100 lt.water)	Asrequired depending onsizeof treeand plant protection equipment used	40
Grapes	Powdery mildew	25-50 gm	500-1000	500	14
Hexaconazole 75 % WG					
Paddy	Sheath blight&Sheath rot	50	66.7	500	30
Iprodione 50% WP					
Rapeseed Mustard	Alternaria blight	1.125Kg - 1.5 kg	2.25kg-3kg	750-1000	50
Rice	Sheath blight	1.125kg	2.25kg	750	35
Tomato	Early blight	0.75kg	1.5kg	500	15
Grapes	Anthracnose	0.5-1.0 kg	1.0–2.0kg	500	20
Isoprothiolan 40% EC					
Rice	Blast	300	750	500-1000	60
Kasugamycin 3% SL					
Rice	Blast	30-50 gm 0.030% 0.050%	1000-1500 ml	750-1000	30
Kitazin 48% EC					
Rice	Blast, Sheath Blight	0.10% or100 gramin 100lit	0.20%or 200mlin 200litof water	Asrequired depending upon crop stageand plant protection	15

		ofwater		equipment used	
Chilly	Fruit rot /dieback	0.10% or100 gramin 100lit ofwater	0.20%or 200mlin 200litof water	Asrequired depending upon crop stageand plant protection equipment used	3
Tomato	Early blight	0.10% or100 gramin 100lit. ofwater	0.20%or 200mlin 200lt. of water	Asrequired depending upon crop stageand plant protection equipment used	5
Potato	Early blight	0.10% or100 gramin 100lit. ofwater	0.20%or 200mlin 200litof water	Asrequired depending upon crop stage and plant protection equipment used	48
Onion	Purple blotch	0.10% or100 gramin 100lit. ofwater	0.20%or 200mlin 200lt. of water	Asrequired depending upon crop stage and plant protection equipment used	63
Pomegranate	Anthracnose	0.10% or100 gramin 100lit. ofwater	0.20%or 200mlin 200lt. of water	Asrequired depending upon crop stage and plant protection equipment used	10
Grape	Anthracnose	0.10% or100 gramin 100lit ofwater	0.20%or 200mlin 200litof water	As required depending upon crop stage and plant protection equipment used	15
Kresoxim-methyl 44.3% SC					
Paddy	Blast Sheath Blight	250gm	500 ml	500	30
Grapes	Powdery mildew Downey mildew	300-350 gm	600-700ml	500	07
Chillies	Powdery mildew Fruit rot , die	250	500	500	3

	back, twig blight				
Soybean	Rust	250	500	500	43
Potato	Early blight & late blight	250	500	500	23
Cotton	Leaf spot Grey mildew	250	500	500	26
Wheat	Rust Leaf blight	250	500	500	34
Maize	Turcicum leaf blight Rust	250	500	500	25
Lime Sulphur 22% SC					
Apple	Scale Powdery mildew	This liquid is used at one per cent in conventional sprayers: Doses 2-5 lit/ha			2%pre and 1% postblossom
Bean	Rust	This liquid is used at one per cent in conventional sprayers: Doses 2-5 lit/ha			-
Cherry	Leafspot	This liquid is used at one per cent in conventional sprayers: Doses 2-5 lit/ha			Three applications: after petal fall 2 week later & after harvest
Grape	Powdery mildew	This liquid is used at one per cent in conventional sprayers: Doses 2-5 lit/ha			Feb followed by twodustings in summer
Peach	Leafcurl Brownrot Powdery mildew	This liquid is used at one per cent in conventional sprayers: Doses 2-5 lit/ha			Only 1 1 application before the petal swell. Three pre-harvest applications
Pear	Blackspot	This liquid is used at one per cent in conventional sprayers:Doses 2-5 lit/ha			At white bud, Petal fall.

Plum	Blackspot	This liquid is used at one per cent in conventional sprayers:Doses 2-5 lit/ha			Delayeddormant spray
Rose	Powdery mildew	This liquid is used at one per cent in conventional sprayers:Doses 2-5 lit/ha			Delayeddormant spray
Mancozeb35%SC					
Tomato	Early blight& Lateblight	0.175% or175 gm/100 Lt. water	0.5%or500 gm/100lt. water	500Lt Water or as required depending upon crop stage and equipment used	10
Mancozeb 75% WG					
Tomato	Early Blight	750gm	1000gm	500Lit	5-6
Mancozeb75%WP					
Wheat	Brown& black rust	1.125-1.5 kg	1.5-2kg	750Lt	-
	Blight	1.125-1.5 kg	1.5-2kg	750Lt	-
Maize	Leafblight	1.125-1.5 kg	1.5-2kg	750Lt	-
	Downy mildew	1.125-1.5 kg	1.5-2kg	750Lt	-
Paddy	Blast	1.125-1.5 kg	1.5-2kg	750Lt	-
Jowar	Leafspot	1.125-1.5 kg	1.5-2kg	750Lt	-
Potato	Lateblight	1.125-1.5 kg	1.5-2kg	750Lt	-
	Early blight	1.125-1.5 kg	1.5-2kg	750Lt	-
Tomato	Lateblight	1.125-1.5 kg	1.5-2kg	750Lt	-
	Buckeye rot	1.125-1.5 kg	1.5-2kg	750Lt	-
	Leafspot	1.125-1.5 kg	1.5-2kg	750Lt	-
Chilies	Damping off	2.25g	3g (soil drench)	1Lt	-
	Fruitrot	1.125-1.5kg	1.5-2kg	750Lt	-
	Riperot	1.125 -1.5 kg	1.5-2kg	750Lt	-
	Leafspot	1.125 -1.5 kg	1.5-2kg	750Lt	-

Onion	Leafblight	1.125-1.5	1.5-2kg	750Lt	-
Tapioca	Leafspot	1.125-1.5kg	1.5-2kg	750Lt	-
Cauliflower	Collarrot	2.25gm	3gm	1Lt	-
	Leafspot	1.125-1.5kg	1.5-2kg	750Lt	-
Groundnut	Tikka disease& rust	1.125-1.5kg	1.5-2kg	750Lt	-
	Collar rot Leaf spot	18.75 to 22.50/ 10 kg seed	25 to 30/ 10 kg seed	0.1 (water slurry)	-
Grapes	Angular leafspot	1.125-1.5kg	1.5-2kg	750Lt	-
	Downy mildew	1.125-1.5kg	1.5-2kg	750Lt	-
	Anthracnose	1.125-1.5kg	1.5-2kg	750Lt	-
Guava	Fruitrot	15g	20g	10/treeLt	-
Banana	Cigar end rot	1.125-1.5 kg	1.5-2kg	1000Lt	-
	Tip rot	1.125-1.5 kg	1.5-2kg	1000Lt	-
	Sigatoka leafspot	1.125-1.5 kg	1.5-2kg	1000Lt	-
Apple	Scab& sooty blotch	22.5 g /tree	30gm/tree	10Lt/tree	-
Cumin	Blight	1.125-1.5 kg	1.5-2kg	500Lt	-
Mandipropamid 23.4% SC					
Grapes	Downy mildew	0.2 ml/lit	0.8 ml/lit	500-1000	5
Potato	Late blight	0.2 ml/lit	0.8 ml/lit	500-750	40
Tomato	Late blght	0.02% or 0.2 m/L	0.08% or 0.8m/L	500	5
Metalaxyl-M 31.8% ES					
Maize	Downey mildew	0.76 g/kg seed	2.4 ml/kg seed		This is used as a seed dresser
Mustard	Downey Mildew and White rust	1.11	3.5		
Chilli	Damping Off	0.64	2.0		
Tomato	Damping Off	0.64	2.0		
Pearl millet	Downey mildew	0.7 g/kg seed	2.0 ml/kg seed		
Sorghum	Downey mildew	0.7 g/kg seed	2.0 ml/kg seed		

Sunflower	Downey mildew	0.7 g/kg seed	2.0 ml/kg seed		
Metalaxyl35%WS					
Maize	Sorghum downy mildew Sugarcane downy mildew Phillippine downy mildew Browny stripe downy mildew	Slurryseed treatment with240g/ 100 kg seed	700g/100 kgseed	0.75-1.0/100kg seed	3½-4months dependingonthe variety
Bajra	Downy mildew	Slurry seed treatment with 200g/100 kgseed	600g/100 kgseed	0.75-1.0/100kg seed	3-3½months dependingonthe variety
Sorghum	Downy mildew	Slurry seed treatment with 200g/100 kgseed	600g/100 kgseed	0.75-1.0/100kg seed	3½-4months dependingonthe variety
Sunflower	Downy Mildew.	Slurry seed treatment with 200g/100 kgseed	600g/100 kgseed	0.75-1.0/100kg seed	3½-4months dependingonthe variety
Mustard	Whiterust	Slurry seed treatment with 200g/100 kgseed	600gm/100 kgseed	0.75-1.0/100kg seed	3½-4months dependingonthe variety
Metiram70%WG					
Tomato	Alternaria blight (Alternaria solani)	1750gm	2500gm	500-750lt	6
Groundnut	Tikka (Cercosporaspp.)	1400gm	2000gm	500-750Lt.	16
Potato	Lateblight (*Phytopthora infestans*)	1400gm	2000gm	500-750Lt.	21
	Early Blight (*Alternaria solani*)	1400gm	2000gm	500-750Lt.	21

Grape	Downy mildew	1400gm	2000gm	500-750Lt.	07
Metrafenone 500 g/l SC					
Grape	Powdery Mildew	125	250	750	22
Mango	Powdery Mildew	200	0.2ml/l	1000	35
Apple	Powdery Mildew	187.5	0.15ml/l	2500	42
Myclobutanil 10% WP					
Apple	Scab	0.004%	0.04%	10 lit/ tree	21
Grape	Powdery mildew	0.004%	0.04%	500 lit/ha	15
Chilies	Powdery mildew Leafspot Dieback	0.004%	0.04%	500lit/ha	03
Oxathiapiprolin 10.1% W/W OD					
Potato	Late blight	20	200	500	22 days
Grapes	Downey mildew	40	400	1000	5 days
Penconazole 10% EC					
Grapes	Powdery mildew (Unicinula necator)	0.005% or5 gm/100 Lt. water	50ml/100Lt. water	Dependinguponthe requirement	30
Apple	Scab (Venturia inaeqalis)	0.005% or5 gm /100 lit water	50ml/100Lt. water	10Lt. waterper tree	30
Mango	Powdery mildew (Odium mangiferae)	0.005% or5 gm/100 Lt. water	50ml/100Lt. water	10Lt. waterper tree	30
Pulses (Black Gram /Greengram)	Powdery mildew (Erysiphe polygoni)	0.005% or5 gm/100 Lt. water	50ml/100Lt. water	500Lt/ha	30
Penflufen 22.43 % FS					

Potato	Black Scurf (*Rhictonia solani*)	0.02	0.083	83	800 kg seed tubers of potato are dipped in the solutions of fungicide for 10 minutes. Tubers after treatment are dried in shade and then sown.
Pencycuron 22.9% SC					
Rice	Sheath blight	150-187.5gm	600-750ml	500Lt.	-
Picoxystobin 22.52% w/w SC					
Rice	Rice blast	150	600	500	12
Grape	Downey Mildew, Powdery Mildew	100	400	750-1000	7
Propiconazole 25% EC					
Wheat	Karnal bunt (Neovossia indica)	125gm	500gm	750	30
	Leaf rust / Brown Rust (Puccinia recondite F.sp. tritici)	125gm	500gm	750	30
	Stemrust (B. graminisf.sp. tritici)	125gm	500gm	750	30
	Stripe rust /Yellow Rust (P. striiformis)	125gm	500gm	750	30
Rice	Sheath blight (Rhizoctoniasolani f.sesakii)	125gm	500gm	750	30
Groundnut	Earlyleaf spot (Cercospora arachidicola)	125gm	500gm	750	15
	Lateleaf spot (C. personata)	125gm	500gm	750	15
	Rust (Puccinia arachidis)	125gm	500gm	750	15

Tea	Blister blight	31.25-62.50gm	125-250gm	175-250	7
Soyabean	Rust	125gm	500gm	500	26
Cotton	Alternaria leaf spot	125gm	500gm	500	23
Propiconazole 10.7%+ Tricyclazole 34.2% SE					
Paddy	Sheath blight Blast	0.045	0.1	500	23
Propineb70%WP					
Apple	Scab	0.21%or 210 g/100Lt. water	0.30%or300 gram/100Lt. water	As required depending uponsize ofthetree andplant protection equipment used	30
Pomegranate	Leafand fruitspots	0.21%or 210 g/100Lt. water	0.30%or300 gram/100Lt. water	As required depending uponsize ofthetree andplant protection equipment used	10
Potato	Early& lateBlight	0.21%or 210 g/100Lt. water	0.30%or300 gram/100Lt. water	As required depending uponcrop stageand plant protection equipment used	15
Chilli	Dieback	0.35%or 350 g/100Lt. water	0.5%or500 gram/100Lt. water	As required depending uponcrop stageand plant protection equipment used	10
Tomato	Buckeye rot	0.21%or 210 g/100Lt. water	0.30%or300 gram/100Lt. water	As required depending uponcrop stageand plant protection equipment used	10

Grapes	Downy Mildew	0.21%or 210 g/100Lt. water	0.30%or300 gram/100Lt. water	As required depending uponcrop stageand plant protection equipment used	40
Rice	Brownleaf Spot and Narrow leaf spot	1050to 1400 g	1500to2000 g	Use 500 litrespray volume/ hectare	-
Cotton	Alternaria leaf spot	875-1050	1250-1500	500l/ha	27
Pyraclostrobin 20% WG					
Tomato	Early blight	75-100 gm	375-500gm	500	3
Soybean	Frog eye leaf spot (cercospora)& Alternaria leaf spot	75-100	375-500	500	26
Cotton	Alternaria Leaf blight	100	500	500	14
Groundnut	Tikka disease	100	500	500	29
Pyraclostrobin 100g/l CS					
Paddy	Blast Disease	100	1000	500	18
(Streptomycin Sulphate 90% + Tetracylin Hydrocloride 10%) SP					
Apple	Fireblight	-	Spray Streptocycline25to50 ppmsolution at20to30% bloom.Itis advisableto spraytrees every3to4 days during blossomtime	-	-
Beans	Haloblight	-	Spray Streptocycline100to 150ppm solution thriceat	-	-

			intervalof7 days.For prevention applyfirst spray10 days after emergence ofleaf.		
Citrus	Citrus canker	-	Spray Streptocycline50to100 ppm solution repeatedly atan intervalof 15to20 days after the appearance ofnew growth. Coverthe foliageand youngfruits fully.	-	-
Potato	Blackleg andsoft rot, bacterial brownwilt orringor thebangle diseaseof potato	-	**Seeds treatment**: Prior to planting soak potato seed tubers in streptocycline40to100 ppm solution for half anhour. **Spray:**Two tothree sprays of40 to50ppm solutionat aninterval of20days. Firstspray 30days after planting.	-	-
Tobacco	Wildfire	-	Spray Streptocycline 40to100 ppm solution at two leaf stageofthe	-	-

			plant. Repeated application at an intervalof 7 days is necessary till the plants get established inthefield.		
Tomato	Bacterial leafspot	-	Spray seedlings with streptocycline 40to100 ppm solution in seed beds and fields after the appearance of first true leaves two sprays of streptocycline, one before transplanting and another after areeffective for controlling thedisease.	-	-
Paddy	Bacterial leafblight	-	**Seeds treatment:** Prepare streptocycline 40 ppm solutionand soak seeds for12hours at room temperature before sowing. **Seedling treatment:**Dip the seeding in streptocycline 40to100 ppm solution. The antibiotic will be absorbed	-	-

			through the injured roots and penetrate the vascular bundles insides the seedlings. **Spray:** Spray streptocycline 100to 150ppm solutionat earlyroot stage. Second spray,if necessary beforegrain set.		
Tea	Blister Blight	-	It is fungal disease and can be controlled by spraying 40gmswith 350 to 420 gms copper oxychloride (50% Wettable power) in 67 liters of water per hectare with air blast sprayer, covering tworowson eitherside.	-	-
Sulphur40%WP					
Cotton	Mites	1.50-2.00 Kg	3.75-5.00kg	750-1000	-
Beans	Powdery mildew	2.25-3.00 kg	5.65-7.50kg	750-1000	-
Cumin	Powdery mildew	1.40Kg	3.50kg	1000	-
Grapes	Powdery mildew	1.22kg	3.00kg	1000	-
Groundnut	TikkaLeaf spot	2.25-3.00 kg	5.65-7.50kg	750-1000	-
Mango	Powdery mildew	1.50-2.00Kg	3.75-5.00kg	1000	-

Opium	Powdery mildew	1.16kg	3.00kg	1000	-
Peas	Powdery mildew	2.25-3.00kg	5.65-7.50kg	750-1000	-
Roses	Powdery mildew&RedSpiderMite	1.50-2.00Kg	3.75-5.00kg	1000	-
Sorghum	Mites	0.75-1.00kg	2.00-2.50kg	750-1000	-
Tea	Pink&Purple Mites	1.00-2.00kg	2.50-5.00kg	750-1000	-
Sulphur 52% SC					
Tea	RedSpider mites	1.04Kg	2.00Lt.	400	-
Pea	Powdery mildew	1.04Kg	2.00Lt.	400	-
Chilli	Powdery mildew	1.04Kg	2.00Lt.	400	-
Sulphur 55.16 % SC					
Grapes	Powdery mildew	0.165% or165 g/100Lt. water	0.30%or300 ml/100Lt. water	As required	10
Mango	Powdery mildew	0.165% or165 g/100Lt. water	0.30%or300 ml/100Lt. water	As required	10
Sulphur 80% WP					
Apple	Powdery mildew	2-4kg	2.5-5.0Kg	750-1000	-
Grapes	Powdery mildew	2-4kg	2.5-5.0Kg	750-1000	-
Groundnut	Tikka Leaf spot	2-4kg	2.5-5.0Kg	750-1000	-
Cowpea, Moong/Urid	Powdery mildew	2.5kg	3.13Kg	750-1000	-
Pea	Rust	2.5kg	3.13Kg	750-1000	-
Sorghum	Grainsmut	2.4-3.2 g/kg seed	3-4g/kg seed	1Lt/10kg seed	-
Chillies & Okra	Powdery mildew	2.5kg	3.13Kg	750-1000	-
Mango	Powdery mildew	2.5kg	3.13Kg	750-1000	-
Citrus	Powdery mildew	2.5kg	3.13Kg	750-1000	-
Tea	Redspider mite	0.8kg	1kg	200	-
	Pink&Purplemite	0.8Kg	1Kg	200	-

Sulphur80%WG					
Grapes	Powdery mildew	1.50-2.00 kg	1.875-2.50 Kg	750-1000	-
Cowpea	Powdery mildew	1.50-2.00 kg	1.875-2.50 Kg	750-1000	-
Guar	Powdery mildew	1.50-2.00 kg	1.875-2.50 Kg	750-1000	-
Pea	Powdery mildew	1.50-2.00 kg	1.875-2.50 Kg	750-1000	-
Cumin	Powdery mildew	1.50-2.00 kg	1.875-2.50 Kg	750-1000	-
Apple	Scab	1.50-2.00 kg	1.875-2.50 Kg	750-1000	-
Mango	Powdery mildew	1.50-2.00 kg	1.875-2.50 Kg	750-1000	-
Wheat	Powdery mildew	1.50-2.00 kg	1.875-2.50 Kg	750-1000	-
Sulphur85%DP					
Grape	Powdery mildew	12.75-17kg	15-20kg	-	-
Groundnut	TikkaLeaf spot	12.75-17kg	15-20kg	-	-
Beans	Powdery mildew	12.75-17kg	15-20kg	-	-
(Cowpea, moong, urid)	Rust	12.75-17kg	15-20kg	-	-
Pea	Rust	12.75-17kg	15-20kg	-	-
	Powdery mildew	12.75-17 kg	15-20kg	-	-
Rubber	Powdery mildew	31.86kg	37.5kg	-	-
Cumins& Coriander	Powdery mildew	12.75-17 kg	15-20kg	-	-
Tobacco	Powdery mildew	85kg	100kg	-	-
Tebuconazole 2% DS					
Wheat	Loosesmut Flag smut	0.2kg/10kg seed	10Lt/10kg seed		
Groundnut	Collarrot Rootrot Stemrot	0.2to 0.25kg/10kg seed	10 to 12.5Lt/10 kgseed		
Tebuconazole 5.36% FS					

Wheat	Loose smut	0.2	3.33/10kg of seed	- TETRACONAZOLE	-
Tebuconazole 54% w/w FS					
Groundnut	Collarrot, Stemrot, Wilt	0.24 g/10 Kg of seed	4.0 ml/10 Kg of seed	-	Seed Dresser
Chickpea	Rootrot, Wilt	0.24 g/10 Kg of seed	4.0 ml/10 Kg of seed	-	Seed Dresser
Tebuconazole25.9%m/mEC					
Chili	Fruitrot Powdery mildew	0.125-0.1875 kg	0.50-0.75 lit	500	5
Groundnut	Tikka& rust	0.125-0.1875 kg	0.50-0.75 lit	500	49
Rice	Blast, Sheath Blight	0.1875 kg	0.750 lit	500	10
Onion	Purple Blotch	0.1563-0.1875	0.625-0.750	500	21
Soybean	Anthracnose (pod blight)	0.1563	0.625	500	14
Tebuconazole25% WG					
Chilli	Powdery mildew, fruit rot	0.125-0.1875	0.500-0.750	500	5
Groundnut	Tikka leaf spot, rust	0.125-0.1875	0.500-0.750	500	22
Rice	Blast	0.1875	0750	500	10
Tebuconazole 38.39% w/w SC					
Wheat	Leaf blight	258	600	375-500	5
Cabbage	Altenaria leaf spot	258	600	375-500	5
Tetraconazole 3.8% w/w EW					
Grape	powdery mildew	25-30	625-750	500-1000	30

Mango	powdery mildew	50	1250	1000	24
Watermelon	powdery mildew	38	1000	500	12
Tetraconazole 11.6% w/w (12.5% w/v) SL					
Cotton	Root rot (*Rhizoctonia solani*)	15	120	Sufficient to coat the seed uniformly	NA (Seed dresser)
Thifluzamide24%SCw/w					
Rice	Sheath Blight, Rhizoctoniasolani	90gm	375 gm	500	28
Tomato	Early blight	120	500	500	7
Potato	Black Scurf	0.6g a.i./10 kg potato tuber	2.5ml/10 kg potato tuber	-	Used as seed treatment
ThiophanateMethyl70%WP					
Papaya	Powdery mildew	500gm	715gm	750-1000	4-8
Apple	Scab	500gm	715gm	750-1000	3
Tomato	Ring rot	500gm	715gm	750-1000	7
Bottle gourd	Anthracnose	1000gm	1430gm	750-1000	1
Grapes	Powdery Mildew, Anthracnose ,Rust	500 500 500	715 715 715	750-1000 750-1000 750-1000	14 14 14
ThiophanateMethyl70%WG					
Bottle gourd	Anthracnose	750-1000	1070-1430	750-1000	1
Thiram 40 FS					
Maize	Seedling blight	9.6	24	100 ml to make slurry	-
Thiram75%WS					
Groundnut	Collarrot	37.5gm	50gm	1	7-10
Wheat	Flagsmut	18.8-22.5 gm	25-30gm	1	7-10
	Karnal bunt	18.8-22.5 gm	25-30gm	1	7-10
Barley	Leafstripe	18.8-22.5 gm	25-30gm	1	7-10

Maize	Seedling blight	18.8-22.5 gm	25-30gm	1	7-10
Sorghum	Loosesmut	18.8-22.5 gm	25-30gm	1	7-10
	Seedling blight	18.8-22.5 gm	25-30gm	1	7-10
Potato	Scab	18.8-22.5 gm	25-30gm	1	7-10
Rice& cotton	Seedborn disease	18.8-22.5 gm	25-30gm	1	7-10
Triadimefon 25% WP					
Wheat	Buntof Wheat	0.025%	0.500kg	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
Tricyclazole75%WP					
Paddy	Blast	225-300 gm	300-400gm	500	30
Validamycin3%L					
Rice	Sheath Blight	60gm	2000gm	750	Thereshould be noresidues on grains andstraw ofpaddy14days beforethe harvest.
Zineb75%WP					
Jowar	Redleaf spot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Leafspot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Leafblight	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Paddy	Blast	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Wheat	Rust Blight	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Maize	LeafBlight	1.125-	1.5-2KG	750-1000 Lt	

		1.5KG			
Ragi (Bajra)	Blast	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Tobacco	Leafspot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Onion	Downy mildew	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Blight	1.125-1.5 KG	1.5-2KG	750-1000 Lt	
Potato	Early blight	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Lateblight	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Tomato	Early blight	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Lateblight	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Greyleaf mould	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Chillies	Fruitrot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Leafspot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Brinjal	Blight	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Cucurbits	Downy mildew	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Anthracnose	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Leafspot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Cauliflower	Leafspot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Cumin	Early blight	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Apple	Scab	1.125-1.5KG	1.5-2KG	750-1000 Lt	
	Black rot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Citrus	Greasy spot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Cherries	Leafspot	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Grapes	Downy mildew	1.125-1.5KG	1.5-2KG	750-1000 Lt	
Guava	Fruitrot	1.125-	1.5-2KG	750-1000 Lt	

		1.5KG			
Ziram80%WP					
Grape	Downy mildew	1.2-1.6 kg	1.5-2.0kg	750-1000	--
	Anthracnos e	1.2-1.6 kg	1.5-2.0kg	750-1000	--
Apple	scab	1.2-1.6 kg	1.5-2.0kg	750-1000	21
Potato	Early blight	1.2-1.6 kg	1.5-2.0kg	750-1000	3
Tomato	Early blight	1.2-1.6 kg	1.5-2.0kg	750-1000	3

Combination Fungicides

Crop	Common name of the disease	Dosage perha (a.i.)	Dosage/ha (Formulation)	Dilution	Waiting Period
Azoxystrobin 4.8% w/w + Chlorthalonil 40% w/w SC					
Watermelon	Leaf spot, downy mildew and powdery mildew	1.344 (0.144+1.2)	3.0	500	5
Cucumber	Leaf spot, downy mildew and powdery mildew	1.344 (0.144+1.2)	3.0	500	3
Cauliflower	Leaf spot, downy mildew	1.344 (0.144+1.2)	3.0	500	3
Azoxystrobin 18.2% w/w + Cyproconazole 7.3% w/w SC					
Wheat	Rust, Powdery Mildew	0.26	1	500	50
Maize	Downy mildew, Turcicum leaf blight, Rust	0.26	1	500	52
Ametoctradin + Dimethomorph 20.27% w/w SC					
Grape	Downey Mildew	420-525	800-1000ml	750	34
Cucurbits	Downey Mildew	420-525	800-1000ml	500	03
Potato	Late Blight	420-525	800-1000ml	500	32
Azoxystrobin 18.2% w/w + Cyproconazole 7.3% w/w SC					
Wheat	Rust, Powdery Mildew	0.26	1	500	50
Maize	Downy mildew, Turcicum leaf blight, Rust	0.26	1	500	52
Azoxystrobin 18.2% w/w + Difenoconazole 11.4% w/w SC					
Chilli	Anthracnose & Powdery Mildew	0.03% or 0.3 g/L	0.1% or 1 ml / Litre water	500	5

Tomato	Early blight & Late blight	0.03% or 0.3 g/L	0.1% or 1 ml / Litre water	500	5
Paddy	Blast & sheath blight	0.03% or 0.3 g/L	0.1% or 1 ml / Litre water	500	31
Maize	Blight & Downey Mildew	0.03% or 0.3 g/L	0.1% or 1 ml / Litre water	500	26
Wheat	Rust & Powdery mildew	0.03% or 0.3 g/L	0.1% or 1 ml / Litre water	500	35
Cotton	Leaf spot and Grey mildew	0.03% or 0.3 g/L	0.1% or 1 ml / Litre water	500	12
Turmeric	Leaf blotch,leaf spot and Rhizome rot	0.03% or 0.3 g/L	0.1% or 1 ml / Litre water	500	60
Onion	Purple blotch,Stemphyliu m blight and Downy mildew	0.03% or 0.3 g/L	0.1% or 1 ml / Litre water	500	7
Sugarcane	Red rot,Smut and Rust	0.03% or 0.3 g/L	0.1% or 1 ml / Litre water	400	265
Azoxystrobin 8.3% + Mancozeb 66.7% WG					
Grape	Powdery mildew Leaf spot, Anthracnose	124.5+1000	1500	500	7
Chilli	Powdery mildew Downy mildew Anthracnose	124.5+1000	1500	500	7
Azoxystrobin 7.1 % + Propiconazole 11.9 % w/w SE					
Rice	Sheath Blight	37.5+62.5	500	500	43
Azoxystrobin 11% + Tebuconazole-18.3% SC W/W					
Chilli	Fruit rot Powdery mildew Die back	72.12	600-700	500-750	7
Rice	Sheath Blight	82.5+137.25	750	500	-
Onion	Purple blotch	82.5+137.25	750	500	7

Apple	Scab, powdery mildew& premature leaf fall	0.11+0.183	1.0	8 – 12	10
Azoxystrobin 12.5 % + Tebuconazole 12.5 % SC					
Chilli	Powdery mildew & fruit rot	0.1+0.1 (0.2)	0.800	500	5
Benalaxyl 8% + Mancozeb 65% WP					
Cucumber	Downy mildew	200+1625	2500	500	5
Boscalid25.2%+Pyraclostrobin12.8%WG					
Grape	Downey Mildew& Powdery mildew	190-228	500-600	750-1000	34
Captan70%+ Hexaconazole5%WP					
Chillies	Fruitrot (Anthracnose)	375-750	500-1000	500	5
Potato	Earlyblight &Late blight	375-750	500-1000	500	21
Blackgram	Powdery mildew Rust	562.5	750	500	20
Carbendazim 1.92% + Mancozeb 10.08% GR					
Paddy	Blast, sheath blight	240+1260	12.5	Broadcasting	46
Carbendazim12%+ Mancozeb63%WP					
Groundnut	Leafspot,blast	375gm	500gm	500lt.	72
Paddy	Blast	563gm	750gm	750lt.	57
Potato	Early blight , late blight , black scruff	210+1102.5			
Tea	Blister blight , grey blight , red rust , die-back , black rot	(150+787.5) - (180+945)	1250-1500	250-500	7
Grape	Downey mildew, powdery mildew, anthracnose	0.11%	0.15%	As required depending on crop canopy	7

Mango	Powdery mildew and anthracnose	0.11%	0.15%	As required depending on crop canopy	7
Chilli	Leaf Spot, Fruit rot, and Powdery mildew	563	750	500	3
Maize	Downy mildew and Leaf blight	120+630	1000	500	37
Apple	Fruit scab & Powdery mildew	0.19%	0.25	As required depending upon crop canopy	20
Groundnut (Seed Treatment)	Tikka leaf spot, Collar rot and dry root rot	1.88	2.5	-	NA (Seed treatment)
Carbendazim 25%+ Mancozeb 50% WS					
Groundnut	Collar rot Dry root rot Tikka leaf spot	(7.5+15.0)To (8.75+17.5) (for 10 kg seed)	30-35	0.1	This is used as seed treatment
Potato	Late blight Black scurf	(1.5 + 3.0) To (1.75 + 3.5) (for 10 kg seed)	6 - 7	2	This is used as seed treatment
Paddy	Brown Spot , Seedling Blast , Sheath Blight	7.5+15 to8.75+17.5	30-35	NA	NA
Wheat	Loose smut	7.5+15 to 8.75+17.5	30-35	NA	NA
Carbendazim 25 %+ Flusilazole 12.5% SE					
Paddy	Sheath blight	300-360	800-960	500	54
Groundnut	Stem rot , Early leaf spot, Late leaf spot	240-300	640-800	500	24
Carboxin17.5%+ Thiram17.5%FF					

Wheat	Loose smut	8.75 to 10.5gm	25 to 30gm	100ml	Being a seed treatment fungicide , no waiting period is required
Carboxin37.5%+ Thiram37.5%DS					
Wheat	Loosesmut andother seedborne andearly soilborne diseases	2.25 gm/Kg seed	3.0gm/Kg seed	0	About3 Month
Soybean	Collarrot, Charcoal rotand other seedling diseases	2.25 gm/Kg seed	3.0gm/Kg seed	0	About3 Month
Cotton	Root rot, Bacterial bight	2.5gm/Kg seed	3.5gm/Kg seed	0	About3 Months
Groundnut	Collarrot,Seedrot,Rootrot, Stemrot	2.25gm/ Kgseed	3gm/Kgseed	0	About3 Months
Pigeonpea	Seedrot, Rootrot, Stemrot, Fusarium wilt	3gm/Kg seed	4gm/Kgseed	0	About3 Months
Potato	Blackscurf	1.87gm/Kgseed	2.5gm/Kg seed	0	About3 Months
Copper Sulphate 47.15% + Mancozeb 30% WDG					
Grape	Anthracnose, Powdery Mildew & Downy mildew	2357.5+1500	5000	750-1000 Depending on crop canopy	10
Cymoxanil8%+ Mancozeb64%WP					
Grapes	Downy mildew	1080-1440 gm	1500–2000gm	500-1000.	10days
Potato	Lateblight	1080gm	1500gm	500-750	10days
Tomato	Lateblight	1080gm	1500gm	500-750	10days
Cucumber	Downy mildew	1080gm	1500gm	500-600	10days
Citrus	Gemmosis (Foot Rot) (phytophthora palmivora)	180 g/100L of water + 18 g/L of water of	250 g/100L of water + 25 g/L of water of	10L/tree;50 ml (linseed oil) tree	82 days

		linseed oil	linseed oil		
Dimethomorph 12 % + Pyraclostrobin 6.7% WG					
Grape	Downy mildew	280.5	1500	750-1000	34
Famoxadone16.6%+ Cymoxanil22.1%SC					
Grapes	Downy mildew	210	500	500-750	27
Potato	Late blight	210	500	500	40
Tomato	Early and Late Blight	210	500	500	3
Gherkin	Downy mildew	210	500	500-750	3
Fenamidone4.44%+ FosetylAI 66.7%WG					
Grape	Downy mildew	88.8+ 1334 - 111.0+ 1667.5 gm	2000-2500 gm	500-750 lt.	90days
Fenamidone10%+ Mancozeb50%WG					
Potato	Lateblight	125+625-150+750 gm	1250-1500 gm	500lt.	30
Grapes	Downy mildew	150+750 gm	1500gm	500-750	85
Gherkin	Downy mildew	150+750 gm	1500gm	375-500	5
Flubendiamide 8.33% w/w + Deltamethrin 5.56% w/w SC					
Chickpea	Pod borer	22.50+15	250	500	7
Cucumber	Cucumber beetle, fruit fly	18+12-22.50+15	200-250	500	5
Fluopicolide 4.44% + Fosetyle aluminium 66.67%WG,w/w					
Grape	Downy mildew	99.9 + 1500 to 111+ 1667	2.25-2.5 (2250-2500gm)	750li	40
Fluopyram17.7% w/w+Tebuconazole17.7%w/w SC					
Grape	Powdery mildew and Anthraconase	Fluopyram112.5 +Tebconazole112.5	562.5	750-1000	10
Chilli	Powdery mildew and Anthracnose	Fluopyram100 +Tebconazole100	500	500	5
Rice	False smut, Dirty panicle	Fluopyram110 +Tebconazole110	550 g/ha	500	22

Fluxapyroxad 75g/l + Difenaconazole 50 g/L SC					
Grape	Powdery mildew	100	800	1000	32
Apple	Scab and Powdery mildew	125	1000	2500	33
Fluxapyroxad 62.5g/l FS + Epiconazole 62.5 g/L EC (MRL not fixed)					
Rice	Sheath blight	78.12-93.75	625-750	500	33
Fluxapyroxad 250g/l + Pyraclostrobin 250g/l SC					
Grape	Powdery Mildew	100	200	1000	10
Fluxapyroxad 167 g/l + Pyraclostrobin 333 g/l SC					
Cotton	Alternaria leaf	150	300	500	27
Groundnut	Tikka	150	300	500	20
Soybean	Frog eye leaf spot	150	300	500	45
Fluxapyroxad 250 g/l + Pyraclostrobin 250 g/l SC					
Chilli	Powdery mildew Anthracnose	100-125	200 - 250	500	7
Tomato	Early blight Septoria leaf spot	100-125	200 – 250	500	10
Cucumber	Powdery mildew	100-125	200 - 250	500	10
Mango	Powdery mildew	75 – 100	150 – 200	1000	38
Hexaconazole 4% + Carbendazim 16% SC					
Paddy	Sheath blight, And Blast	(30+120)	750	400 - 500	40
Hexaconazole 5.00% + Validamycin 2.50% SC					
Paddy	Blast & Sheath blight	50+25	1000	500	22
Hexaconzole 4% + Zineb 68% WP					

Paddy	Sheath Blight , Brown Spot . Blast , Grain discolouration	(40+680)-(50+850)gm	1000-1250	500	34
Tea	Black Rot , Grey blight, Blister Blight	25+425 gm	625	250-500	7
Imidacloprid 18.5 % + Hexaconazole 1.5 % FS					
Groundnut	Collar rot, Stem rot, Tikka leaf spot, Rust	37:3	200	NA	Seed Dresser
Wheat	Smut, Rust	37:3	200	NA	Seed Dresser
Groundnut	Termites, Thrips, Jassids Root grubs collar rot Stem rot Tikka leaf spot Rust	Imidacloprid:37 & Hexaconazole: 3	200	Not applicable	This is used as seed dresser
wheat	Termites, Aphids Smut Rust	Imidacloprid:37 & Hexaconazole: 3	200	Not applicable	
Iprodione25%+ Carbendazim25%WP					
Rice	Sheath Blight Blast	250gm	500gm	500lt.	30
Kasugamycin 5% + copper oxychloride 45% WP					
Grapes	Anthracnose, Bacterial leaf spot	375	750	400 – 1000	37 days
Rice	Leaf blast, Neck blast	350	700	375	26
Kresoxim-methyl 40% + Hexaconazole 8% WG					
Rice	Sheath blight, Leaf blast, Neck blast	Kresoxim-methyl-200 &Hexaconazole - 40	500	500	22
Kresoxim-methyl 15% + Chlorothalonil 56% WG					

Chilli	Powdery mildew, Leaf spot, Anthracnose	Kresoxim-methyl-150 & Chlorothalonil-560	1000	500	5
Potato	Early blight and Late blight	Kresoxim-methyl-150 & Chlorothalonil-560	1000	500	23
Mancozeb 63% + Carbendazim 12% WS					
Groundnut	Tikka leaf spot, collar rot, dry root rot	1.88	2.5	----	----
Mancozeb 40% + Azoxystrobin 7% OS					
Tomato	Early Blight & light blight	600g+105g	1500 g	500 L	5
MetalaxylM4%+ Mancozeb64%WP					
Grapes	Downy mildew	0.17%	0.25%	500-1000 lt.	8days
Potato	Lateblight	0.17%or 1700 gm	0.25% or 2500gm	500-1000 lt.	24
Black pepper	Phytophthora footrot	0.17%or 1700gm	0.25% or 2500gm	2lt./vine asfoliar sprayor3 lt./vineas soil drench	21
Mustard	Downy mildew&Whiter ust	0.17%or 1700gm	0.25% or 2500gm	1000lt.	60
Chilli	Damping Off	0.20%	0.3%	2.0l/m2	53
Metalaxyl M 3.3%+ Chlorothalonil 33.1% SC					
Potato	Late blight	0.073%	0.2%	500	34
Tomato	Early and Late blight	0.073%	0.2%	500	5
Metalaxyl8%+ Mancozeb64%WP					
Grapes	Downy mildew	2000gor 0.4%	2500gor 0.5%	500lt.	Notless than7 weeks
Tobacco Nursery	Damping off	3600gor 0.072%	5000gor 0.1%	5000lt.	Notless than7 weeks
	Leafblight/	1440gor	2000gor	1000lt.	Notless

	Black Shank (Soil drenchat sowingand sprayat30 days after sowing)	0.14%	0.2%		than7 weeks
Potato	Lateblight	1800gm or0.18%	2500gmor 0.25%	1000lt.	Notless than7 weeks
Mustard	Whiterust and Alternaria blight	1800gm or0.18%	2500gmor 0.5%	1000lt.	Notless than8 weeks
BlackPepper	Phytophthorafootrot	1.8 g.a.i/vine or0.09%	2.5gm/vine or0.125%	2lt./vine (spraying) 5lt./vine (soil drenching)	Notless than21 weeks
Pearlmillet	Downy mildew	1440gm or0.28%	2000gmor 0.4%	500lt.	Notless than7 weeks
Metiram 55% + Pyraclostrobin 5% WG					
Tomato	Early blight	900-1050	1500-1750	500	5
. Potato	Late blight	900-1050	1500-1750	500	15
Grape	Downy Mildew	900-1050	1500-1750	750	34
Chilli	Anthracnose	900-1050	1500-1750	750	5
Onion	Purple Blotch	900-1050	1500-1750	750	16
Cotton	Alternaria leaf spot	900-1050	1500-1750	750	45
Apple	Premature leaf fall disease & Alternaria leaf spot and blight	1750g/ha	100g/100L	1750	12
Green gram	Cercospora leaf spot	900-150	1500-1750	500	18
Ground nut	Tikka disease	900-1050	1500-1750	500	42
Pomegranate	Fruit spot	900-1050	1500-1750	500	67
Cumin	Alternaria blight & powdery mildew	900-1050	1500-1750	500	20
Blackgram	Leafspot disease	900-1050	1500-1750	500	18
Cucumber	Downy mildew disease	900-1050	1500-1750	500	05

Banana	Sigatoka leaf spot disease	900-1050	1500-1750	500	85
Penflufen 13.28% w/w + Trifloxystrobin 13.28% w/w FS					
Groundnut	Seed and seedling Rot Disease	12.32+12.32-15.4+15.4	80 – 100		
Soybean	Seed and seedling Rot Disease	12.32+12.32-15.4+15.4	80 – 100		
Picoxystrobin 7.05% + Propiconazole 11.7% SC					
Paddy	Sheath blight (Rhizoctonia solani) False smut (Ustilaginoidea virens) Dirty Panicle	200	1000	500	24
Wheat	Yellow Rust (Puccinia striiformis sp. tritici)	200	1000	500	52
Picoxystrobin 6.78% + Tricyclazole 20.33 %w/w					
Paddy	Leaf Blast & Neck Blast	300	1000	500	29
Prochloraz 24.4% + Tebuconazole 12.1% w/w EW					
Chilli	Fruit rot, Die back, Powdery mildew	267+133	1000	500	5
Propiconazole 13.9% + Difenoconazole 13.9% EC					
Paddy	Sheath blight, dirty panicle	0.02% - 0.03%	(0.07-0.1%) 0.7-1.0ml/l	500	46
Propiconazole 10.7% w/w + Tricyclazole 34.2% w/w SE					
Paddy	Sheath blight Blast	280 gm a.i (propiconazole) 66.5 gm a.i + Tricyclazole 213.5 gm a.i	625	500	32

Pyraclostrobin 133g/l + Epoxiconaxole 50g/l SE					
Ground nut	Tikka	114.37-137.25	625-700	500	21
Wheat	Yellow rust	137.25	750	500	47
Coffee	Rust of Coffee	137.25	750	750	37
Soybean	Control of Cercospora leaf spot	137.25	750	500	27
Cumin	Alternaria blight	137.25	750	500	22
Pomegranate	Fruit spot disease	900-1050	1500-1750	500	67
Banana	Sigatoka leaf spot disease	900-1050	1500-1750	500	85
Maize	Leaf blight	137.25	750	500	48
Tebuconazole 6.7% + Captan 26.9% w/w SC					
Chilli	Powdery mildew and Anthracnose	80+320	1000	500	5
Apple	Powdery mildew, Alternaria leaf spot/blight, Scab	124+496 0.02% + 0.08%	1550 0.25% or 2.5ml/l of water	10 L/tree	10
Tebuconazole 10%WP+Sulphur65%WG					
Chilli	Powdery mildew& Fruit rot	937.50(125+812.5)	1250	500	5
Soybean	Leaf spot & Pod blight	937.50(125+812.5)	1250	500	26
Tebuconazole 50% + Trifloxystrobin 25% WG					
Rice	Sheath blight, Leaf , Neck Blast, Glume discoloration	100 + 50	200	375-500	21

	(dirty panicle),				
Rice	False smut and Brown leaf spot		350-400	500	35
Tomato	Early blight	175+87.5	350	500	3
Black gram	Cercospora leaf spot	150+75	300	500	19
Apple	Premature leaf fall, powdery mildew	0.03%	0.04%(40g/100 lit water)	Spray fluid as required depending on size of tree	30
Grapes	Powdery mlidew	87.5+43.75	175	1000	34
chilli	Powdery mildew, Anthracnose, Alternaria leaf spot	125+62.5	250	500	5
wheat	Yellow rust, powdery mildew	150+75	300	300-500	40
Mango	powdery mildew, Anthracnose,	0.056% -- 0.075%(56.25-75g/100lit water)	0.075%-- 0.1%(75—100g/100lit water)	Spray fluid as required depending on size of tree	15
cotton	Alternaria leaf spot	150+75	300	500	28
Banana	Sigatoka leaf spot	175+87.5	300	750	20
coffee	Rust	150+75	300	1000	11
Onion	Purple blotch	150+75	300	500	10
Thiophanate Methyl 450g/l + Pyraclostrobin 50g/l w/v FS					
Okra	Post emergent damping off	15	30	500	NA
Soybean	Seedling rot	10-12.5	20-25	Sufficient to coat the seeds uniformly	NA
Groundnut	Stem rot	10-12.5	20-25	Sufficient to coat the seeds uniformly	NA
Potato for tuber	Black scruf	10	20	Sufficient to coat the seeds uniformly	NA
Tricyclazole 20.4% w/w + Azoxystrobin 6.8% w/w SC					
Rice	Blast, False smut, Sheath blight and	300 (225+75)	1000	500	10

	Grain discoloration (Dirty Panicle)				
Tricyclazole 45% + Hexaconazole 10% WG					
Paddy	Blast and Sheath blight	225+50	500	500	23
Tricyclazole 18.0% w/w + Tebuconazole 14.4% w/w SC					
Rice	Sheath blight, Blast, false smut and grain Discoloration	360 (200+160)	1000 ml/ha		44

* 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.

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

MAJOR USES OF BIOPESTICIDES
(Registered under the Insecticides Act, 1968)

UP TO- 31.10.2019

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

A. Major uses of Bio-fungicides
B. Major uses of Bio-insecticides
C. Public health use

A. Major uses of Bio-fungicides :

Crop	Common name of the disease	Dosage perha			Waitingperiod fromlast applica-tionto harvest(in days)
		a.i. (g)	Formulation (g/ml)/ %	Dilutionin water(L)	
Neem oil based EC containing*Azadirachtin*0.030% (300 ppm)					
Bhindi	Powdery mildew		2-2.5	500	3
***Pseudomonas fluorescens*1.75% WP (In house isolated Strain Accession No. MTCC 5176)**					
Wheat	Loose smut		5 g/kg seed (Seed treatment)	Mix the required quantity of seeds with the required quantity of *Pseudomonas fluorescens* 1.75% WP formulation and ensure uniform coating. Shade dry and sow the seeds.	-
			5 g/litre (Foliar spray)	Dissolve 5 kg of *Pseudomonas fluorescens* 1.75% WP in 1000 litres of water and spray	
Bacillus subtilis 1.50% L.F (T Stanes Bs-1 Strain MTCC 25072)					
Banana	Sigatoka (caused by Mycosphaerellamusicola)	5 lit/ha		Foliar spray	Lit/ha 750

***Pseudomonas fluorescens* 2.0% AS (Strain No. IPL/PS-01, Accession No. MTCC 5727,)**				
Paddy	Bacterial leaf blight (Xanthomonasoryzaepv. oryzae)	10ml/litre of water 1.87-2.50 litre/hectare	**Seedling Root Dip Treatment:**mix 10ml of Pseudomonas fluorescens2.0% AS.In one litre of water and dip the paddy seedling root for 30 minutes before transplanting followed by foliar application after 40-45 days of transplantation. **Foliar spray:** suspend 1.87 to 2.50 litre of Pseudomonas fluorescens2.0% AS.in 500 litre of water and spray uniformly after 40-45 days of transplantation over one hectare land 2-3 spray are required depending upon the disease incidence at interval of 10-12 days using a hand operated Knapsack sprayer or power sprayer fitted with a hollow cone nozzle.	Nil Nil
Bacillus subtilis2.0% A.S (Strain No. IPL/BS-09, Accession No. MTCC 5728,)				

Paddy	Bacterial leaf blight(Xanthomonasoryzaepv. oryzae)	10ml/litre of water 1.87-2.50 litre/hectare	**Seedling Root Dip Treatment:** mix 10ml of Bacillus subtilis 2.0% A.S In one litre of water and dip the paddy seedling root for 30 minutes before transplanting followed by foliar application. **Foliar spray:** suspend 1.87 to 2.50 litre of Bacillus subtilis 2.0% A.S.in 500 litre of water and spray uniformly after 40-45 days of transplantation over one hectare land 2-3 spray are required depending upon the disease incidence at interval of 10-12 days using a hand operated Knapsack sprayer or power sprayer fitted with a hollow cone nozzle.	Nil Nil	
***Pseudomonas fluorescens* 2.0% AS (Strain No. IPL/PS-01, Accession No. MTCC 5727,)**					
Paddy	Bacterial leaf blight (Xanthomonasory zaepv. oryzae)	10ml/litre of water	**Seedling Root Dip Treatment:**mix 10ml of Pseudomonas fluorescens2.0% AS.In one litre of water and dip the paddy seedling root for 30 minutes before transplanting followed by foliar application after 40-45 days of transplantation. **Foliar spray:** suspend 1.87 to 2.50 litre of	Nil	

		1.87-2.50 litre/hectare	Pseudomonas fluorescens2.0% AS.in 500 litre of water and spray uniformly after 40-45 days of transplantation over one hectare land 2-3 spray are required depending upon the disease incidence at interval of 10-12 days using a hand operated Knapsack sprayer or power sprayer fitted with a hollow cone nozzle.	Nil	
***Pseudomonas fluorescens* 0.5% WP (TNAU Strain Accession No. ITCC BE 0005)**					
Groundnut	Late leaf spot		10 g/kg seed 1 kg/hectare	**Seed treatment** Mix the required quantity of seeds with the required quantity of *Pseudomonas fluorescens* 0.5% WP formulation and ensure uniform coating. Shade dry and sow the seeds. **Soil treatment** : 1 kg of *Pseudomonas fluorescens* 0.5% WP spread uniformly over 1 hectare of land (foliar spray @ 2%)	-
Rice	Leaf and neck blast (*Pyriculariaoryzae*)		10 gm / kg seed	**Seed treatmen:** Mix required quantity of the seeds with the required quantity of Pseudomonas fluorescens 0.5% WP	Nil

			1 kg/ha	**Soil treatment:** Broadcast 1 kg Pseudomonas fluorescens 0.5% WP by mixing with 2.5 kg organic manure in one ha area	
			1 kg/ha	**Foliar spray:** Spray Pseudomonas fluorescens 0.5% WP @ 1 kg/ha	
Chili seedlings	Damping off (*Pythium aphanidermatum*)		10 g/kg seed	**Seed treatment** Mix required quantity of the seeds with the required quantity of Pseudomonas fluorescens 0.5% WP and ensure uniform coating, shade dry and sow.	Nil
Tomato	Wilt (Fusariumoxysporum F.sp)		10 gm/kg of seeds	**Seed treatment** Mix required quantity of the seeds with the required quantity of *Pseudomonas fluorescens0.5*% WP and ensure uniform coating, shade dry and sow	Nil
			2.5 kg/hectare	**Soil Treatment**- 2.5 kg of Pseudomonas fluorescens 0.5% wp. Spread uniformly over a hectare of land	-
***Pseudomonas fluorescens* 1.5% WP (BIL-331 Accession No. MTCC5866)**					

Paddy	Bacterial Leaf blight (Xanthomonasoryzae)	5gm/kg of seed	**Seed treatment :-** Make a this paste of required quantity of Pseudomonas fluorescence 1.5 % WP with min. volume of water and coat the seed uniformly , shades dry the seeds just before showing.	NIL
	Blast (Pyriculariaoryzae) Leaf spot (Helminthosporiumoryzae)	2.5 kg /hectare	**Soil treatment:-** Mix 2.5 kg of Pseudomonas fluorescens 1.5% WP with 50kg FYM or and broadcast uniformly over hectare of land 30days after planting.	
***Pseudomonas fluorescens* 1.0% WP (IPL/PS-01 Accession No. MTCC5727)**				
Tomato	Wilt (FusariumOxyporam) Damping Off (Pythium aphandidermatum) Root rot (Rhizoctonia spp.)	5gm/kg of seed 2.5kg/hectare 10gm/litres of water	**Seed Treatment:-** Make a thin paste of required quantity of Pseudomonas fluorescens 1.0% WP with the minimum volume of water & coat the seed uniformly , shade dry the seed just before sowing. **Soil Treatment**:- Mix 2.5kg of Pseudomonas fluorescens 1.0% WP with 62.5 kg FYN and broadcast uniformly over a hectare of land. **Seedling Root Dip Treatment:-** Mix 10 gm of Pseudomonas fluorescens 1.0% WP in one litre of water and dip the tomato seedling root rot for minutes.	NIL
***Pseudomonas fluorescens* 1.0% WP (Strain No. IIHR-PF-2 Accession No. ITCCB0034)**				

Tomato	Wilt (FusariumOxysporum)	Treat the seed with ***Pseudomonas fluorescens***1% WP @ 20 gm/kg of seeds & treat the nursery beds with the ***Pseudomonas fluorescens***1% WP @ 50gm/sq.m and apply ***Pseudomonas fluorescens***1% WP @ 5kg/ha enriched FYM*@5tons /hectare to the soil before transplanting.			
Brinjal	Wilt (Fusariumsolani)	-do-			
Carrot	Root rot (Sclerotiumrolfsi)	Treat the seed with ***Pseudomonas fluorescens***1% WP @ 20gm/kg of seeds and apply ***Pseudomonas fluorescens***1% WP @ 5kg/ha enriched FYM*@ 5tons/hectare to the soil before sowing.			
Okra	Wilt (FusariumOxysporum)	-do-			
Pseudomonas fluorescens **1.5% AS (Strain Accession No. MTCC - 2539)**					
Groundnut	Late leaf spot	10 ml/kg seed 1 Litre/ hectare	**Seed treatment:** Mix the required quantity of seeds with the required of *Pseudomonas fluorescens* 1.5% AS and ensure uniform coating. Shade dry and sow the seeds. **Soil treatment** : 1 Litre of *Pseudomonas fluorescens* 1.5% AS spread uniformly over 1 hectare of land (foliar spray @ 0.2%)		Nil
Trichoderma harzianum **0. 50% WS**					
Cardamom	Capsule rot (*Phytophthorame adii*)		100 gm /plant (Soil treatment)	**Soil treatment:** Apply 100 gm product/ plant along with neem cake (0.5 kg/ plant) and 5 kg FYM/ plant	-
Trichoderma harzianum **1.0% WP(Strain No. IIHR-TH-2 Accessions No. ITCC6888)**					

Tomato	Wilt (FusariumOxysporum)	Treat the seed with trichodermaHarzianum 1% WP @ 20 gm/kg of seeds & treat the nursery beds with the trichodermaharzianum 1% WP @ 50gm/sq.m and apply Trichodrma Harzianum 1% WP @ 5kg/ha enriched FYM*@5tons /hectare to the soil before transplanting.			
Brinjal	Wilt (Fusariumsolani)	Treat the seed with trichodermaHarzianum 1% WP @ 20 gm/kg of seeds & treat the nursery beds with the trichoderma Harzianum1% WP @ 50gm/sy.m and apply Trichodrma Harzianum 1% WP @ 5kg/ha enriched FYM*@5tons /hectare to the soil before transplanting.			
Carrot	Root rot (Sclerotiumrolfsi)	Treat the seed with trichodermaHarzianum 1% WP @ 20gm/kg of seeds and apply trichodermaHarzianum 1% WP @ 5kg/ha enriched FYM*@ 5tons/hectare to the soil before sowing.			
Okra	Wilt (FusariumOxysporum)	Treat the seed with trichodermaHarzianum 1% WP @ 20gm/kg of seeds and apply trichodermaHarzianum 1% WP @ 5kg/ha enriched FYM*@ 5tons/hectare to the soil before sowing.			
***Trichoderma harzianum* 2.0% WP**					
Maize	Root rot Fusarium wilt (*Fusariummonilif orme)*		20 gm /kg seed	**Seed treatment:** Make a thin paste of required quantity of *Trichoderma harzianum* 2% WP with minimum volume of water and coat the seeds uniformly, shade dry the seeds just before sowing.	-
***Trichodermaviride* 1% WP**					

Pigeon pea	Wilt, root rot		8 gm /kg seed 5.0 kg/ha	Seed treatment Soil treatment	Nil Nil
Pulses (Cowpea , mung bean, urdbean)	Root rot	4g/kg of seed	-	-	-
Chilli	Damping off	-do-	-	-	-
***Trichodermaviride* 1% WP (TNAU Strain Accession No. ITCC 6914)**					
Cowpea	Root Rot		5 gm /kg seed 2.5 kg/ha	**Seed treatment:** Make a fresh slury of required quantity of *Trichodermaviride* 1.0% WP with minimum volume of water and coat the seeds niformly, shade dry the seeds just before sowing. **Soil treatment** : Mix 2.5 kg of *Trichodermaviride* 1.0% WP with 62.5 kg FYM and broadcast uniformly over a hectare of land and irrigate the	Nil

				field immediately	
Chili seedlings	Damping off (Pythium aphanidermatum)		4 g/kg seed	**Seed treatment** Mix required quantity of the seeds with the required quantity of trichodermaviride 1% WP and ensure uniform coating shade dry and sow	Nil
Urd bean	Root rot (Macrophominap haseolina)		4 g/kg seed	**Seed treatment:-** Mix required quantity of the seeds with the required quantity of trichodermaviride 1% WP and ensure uniform coating shade dry and sow	Nil
Pigeon Pea	Root rot (Macrophominap haseolina)		4 g/kg seed	**Seed treatment :-** Mix required quantity of the seeds with the required quantity of trichodermaviride 1% WP and ensure uniform coating shade dry and sow	Nil
***Trichodermaviride* 1% WP (Strain T-14 in house isolate of M/s Indore Biotech Inputs & Research (P) Ltd., Indore)**					
Chickpea	Wilt (*Fusariumoxysporum*)		5 gm /kg seed	**Seed treatment:** Make slurry of required quantity of *Trichodermaviride*	

				1.0% WP with minimum volume of water & coat the seeds uniformly, shade dry the seeds just before sowing	
	Root Rot (*Rhizoctoniasolani&Sclerotiumrolfsii*)		5.0 kg/ha	**Soil treatment** : Mix 5.0 kg of *Trichodermaviride* 1.0% WP in 100 kg FYM and broadcast over a hectare land mix well with soil and irrigate the field immediately.	-
Paddy	Sheath blight (*Rhizoctoniasolani*)		5-10 gm/litre of water	**Foliar spray:** Mix 2.5 kg *of Trichodermaviride* 1.0% WP in 500 litres of water. Spray three times at 15 days interval uniformly over one hectare land 30 days after planting	
***Trichodermaviride* 1.5% WP (Strain No. IIHR-TV-5, Accession No. ITCC 6889)**					
Tomato	Wilt (FusariumOxysporum)	Treat the seed with trichodermaVirride 1.5% WP @ 20 gm/kg of seeds & treat the nursery beds with the trichodermavirride 1.5% WP @ 50gm/sy.m and apply Trichodrmavirride 1.5% WP @ 5kg/ha enriched FYM*@5tons /hectare to the soil before transplanting.			
Brinjal	Wilt (Fusariumsolani)	Treat the seed with trichodermaVirride 1.5% WP @ 20 gm/kg of seeds & treat the nursery beds with the trichodermavirride 1.5% WP @ 50gm/sy.m and apply Trichodrmavirride 1.5% WP @ 5kg/ha enriched FYM*@5tons /hectare to the soil before transplanting.			

Carrot	Root rot (Sclerotiumrolfsi)	Treat the seed with trichodermavirride 1.5% WP @ 20gm/kg of seeds and apply trichodermavirride 1.5% WP @ 5kg/ha enriched FYM*@ 5tons/hectare to the soil before sowing.			
Okra	Wilt (FusariumOxysporum)	Treat the seed with trichodermavirride 1.5% WP @ 20gm/kg of seeds and apply trichodermavirride 1.5% WP @ 5kg/ha enriched FYM*@ 5tons/hectare to the soil before sowing.			
***Trichodermaviride* 1% WP**					
Cauliflower	Stalk rot – *Sclerotinasclerotiorum*		4 gm /kg seed	**Seed treatment:** Make a thin paste of required quantity of *Trichodermaviride* 1.0% WP with minimum volume of water and coat the seeds uniformly, shade dry the seeds just before sowing	-
			2.50 kg/ha	**Soil treatment** : Mix 2.5 kg of *Trichodermaviride* 1.0% WP with 62.5 kg FYM and broadcast Uniformly over a hectare of land and irrigate the field immediately	

Brinjal	Root Rot/ Wilt/ Damping off *Rhizoctoniabataticola, Sclerotiumrolfsii, Fusariumoxysporum, Rhizoctoniasolani*		5 gm/kg seeds	**Seed treatment:** Make a thin paste of required quantity of *Trichodermaviride* 1.0% WP with minimum volume of water and coat the seeds uniformly, shade dry the seeds just before sowing	
	Root Rot/ Wilt/ Damping off *Rhizoctoniabataticola, Sclerotiumrolfsii, Fusariumoxysporum, Rhizoctoniasolani*		250 gm/50 litre of water/ 400 sq. mt.	**Nursery Treatment:** Mix 250 gm of***Trichodermaviride*** 1.0% WP in 50 litre of water and drench the soil in 400 sq. mt. area **Seedling Root dip treatment:** Mix 10 gm of *Trichodermaviride* 1.0% WP in one litre of water and dip the Brinjal seedling root for 15 minutes	

			2.5 kg/ hectare	**Soil treatment** : Mix 2.5 kg of *Trichodermaviride* 1.0% WP with 62.5 kg FYM and broadcast uniformly over a hectare of land and irrigate the field immediately	
Cabbage	Root rot/Collar rot *Rhizoctoniasolani*		10 gm/ litre water	**Seedling Root dip treatment:** Mix 10 gm of *Trichodermaviride* 1.0% WP in one litre of water and dip the Cabbage seedling root for 30 minutes	
			2.5 kg/ hectare	**Soil treatment** : Mix 2.5 kg of *Trichodermaviride* 1.0% WP with 62.5 kg FYM and broadcast uniformly over a hectare of land and irrigate the field immediately	
***Trichodermaviride* 1% WP**					
Tomato	Seedling wilt*Fusariumoxysporum* Damping off *Pythium aphanideramatum*		9 g/kg seed 2.5 kg	**Seed treatment** Mix 9 kg of the product per kg seed. **Root zone application** Mix thoroughly 2.5 kg of the	-

	Rhizoctoniasolani			product in 150 kg of compost or farmyard manure and apply this mixture in the field after sowing/ transplanting of crops	
Bengal gram	Seedling wilt *Fusariumoxysporum* Damping off *Pythium aphanideramatum Rhizoctoniasolani*		9 g/kg seed 2.5 kg	**Seed Treatment:-**Mix 9 kg of the product per kg seed. **Root zone application** Mix thoroughly 2.5kg of the product in 150 kg of compost or farmyard manure and apply this mixture in the field after sowing/ transplanting crops	-
***Trichodermaviride*1% WP**					

Sunflower	Seed rot *Scletotiumrolfsii* Root rot *Sclerotiumrolfsii*		6 g/kg seed 1.25-2.5 kg/ha	**Seed treatment** Mix required quantity of the seeds with the required quantity of product in rice gruel, ensure uniform coating, shade dry and sow **Soil treatment** Mix with 30-60 kg of compost/ farmyard manure and spread uniformly over 1 hectare of land	
***Trichodermaviride* 1% WP (TNAU Strain Accession no. ITCC 6914)**					
Cowpea	Wilt (*Fusariumoxysporum*)		4 gm/kg seed	(**Seed treatment)** Mix required quantity of the seeds with the required quantity of *Trichodermaviride* 1% WP and ensure uniform coating, shade dry and sow.	
Pigeon Pea	Root rot (MacrophominaPhaseolina)		4 gm/kg seed	**Seed treatment)** Mix required quantity of the seeds with the required quantity of *Trichodermaviride* 1% WP and ensure uniform	

				coating, shade dry and sow.	
Urd Bean	Root rot (MacrophominaPhaseolina)		4 gm/kg seed	S**eed treatment)** Mix required quantity of the seeds with the required quantity of *Trichodermaviride* 1% WP and ensure uniform coating, shade dry and sow.	
***Pseudomonas fluorescens* 1.5% AS (Strain Accession No. MTCC - 2539)**					
Groundnut	Late leaf spot		10 ml/kg seed 1 Litre/ hectare	**Seed treatment:** Mix the required quantity of seeds with the required of *Pseudomonas fluorescens* 1.5% AS and ensure uniform coating. Shade dry and sow the seeds. **Soil treatment** : 1 Litre of *Pseudomonas fluorescens* 1.5% AS spread uniformly over 1 hectare of land (foliar spray @ 0.2%)	NIL
Bacillus subtilis 1.50% L.F (T Stanes Bs-1 Strain MTCC 25072)					

Banana	Sigatoka (caused by Mycosphaerellam usicola)		5 lit/ha	Foliar spray	Lit/ha 750
Trichodermaviride 5% SC (Strain Accession No. ITCC 7111.)					
Chilli (Nursery)	Damping off (*pythiumaphanide rmatum*)		2 ml/kg Seed	**Seed Treatment:** Mix required quantity of the seeds with the required quantity of Trichodermaviride 5% SC. Ensure uniform coating, shade dry and sow	Nil
***Pseudomonas fluorescens* 2.0% AS (Strain No. IPL/PS-01, Accession No. MTCC 5727,)**					
	Bacterial leaf blight (Xanthomonasoryza	10ml/litre of water		**Seedling Root Dip Treatment:**mix 10ml of Pseudomonas fluorescens2.0% AS.In one litre of water and dip the paddy seedling root for 30 minutes before transplanting followed by foliar application after 40-45 days of transplantation. **Foliar spray:** suspend 1.87 to 2.50 litre of Pseudomonas fluorescens2.0% AS.in	Nil

Paddy	epv. oryzae)	1.87-2.50 litre/hectare	500 litre of water and spray uniformly after 40-45 days of transplantation over one hectare land 2-3 spray are required depending upon the disease incidence at interval of 10-12 days using a hand operated Knapsack sprayer or power sprayer fitted with a hollow cone nozzle.	Nil
Bacillus subtilis 2.0% A.S (Strain No. IPL/BS-09, Accession No. MTCC 5728,)				
		10ml/litre of water	**Seedling Root Dip Treatment:** mix 10ml of Bacillus subtilis 2.0% A.S In one litre of water and dip the paddy seedling root for 30 minutes before	

Paddy	Bacterial leaf blight(Xanthomonas oryzaepv. oryzae)	1.87-2.50 litre/hectare	transplanting followed by foliar application. **<u>Foliar spray:</u>** suspend 1.87 to 2.50 litre of Bacillus subtilis 2.0% A.S.in 500 litre of water and spray uniformly after 40-45 days of transplantation over one hectare land 2-3 spray are required depending upon the disease incidence at interval of 10-12 days using a hand operated Knapsack sprayer or power sprayer fitted with a hollow cone nozzle.	Nil Nil

***Trichoderma harzianum* 2.0% A.S. (Strain No. IPL/VT/102, Accession No. ITCC 6893,)**				
Paddy	Bakane (Foot rot) (Fusariummoniliforme)	30ml/litre of water 2.5 litre/ hectare	**<u>Seedling Root Dip Treatment:</u>** mix 30ml of *Trichoderma harzianum* 2.0% A.S. In one litre of water and dip the paddy seedling root for 30 minutes before transplanting followed by Soil treatment. **<u>Soil treatment.</u>** Mix 2.5 litre of *Trichodermaharzianum*2.0% A.S. with 100 kg of properly decomposed FYM and broadcast uniformly over a hectare of land prior to transplanting.	Nil

B.Bio-Insecticides: 23-38 Updated up to 31.10.2019

Ampelomyces quisqualis 2.0% WP, Strain No. MTCC-5683) (CFU Count: 2 x 10^6 g/min.)				
Name of Crop	Name of Insect	Dose / ha (Formulation)	Dilution in water (Litre)/ha	Waiting period (Days)
Bhindi	Powdery mildew (*Erysiphe cichoracearum)*	2.5 kg	500 liters	-

Azadirachtin 0.15% W/W Min. Neem Seed Kernel Based E.C.				
Name of Crop	Name of Insect	Formulation (ml)	Dilution in water (Litre)	Waiting period (Days)
Cotton	White fly Bollworm	2500-5000 ml 2500-5000	500-1000 lit 500-1000 lit	5 5
Rice	Thrips, Stem borer, Brown Plant hopper, Leaf folder	1500 to 2500 ml	500	5

Azadirachtin 0.3% (3000 PPM) Min. Neem Seed Kernel Based E.C.				
Cotton	American bollworm	4000	1000	5

Azadirachtin 1% Min. E.C. Neem based.				
Tea	Thrips Red Spider mites	400-500 400-500	450 600	1 1

Azadirachtin 1% (10000 ppm) Min. Neem Based E.C. Containing

Tomato	Fruit borer (Helicoverpa armigera)	1000-1500	500	3
Brinjal	Fruit and Shoot borer (Leucinodes orbonalis)	1000-1500	500	3

Azadirachtin 0.03% Min. Neem Oil Based E.C. Containing				
Cotton	Bollworm (Helicoverpa Armigera), Aphids	2500-5000 2500-5000	500 500	5 5
Rice	Leaf roller, Stem borer, BPH	2000	1000	5

Azadirachtin 0.03% (300 ppm) Neem Oil Based WSP Containing				
Bengal Gram	Pod Borer (Heliothis)	2500-5000	500-1000	7
Red Gram	Pod Borer (Melangromyze)	2500-5000	500-1000	7
Cotton	Aphids Jassids, White Flies, Bollworms,	2500-5000	500-1000	7
Okra	Fruit borer, White flies, Leaf Hopper	2500-5000	500-1000	7
Brinjal	Shoot & Fruit borer, beetles	2500-5000	500-1000	7
Cabbage	Aphids,DBM, Cabbage - worm, Cabbage - looper	2500-5000	500-1000	7
Jute	Semi looper, Hairy caterpillar	2500-5000	500-1000	7

Azadirachtin 5% w/w Min. Neem Extract Concentrate Containing				
Tea	Caterpillar, Pink mite, Red Spider mites, Thrips	200 200 200 200	400 400 400 400	5 5 5 5
Tobacco	Tobacco caterpillar, Aphids	200 200	400 400	5 5
Rice	Brown Plant Hopper, Leaf Folder, Stem Borer	200 200 200	400 400 400	5 5 5
Cotton	White Fly, Leaf hoppers Heliothis, Aphids	375 375 375	750 750 750	5 5 5
Cauliflower	Spodoptera,	200	400	5
Bhindi	Leafhopper, whitefly, Aphid, Pod Borer	200 200	400 400	5 5
Tomato	Aphids, Whitefly, Fruit borer	200	400	5

Bacillus thuringiensis var. galleriae 1593 M sero type H 59 5b, 1.3% flowable concentrate Potency 1500 IU/mg				
Name of the Crop	Name of the Insect	Formulation (litre)	Dilution in water (Litre)	
Cabbage & Cauliflower	Diamond back moth (Plutella xylostella)	0.6-1.0	500	-
Tomato	Fruit borer (Helicoverpa armigera)	1.0-1.5	500	
Bhindi	Fruit borer (Earias spp.)	1.0-1.5	500	
Chilliies	Fruit borer (spodoptera litura)	1.5-2.0	1000	
Cotton	Bollworm (Heliothis armigera)	2.0-2.5	1000	

Rice	Leaf folder (Cnaphalocrocis medinalis)	1.0-3.0	1000	

Bacillus thuringiensis Serovar Kurstaki (3a, 3b, 3c) 5% WP Potency 55000 su (spodoptra unit based) (5x10^7 spore/mg)					
Cotton	American Bollworm	25.00-50.00	500-1000	500-1000	-
	Spotted Bollworm	37.50-50.00	750-100	500-1000	-
Red gram	Pod Borer	50.00-62.50	1000-1250	500-1000	-
Cabbage	Diamond back moth	25.00-50.00	500-1000	500-1000	-

Bacillus thuriengiensis var Kurstaki 0.5% WP serotype 3a, 3b, 3c, Strain DOR Bt-1, Potency 9000 IU/mg min. U/s 9(3b)			
Crop	Common name of Pest	Formulation (kg)	Dilution of water (lit.)
Caster	Caster Semilooper (Achaeae janata)	0.25	250-300

***Bacillus thuriengiensis* var Kurstaki 0.5% WP serotype 3a, 3b, 3c, Strain DOR Bt-1 NAIMCC-B-01118, Potency 13329 IU/mg min. U/s 9(3b)**			
Crop	Common name of Pest	Formulation (kg)	Dilution of water (lit.)
Pigon Pea	Bollworm (*Helicoverpa armigera*)	1-1.25	1000

Bacillus thuriengiensis var Kurstaki 0.5% WP serotype 3a, 3b, 3c, Strain DOR Bt-1, Potency 9000 IU/mg min. U/s 9(3b)			
Crop	Common name of Pest	Formulation (kg)	Dilution of water (lit.)
Caster	Caster Semilooper (Achaeae janata)	0.25- 0.375	250

Bacillus thuriengiensis var Kurstaki 0.5% WP serotype 3a, 3b, 3c, Strain DOR Bt-1,

Potency 16000 IU/mg min.			
Crop	Common name of Pest	Formulation (kg)	Dilution of water (lit.)
Chickpea	Chick pea podborer (Helicoverpa armigera)	2.0	500

Bacillus thuriengiensis var Kurstaki 2.5% AS.(Spicbio-Btk AS)			
Crop	Common name of Pest	Formulation (Lit.)	Dilution of water (lit.)
Gram	Grampod borer (Helicoverpa armigera)	1.0-1.5	500

Bacillus thuringiensis var. Kurstaki, Serotype H-3a, 3b, Strain Z-52 **Potency:-** **3000 IU/mg min - on Gypsy moth** **32000 IU/mg min – Trichoplusia vi** **50000 IU/mg min – H.armigera** **55000 IU/mg min – Spodptera exiqua**					
Cotton	Bollworms, Spodoptera	-	0.75-1.0 kg.	500-750	-
Rice	Stem borer & Leaf folder	-	1.50 kg.	500-750	-
Gram	Heliothis	-	0.75 kg.	500-750	
Pigeon Pea	Heliothis	-	0.75 kg.	500-750	-
Soyabean	Spodoptera, Heliothis, Spilosoma, Semilooper, Leaf miner		0.75 kg.	500-750	

Tobacco	Spodoptera, Heliothis	-	1.50-2.00 kg.	500-750	-
Castor	Hairy caterpillar, Ahea janata	-	1.00 kg.	500-750	
Teak	Dfoliater (Hyblaea pured), Skeletonizer (Eutectona machaeralis	-	0.25-0.50% Sol.	As required.	

Bacillus thuriengiensis var Kurstaki Strain HD-1, serotype 3a, 3b, 3.5% ES for Import & repack.Potency17600 IU/mg			
Crop	Common name of Pest	Formulation (ml/ha)	Dilution of water (lit.)
Cotton	Bollworm	750-1000	750-1000

Bacillus thuriengiensis Var Kurstaki Serotype 3a, 3b, SA II WG Potency:- 53000 SU/mg, 32000 IU/mg			
Cabbage, Cauliflower	Diamond back moth	0.5 kg/ha	500-700ha

Beauveria bassiana 1.15% W.P.			
Cotton	**Bollworm**	400 gm/ha	750-1000 lit/hac

Beauveria bassiana 1.15% W.P. ($1x10^8$/gm min) Strain BB-ICAR-RJP Accession No – MCC 1022

Rice	**Rice leaf folder (Cnaphalocrosis medinalis)**	**2.5 kg/ha**	**750-850 L/Ha**	**-**

***Beauveria bassiana* 1.15% W.P. (Strain : BB – 5372, own R & D Isolate)**				
Crop	**Common name of Pest**	**Dosages (Kg) per Hectare**		**Waiting period between last application & harvest (Days)**
		Formulation (ml/ha)	**Dilution of water (lit.)**	
Rice	**Rice leaf folder (*Cnaphalocrosis medinalis*)**	**2.5 kg/ha**	**600-750 L/Ha**	**--**

Beauveria bassiana 1.15% W.P. ($1x10^8$ /gm min) Strain ICAR, Research Complex, Umiam, Meghalaya, Accession No – NAIMCC-F-03045				
Rice	**Rice leaf folder (Cnaphalocrosis medinalis)**	**2.5 kg/ha**	**750-850 L/Ha**	**-**

***Beauveria bassiana* 1.15% W.P. ($1x10^8$ /gm min) Accession No – NAIMCC-F-03045 Strain No. NBAIM, MAU.**				
Rice	**Rice leaf folder (*Cnaphalocrosis medinalis*)**	**2.5 kg/ha**	**750 L/Ha**	**-**

Beauveria bassiana 1.15% W.P. ($1x10^8$ /spores/ml) Strain BCRL, Accession No – BCRL Bbpx-6892					
Cabbage	Diamond back moth (*Plutella xylostella*)	1.1.5 litre/ha formulation	500-750 litre/ha of water	Apply using any type of sprayer (high, low or ultra low volume) which gives good coverage	NA

***Beauveria bassiana* 1% WP Strain No: NBRI – 9947 ($1x10^8$ CFU/gm min)**					
Chick pea	Pod borer (Helicoverpa	-	3 kg.	500 L/Ha	-

	armigera)				

***Beauveria bassiana* 1% WP (1x10^9 CFU/gm min) Strain No. IPL/BB/MI/01**					
Okra	Fruit borer / spotted bollworm	-	3.75-5.0 kg	400-500 L/Ha	-

***Beauveria bassiana* 1% WP (1x10^8 CFU/gm min) Strain No. SVBPU/CSP/Bb-10, Accession No. ITCC-7520**					
Chick pea	Pod borer (*Helicoverpa armigera*)	-	3.0 kg/ha	500 l/ha	-

***Beauveria bassiana* 5% WP (1x10^8 CFU/gm min) Strain IARI, Accession No. ITCC-7353**					
Cabbage	Diamond back moth (*Plutella xylostella*)	2.0 kg.	500litre/ha of water	-	-

***Beauveria bassiana* 5% SC Strain : NBAII , Bangalore , Accession No. ITCC-7102, (Strain Isolated by Project Directorate of Bio-logical control, Bangalore)**				
Crop	Common Name of the Pest	Dosage per hectare		Waiting period from last spray to harvest (days)
		Formulation (ml)	Dilution in water (ltr.)	
Tomato	Fruit borer (*Helicoverpa armigera*)	500	500	-

***Beauveria bassiana* 5% AS Strain : BB-AAU-RJP Accession No. MCC – 1024**				
Crop	Common Name of the Pest	Dosage per hectare		Waiting period from last spray to harvest (days)
		Formulation (ml)	Dilution in water (ltr.)	
Tomato	Fruit borer (*Helicoverpa armigera*)	0.5	500	-

Beauveria bassiana 1.15% W.P. ($1x10^8$ /gm min) Accession No – NAIMCC-F-03048				
Chick pea	Gram Pod Borer (*Helicoverpa armigera*)	2500	500	-

Metarhizium Anisopliae 1.15% WP ($1x10^8$ CFU/gm min) Accession No. MTCC – 5173				
Crop	Name of the Pest	Dosage per hectare		Waiting period
Rice	Brown plant hopper (BPH) (Nilapavata lungens)	2.5 kgs (Formulated)	500 Liters of water	-----

Metarhizium Anisopliae 1.0% WP ($1x10^8$ CFU/gm min) Strain No. IPL/KC/44 (Own R & D Isolate), Accession No. 6895.				
Crop	Name of the Pest	Dosage per kg/hectare	Dilution in Water (Liter)/ha	Waiting period
Brinjal	Shoot & Fruit borer (*Leucinodes orbonalis)*	2.5-5.0	500-750	-----

***Pseudomonas fluorescens* 1.0% WP (Strain No. IIHR-PF-2, Accession No. ITCC- B0034)**

Tomato	Root-Knot nematodes *(Meloidogyne spp.)*	Treat the seed with ***Pseudomonas fluorescens*** 1% WP @ 20 gm/kg of seeds & treat the nursery beds with the ***Pseudomonas fluorescens*** 1% WP @ 50gm/sq.m and apply ***Pseudomonas fluorescens*** 1% WP @ 5kg/ha enriched FYM* @ 5 tons /hectare to the soil before transplanting.
Brinjal	Root-Knot nematodes *(Meloidogyne spp.)*	Treat the seed with ***Pseudomonas fluorescens*** 1% WP @ 20 gm/kg of seeds & treat the nursery beds with the ***Pseudomonas fluorescens*** 1% WP @ 50gm/sq.m and apply ***Pseudomonas fluorescens*** 1% WP (@ 5kg/ha) enriched FYM* @ 5 tons /hectare to the soil before transplanting.
Carrot	Root-Knot nematodes *(Meloidogyne spp.)*	Treat the seed with ***Pseudomonas fluorescens*** 1% WP @ 20 gm/kg of seeds & treat the nursery beds with the ***Pseudomonas fluorescens*** 1% WP @ 50gm/sq.m and apply ***Pseudomonas fluorescens*** 1% WP (@ 5kg/ha) enriched FYM* @ 5 tons /hectare to the soil before transplanting.
Okra	Root-Knot nematodes *(Meloidogyne spp.)*	Treat the seed with ***Pseudomonas fluorescens*** 1% WP @ 20 gm/kg of seeds & treat the nursery beds with the ***Pseudomonas fluorescens*** 1% WP @ 50gm/sq.m and apply ***Pseudomonas fluorescens*** 1% WP @ 5kg/ha enriched FYM* @ 5 tons /hectare to the soil before transplanting.

Trichoderma harzianum **1.0% WP (Strain No. IIHR-TH-2 Accessions No. ITCC 6888)**		
Tomato	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seeds with ***Trichoderma harzianum*** 1% WP @ 20 gm/kg of seeds & nursery beds with the ***Trichoderma harzianum*** 1% WP @ 50gm/sq.m and also apply ***Trichoderma harzianum 1%*** WP (@ 5kg/ha) enriched FYM* @ 5 tons /hectare to the soil before transplanting.
Brinjal	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seeds with ***Trichoderma harzianum*** 1% WP @ 20 gm/kg of seeds & nursery beds with the

		Trichoderma harzianum 1% WP @ 50gm/sq.m and also apply ***Trichoderma harzianum 1%*** WP (@ 5kg/ha) enriched FYM* @ 5 tons /hectare to the soil before transplanting.
Carrot	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seeds with ***Trichoderma harzianum*** 1% WP @ 20 gm/kg of seeds and apply ***Trichoderma harzianum*** 1% WP (@ 5kg/ha) enriched FYM* @ 5 tons /hectare to the soil before sowing.
Okra	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seeds with ***Trichoderma harzianum*** 1% WP @ 20 gm/kg of seeds and apply ***Trichoderma harzianum*** 1% WP (@ 5kg/ha) enriched FYM* @ 5 tons /hectare to the soil before sowing.
Trichoderma harzianum **1.5% WP (Strain No. IIHR-TV-5 Accessions No. ITCC 6889)**		
Tomato	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seed with ***Trichoderma harzianum*** 1.5% WP @ 20 gm/kg of seeds & treat the nursery beds with the ***Trichoderma harzianum*** 1.5% WP @ 50gm/sq.m and also apply ***Trichoderma harzianum 1.5%*** WP @ 5kg/ha enriched FYM* @ 5 tons /hectare to the soil before transplanting.
Brinjal	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seed with ***Trichoderma harzianum*** 1.5% WP @ 20 gm/kg of seeds & treat the nursery beds with the ***Trichoderma harzianum*** 1.5% WP @ 50gm/sq.m and also apply ***Trichoderma harzianum 1.5%*** WP @ 5kg/ha enriched FYM* @ 5 tons /hectare to the soil before transplanting.
Carrot	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seed with ***Trichoderma harzianum*** 1.5% WP @ 20 gm/kg of seeds & treat the nursery beds with the ***Trichoderma harzianum*** 1.5% WP @ 50gm/sq.m and also apply ***Trichoderma harzianum 1.5%*** WP @ 5kg/ha enriched FYM* @ 5 tons /hectare to the soil before transplanting.
Okra	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seed with ***Trichoderma harzianum*** 1.5% WP @ 20 gm/kg of seeds & treat the nursery beds with the ***Trichoderma harzianum*** 1.5% WP @ 50gm/sq.m and also apply ***Trichoderma harzianum 1.5%*** WP @ 5kg/ha enriched FYM* @ 5 tons /hectare to the soil

		before transplanting.

***Trichoderma viride* 1.5% WP (Strain No. IIHR-TV-5 Accessions No. ITCC 6889)**		
Tomato	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seeds with *Trichoderma viride* l.5 % W.P. @ 20 gm/kg of seeds & nursery beds with rhe *Trichoderma viride* l.5 % W.P. @ 50 gm/sq.m. and also apply *Trichoderma viride* 1.5% W.P. (@ 5kg/hectare) enriched FYM* @ 5 tons/hectare to the soil before transplanting.
Brinjal	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seeds with *Trichoderma viride* l.5 % W.P. @ 20 gm/kg of seeds & nursery beds with rhe *Trichoderma viride* l.5 % W.P. @ 50 gm/sq.m. and also apply *Trichoderma viride* 1.5% W.P. (@ 5kg/hectare) enriched FYM* @ 5 tons/hectare to the soil before transplanting.
Carrot	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seeds with Trichoderma viride l.5 % W P @ 20 gm/kg of seeds and apply Trichoderma viride 1.5% W.P. (@ 5kg/hectare) enriched FYM* @ 5 tons/hectare to the soil before Planting'.
Okra	Root-Knot nematodes *(Meloidogyne incognita)*	Treat the seeds with Trichoderma viride l.5 % W P @ 20 gm/kg of seeds and apply Trichoderma viride 1.5% W.P. (@ 5kg/hectare) enriched FYM* @ 5 tons/hectare to the soil before Planting'.

Verticillium Chlamydosporium 1% WP ($2x10^6$ CFU/gm min) Strain – IIHR-VC-3 Acession No – ITCC-6898 .		
Tomato	Root Knot nematodes (*Meloidogyne incongita.)*	Treat the seeds with Verticillium chlamydosporium 1% WP @ 20 gm/kg of seeds & nursery beds with the Verticillium chlamydosporium 1% WP @ 50 gm/sq.m and also apply Verticillium chlamydosporium 1% WP @ 5 kg/ha enriched FYM* @ 5 tons/ha to the soil before transplanting.
Brinjal	Root Knot nematodes (*Meloidogyne incongita.)*	Treat the seeds with Verticillium chlamydosporium 1% WP @ 20 gm/kg of seeds & nursery beds with the Verticillium chlamydosporium 1% WP @ 50 gm/sq.m and also apply Verticillium chlamydosporium 1% WP @ 5 kg/ha enriched FYM* @ 5 tons/ha to the soil before transplanting.

Carrot	Root Knot nematodes (*Meloidogyne incongita.)*	Treat the seeds with Verticillium chlamydosporium 1% WP @ 20 gm/kg of seeds and apply Verticillium chlamydosporium 1% WP @ 5 kg/ha enriched FYM* @ 5 tons/ha to the soil before transplanting.
Okra	Root Knot nematodes (*Meloidogyne incongita.)*	Treat the seeds with Verticillium chlamydosporium 1% WP @ 20 gm/kg of seeds and apply Verticillium chlamydosporium 1% WP @ 5 kg/ha enriched FYM * @ 5 tons/ha to the soil before transplanting.

Verticillium Lecanii 1.15%WP (1x10^8 CFU/gm min) Strain – AS MEGH-VL Acession No – MCC-1028				
Cotton	White flies	2500 (formulated	500 litres of water	----

Verticillium Lecanii 1.15%WP (1x10^8 CFU/gm min) Strain – AS MEGH-VL Acession No – MCC-1028				
Citrus	Mealybugs (Planococcus citri)	2.5 kg	550 litres of water	----

Verticillium Lecanii 1.15%WP (1x10^8 CFU/gm min) Strain – AS MEGH-VL Acession No – MCC-1028				
Citrus	Mealybugs (Planococcus citri)	2.5 kg	550 litres of water	----

***Verticillium Lecanii* 1.15%WP (1x10^8 CFU/gm min) Strain – ICAR RCU, MEGHALAYA, Acession No – NAIMCC-F-03046**				
Citrus	Mealy bugs and Scales insect (*Planococcus citri* and *Coccus viridis*)	1.0 Kg.	240 Ltrs. of water	----

Verticillium Lecanii 1.50% Liquid Formulation (1x10^8 CFU/ml. min.) Strain – T Stanes VI-1, Accession No – MTCC-5172

Tomato	White fly *(Bemisia tabaci)*	2.0	Foliar spray	Dilution in 500 lit / ha.

***Verticillium lecanii* 3.0 % AS (strain: Accession No. MCC-1127, Strain No. MPKV / Biocontro/ RVN/ VL-01**				
Crop	Common Name of the Pest	Dosage (liter)per hectare		Waiting period from last spray to harvest (days)
		Formulation (ltrs.)	Dilution in water (ltrs.)	
Onion	Thrips (*Thrips tabaci)*	2 – 2.5	500	----

***Verticillium lecanii* 5% SC (strain: Accession No. NFCCI - 2638**				
Cabbage	Diamond Back Moth (*Plutella Xylostella*)	500	500	----

***Verticillium lecanii* 5%SC ($1x10^8$ CFU/gm min) Strain – Own Red Isolate, Strain No. VI-17874, MTCC No.5716**				
Rice	White backed plant hopper *(Sogotella furcifera)*	3.125 Kg.	600 Ltrs. of water	----

Nuclear Polyhedrosis Virus of Helicoverpa Armigera 0.43% AS ($1x10^9$ POB/ml)					
Cotton	Helicoverpa Armigera		2700 ml	400-600 L/Ha	-

Tomato	Helicoverpa Armigera		1500 mlo	400-600 L/Ha	-

NPV of *Helicoverpa armigera* 2.0% AS Strain No. GBS/HNPV -01 (1x10^9 POB/ml min)					
Pigeon pea	Pod borer (*Helicoverpa armigera*)	-	250-500 ml	500-750	-
Gram	Pod borer (*Helicoverpa armigera*)	-	250-500 ml	500-750	-

NPV of *Helicoverpa armigera* 2.0% AS Strain No. NBRI-8821 (1x10^9 POB/ml min)			
Crop	**Name of Pest**	**Dose (ml)/ha (Formulation)**	**Dilution in Water (Litre/ha)**
Pigeon pea	Pod borer (*Helicoverpa armigera*)	500	500

NPV of *Helicoverpa armigera* 2.0% AS Strain No. IBH-17268 (1x10^9 POB/ml min)					
Pigeon pea	Pod borer (*Helicoverpa armigera*)	-	250-500 ml	500-750	-
Gram	Pod borer (*Helicoverpa armigera*)	-	250-500 ml	500-750	-

Strain No. BIL/HV-9 POB(1x10^9 POB/ml)					
Pigeon pea	Pod borer (*Helicoverpa*	-	250-500 ml	500-750	-

	armigera)				
Chick pea	Pod borer (*Helicoverpa armigera*)	-	250-500 ml	500-750	-
Tomato	Fruit borer (*Helicoverpa armigera*)	-	250-500 ml	500	-

Strain No. IBL-17268					
Pigeon pea	Pod borer (*Helicoverpa armigera*)	-	250-500 ml	500-750	-
Chick pea	Pod borer (*Helicoverpa armigera*)	-	500-1000 ml	500-750	-

NPV of *Helicoverpa armigera* 0.43% AS Strain No. BIL/HV-9 (1x10^9 POB/ml)					
Cotton	*Helicoverpa armigera*	-	2700 ml	400-600	-
Tomato	*Helicoverpa armigera*	-	1500 ml	400-600	-

NPV of Spodoptera litura 0.5%AS (1x10^9 POB/ml min)					
Tobacco	Spodoptera litura	-	1500	400-600	-

NPV of Helicoverpa armigera 0.5%AS (1x10^9 POB/ml min)				
Crop	**Name of Pest**	**Dose (ml)/ha (Formulation)**	**Dilution in Water (Litre/ha)**	**Waiting period**

Chickpea	Pod borer (*Helicoverpa armigera*)	250	500	-

NPV of *Helicoverpa armigera* 2.0%AS ($1x10^9$ POBs count / ml min) Biological Insecticide				
Crop	**Name of Pest**	**Dose (ml)/ha (Formulation)**	**Dilution in Water (Litre/ha)**	**Waiting period**
Chickpea	Chick pod borer (*Helicoverpa armigera*)	250	600	-

C. Public health use: Page 39-42

Azadirachtin 0.15% EC				
Mosquito larvae	**Hebitat**	**a.i. (gm)**	**Formulation (gm)**	**Surface**

Mosquito larvae	Stagnant water, drainage, water puddle, iron containers, machinery scraps, iron box, iron tanks, plastic scraps, pit.	1 .0 5.0 933.3	1 .0 5.0 933.3	10.7 m^2 53.6 m^2 1 hectare

Bacillus thuringiensis var. israelensis WP.			
Name of insect	Dosage/h		Interval between applicatio
	a.i. (gm)	Formulation(Kg.)	
Anopheles and Culex (larvae)	---	2 – 5 Kg/ha	2-4 weeks

Bacillus thuringiensis Var-esraelensis , Serotype H-14 (VECTOBAC 12 AS) Potency 1200 ITU / MG (VCRC Serotype H-14 strain			
Culex	Drains, Cesspits Casuarina pits, Disused wells	5.0 litres.	1 liter in 100 lts of water
Anopheles	Paddy fields, Ponds, pools	10.0 litres.	1 liter in 50 lts of water
Aedes	Tree holes, disused tyres	10.0 litres.	1 liter in 50 lts of water
Culex	Drains, Cesspits Casuarina pits, Disused wells	5.0 litres.	1 liter in 100 lts of water

Bacillus thuriengiensis var Israelensis, Serotyp H-14 (Vectobac 12 AS) potency 1200 ITU/mg		
Name of Insect	Habitat	Formulation (lit/ha.)
Anoppheles	Clean water, cement tanks	1-2 ltrs
Culex	Polluted water, Casspits, Cement tank, Stagnant and flowering drains	2-4

***Bacillus thuriengiensis* var Israelensis 5.0% AS (Strain VCRC-B-17, Serotype H-14, Accession No.-MTCC 5596) potency 630 ITU/mg.min.**			
Mosquito species	Habitat	Dose/ha Formulation (Liter)	Dilution in water (Litres)
Culex	Polluted water (Drain, Cesspits, Casuarina, Pit, Disused well)	5-10	1 liter in 50-100 liters of water
Anoppheles	Clean water (Ponds, Pool, Paddy fields)	5	1 liter in 100 liters of water
Aedes	Tree holes, disused tyres	10	1 liter in 100 liters of water

Bacillus thuriengiensis var Israelensis, Serotyp H-14, 5% WP Potency 2000 ITU/mg		
Area and Breeding (Habitat)	Dose (g/m^2)	Recommended application Frequency
River bed pool	0.5	Weekly
Cement tanks	0.5	Fortnightly
Pokhars small kaccha or cement tanks with low walls	0.5	Weekly
Pits and ditches	0.5	Weekly
Paddy fields	0.5	Weekly
Semi polluted pits	0.5	Weekly
Ornamental fountains	0.5	Fortnightly
Septic tanks	1.0	Weekly / Fortnightly
Flood prone polluted cesspits and ditches	0.5	Weekly
Drains with polluted stagnant or flowing very slowly	0.5	Weekly / Fortnightly

Bacillus thuriengiensis var Israelensis, Strain Designation- ABIL, Acession No. NAMICC-B01318 (Cfu Count- 4.8 x 10^8) Serotyp H-14, 5% WP Potency 7000 ITU/mg				
Name of Insect	Habitat	Formulation (lit/ha.)		Dilution in water
		Gm/m^2	Kg/ha	
Anopheles, Culex & Aedes	Clean water, (cement tanks, coolers, drains, pools and pits)	0.75	7.50	200
	Highly Polluted water- (Underground tanks,	1.00	10.00	200

	container, drums & tyros)			

Area and Breeding (Habitat)	Dose (g/m^2)	Recommended application Frequency
River bed pool	0.5	Weekly
Cement tanks	0.5	Fortnightly
Pokhars small kaccha or cement tanks with low walls	0.5	Weekly
Pits and ditches	0.5	Weekly
Paddy fields	0.5	Weekly
Semi polluted pits	0.5	Weekly
Ornamental fountains	0.5	Fortnightly
Septic tanks	1.0	Weekly / Fortnightly
Flood prone polluted cesspits and ditches	0.5	Weekly
Drains with polluted stagnant or flowing very slowly	0.5	Weekly / Fortnightly

Bacillus thuriengiensis var. sphaericus1593 M sero type H 59 5b			
Name of Insect	Habitat	Formulation (Kg.)	Dilution in water
Anophles species Culex species	For Drains, Cesspits Cesspools, Paddy fields, ponds	112	1 liter in 10 lts of water
Anophles species Culex species	Camsuarina pits, unused wells, unused overhed tanks, Domestic wells (Not for drinking requirements)	112	1 liter in 10 lts of water

Bti 12% AS (Vectobac)		
Anopheles	Clean water, cement tanks	1-2 ltrs.
Culex	Polluted water, cess pits, cement tanks, stagnant and flowing drains	2-4ltrs.

Bacillus sphaericus 1593 M sero type H 59 5b, 1.3% flowable concentrate Potency 13000 IU/mg

Anophles species Culex species	For Drains, Cesspits Cesspools, paddy fields, ponds	112ml	1 ltr/10 ltr of water	-
Anophles species Culex species	Camsuarina pits, unused wells, unused overhed tanks, Domestic wells (Not for drinking requirements)	112ml	1 ltr/10 ltr of water	

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

Major Uses of Pesticides
Registered under the Insecticides Act, 1968

UP TO 31.10.2019

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

HERBICIDES

1. Herbicides products approved uses
2. Herbicides combinations approved uses

APPROVED USES OF REGISTERED HERBICIDES

HERBICIDES

Herbicide name & approved Crops	Weed species	Dosage /ha		Dilution In Water (Litres)	Waiting period / PHI between last application & harvest (days)
		a.i. (gm/ Kg)	Formulation in (gm/ ml /Kg/ ltr)		
Alachlor 50% EC					
Cotton	*Digera arvensis* *Echinochloa colonum,* *Eragrostis major* *Euphorbia hirta* *Phyllanthus niruri* *Portulaca oleracea* *Trianthema portulacastrum* *Flaveria australasica* *Gynandropsis pentaphylla*	2-2.5 kg	4-5 ltrs.	250-500	210-240
Maize	*Echinochloa colonum,* *Euphorbia hirta* *Eleusine indica*	2.5 kg	5 ltrs.	250-500	90
Groundnut	*Amaranths viridis* *Digitaria spp.* *Echinochloa spp.* *Euphorbia hirta* *Phyllanthus niruri* *Portulaca oleracea* *Trianthema portulacastrum*	2.5 kg	5 ltrs.	250-500	120-150
	Acanthosermum hispidum *Flaveria australasica*	1.5-2.5 kg	3-5 ltrs.	250-500	120-150

Soybean	*Amaranthus viridis* *Cleome viscose* *Cyperus iria* *Dactyloctenium aegyptium* *Echinochloa spp.* *Eleusine indiaca* *Setaria glauca*	2.5 kg	5 ltrs.	250-500	
Alachlor 10% GR					
Cotton	*Dactyloctenium aegyptium*	2.0-2.5 Kg	20-25 Kg	-	-
Maize / Groundnut / Soybean	*Digitaria spp.,* *Echinochloa spp.,* *Chenopodium album*	1.5-2.5 Kg	15-25 Kg	-	-
Anilofos 30% EC					
Transplanted paddy	*Echinochloa crusgalli* *Echinochloa colonum* *Cyperus difformis,* *Cyperus iria,* *Eclipta alba* *Ischaemum rugosum* *Fimbristylis sp.* *Marsilea quadrifoliata*	0.3-0.45 kg	1-1.5 ltrs.	375-500	30
Anilofos 18% EC					
Transplanted Paddy	*Echinochloa crusgalli* *Echinochloa colonum* *Cyperus difformis,* *Cyperus iria,* *Eclipta alba* *Ischaemum rugosum* *Fimbristylis sp.*	0.30-0.45 kg	1.66-2.5 kg	500-600	-
Anilophos 2 % G					

Transplanted rice	*Echinochloa crusgalli* *Echinochloa colonum* *Ischaemum rugosum* *Cyperus iria,* *Cyperus difformis,* *Fimbristylis sp.*	0.4-0.5 Kg	20-25 Kg	-	30
Atrazine 50% WP					
Maize	*Trianthama monogyna* *Digera arvensis,* *Echinochloa spp* *Eleusine Spp.* *Xantheium strumarium* *Brachiaria sp, Digitaria sp, Amaranthus viridis,* *Cleome viscose,* *Polygonum spp.*	0.5-1.0 kg	1-2 kg	500-700	-
Azimsulfuron 50% DF					
Rice (Transplanted)	*Enchinochloa colonum, E. crusgalli, Cyperus spp., Fimbristylis miliacea, Ludwigia parviflora, Eclipta alba, Bergia capensis, Marsilea quadrifoliata, Ammania baccifera, Sphenoclea zeylanica*	35	70	300	59
Rice (Direct Seeded)	*Enchinochloa colonum, E. crusgalli, Cyperus spp., Fimbristylis miliacea, Ludwigia parviflora, Eclipta alba, Bergia capensis, Marsilea quadrifoliata, Ammania baccifera, Sphenoclea zeylanica*	35	70	300	59
Bensulfuron Methyl 60% DF					

Transplanted Rice. Pre-em (3 DAT)	*Marsilea quadrifoliata Eclipta alba, Ammania baccifera ,Ludwigia parviflora ,Sphenoclea Zeylenica , Monochoria vaginalis , Alternanthera sessillis Cyperus iria , Cyperus difformis , Fimbristylis miliacea, Scirpus royeli*	60 gm	100 gm	300 ltrs	88 days
Transplated Rice (post-em 20 DAT)	*Ammania baccifera* *Cyperus differmis* *Cyperus iria* *Eclipta alba* *Fimbristylis miliacca* *Ludwigia parviflora* *Marsilea quadrifoliata* *Monochoria vaginalis* *Alternanthera sessillis* *Scirpus royeli* *Sphenoclea zeylenica*	60gm	100 gm	300 ltrs.	71
Bentazone 480 g/l SL					
Soybean (Early POE: 2-3 leaf stage of weeds)	*Cyperus rotundus* *Achalipha indica* *Commelina bengalansis* *Echinocloa colanum* *Echinocloa crusgalli*	960	2000	500	62
Transplanted rice (Early POE: 2-3 leaf stage of weeds)	*Cyperus rotundus* *Cyperus diformis* *Ludwigia sps.* *Eclipla alba* *Echinocloa colanum* *Echinocloa crusgali*	960	2000	500	71
Bispyribac Sodium 10% SC					
Rice (Nursary) (10-12 DAS)	*Echinochloa crusgalli* *Echinochloa colonum*	20 gm	200 ml.	300 ltrs.	-
Rice (Transplanted) (10-14 DAP)	*Ischaemum rugosum* *Cyperus differmis,* *Cyperus iria ,*	20-25 gm	200-250 ml	300 ltrs.	78

Rice (Direct seeded) (10-15 DAS)	*Fimbristylis miliacea , Eclipta alba , Ludwigia parviflora, Monochoria vaginalis, ,Alternanthera philoxeroides , Sphenoclcea zeylenica*	20-25 gm	200-250 ml	300 ltrs.	78
Butachlor 50% EC					
Paddy (transplanted)	*Cyperus difformis Cyperus iria Echinochloa crusgalli, Echinochloa colonum, Eleusine indica, Eclipta alba, Fimbristylis miliacea, Ludwigia parviflora, Sphenoclea zeylanica*	1.25-2.00kg	2.5-4 ltrs	250-500	90-120
Butachlor 5% GR					
Transplanted Rice	*Echinochloa Crusagalli Digitaria sanguinalis Setaria spp., Commelina benghalensis, Fimbristylis milliacea, Cyperus iria, Eleusine indica, Panicum spp., Echinochloa Colonum, Eclipta alba, Cyperus Defformis, ludwigia paviflora.*	**1.25 -1.87 Kg**	**25.00 – 37.50 Kg**	**-**	**90 - 105**
Butachlor 50 % EW					
Transplanted Rice	*Echinochloa colonum Echinochloa crusgalli, Cyperus difformis Cyperus iria Eclipta alba, Fimbristylis miliacea Ludwigia parviflora, Sphenoclea zeylanica Monochoria vaginalis*	1.25-1.5 Kg	2.5-3.0	2.50-500	-

Carfentrazone ethyl 40% DF					
Wheat (25-35 DAS)	*Chenopodium album,* *Melilotus Indica,* *Melilotus alba,* *Medicago denticulata,* *Lathyrus aphaca,* *Analgalis arvensis,* *Vicia sativa* *Circium arvense* *Rumex sp,* *Malwa sp.*	20gm	50 gm.	400	80
Direct seeded Rice (10-15 DAS)	*Ludwigia parviflora* *Digera arevensis* *Phyllanthus niruri* *Spilanthes sp,* *Eclipta alba* *Cyperus sp.*	25	62.50	300	102
Chlorimuron Ethyl 25% WP + Surfactant					
Soybean (3-15DAS)	*Cyperus rotundus* *Commelina benghalensis* *Celosia argentea* *Digera arvensis* *Cucumis trigonus* *Cyprus iria,* *Parthenium hysterophorus,* *Acalypha indica,* *Phyllanthus niruri,* *Trianthema portulacashurm,* *Caesulia auxillaris*	9 gm	36 gm.	300 ltrs. + non-ionic surfactant 0.2 % (Iso-octyl phenoxyl-poloxethanol 12.5 %)	45
Rice (transplanted) (5-10 DAT)	*Echinochloa crusgalli,* *Eclipta alba,* *Commelina benghalensis,* *Chenopodium album,* *Cyperus rotundus,* *Echinochloa colonum*	6gm	24 gm.	500-600	60
Cinmethylin 10% EC					

Transplanted Rice	*Cyperus iria Fimbristylis milacea Monochoria vaginalis Commelina Benghalensis Echinocloa crusgalli Marsilea minuta*	75-100 gm	0.75-1.0 ltrs.	500-700	110
Clodinafop- propargyl 15%WP					
Wheat	*Phalaris minor (Canary grass)*	60gm	400 gm.	375-400	110
Clomazone 50%EC					
Soybean	*Digiteria sp. Echinochloa sp. Parthenium hysterophorus Commelina sp.*	0.75-1.00Kg	1.5-2.0 Ltrs.	500-600	90
Transplanted Rice	*Echinochloa crusgalli Echinochloa colonum Cyperus difformis Cyperus iria, Ludwigia parviflora ,Eclipta alba*	0.4 - 0.5kg	0.8-1.0 ltr	500-750	90
Sugarcane	*Enchinochloa colonum Brachiaria repens Dactylotenium aegyptium Trianthema portulacastrum*	0.75-1.00 kg a.i./ha	1.5-2.0 ltr/ha	500 Lit	296
Cyhalofop Butyl 10% EC					
Rice (Directed seeded)	*(Echinochloa spp.) Barnyard grass*	75-80 gm	0.75-0.80ltr	500-600	90
2,4-D Dimethyl Amine salt 58% SL					

Maize	*Trianthema monogyna, Amaranthus sp., Tribulus terristeris, Boerhaavia diffusa, Euphorbia hirta, Portulaca oleracea, Cyperus sp.*	0.5 kg	0.86	400-500	50-60
Wheat	*Chenopodium album, Fumaria parviflora, Melillotus alba , Vicia sative , Asphodelus tenuifolius , Convolvulus arvensi;s .*	0.5-0.75 kg	0.86-1.29	500-600	-
Sorghum	*Cyperus iria, Digera arvensis, Convolvulus arvensis, Trianthema sp., Tridax procumbens, Euphorbia hirta, Phyllanthus niruri.*	1.8 kg	3.1	500-600	-
Potato	*Chenopodium album, Asphodelus tenuifolius, Anagalis arvensis, Convolvulus arvensis, Cyperus iria, Portulaca oleracea.*	2.0 kg	3.44	400	-
Sugarcane	*Cyperus iria* *Digitaria sp.* *Dactylactenium aegyptium* *Digera arvensis* *Portulaca oleracea* *Commelina benghalensis* *Convolvulus arvensis*	3.5	6.3	500	-
Aquatic Weeds	*Eichhornia crassipes.*	0.5-1.0 kg	0.86-1.72	600-700	15-20
Non crop area	*Parthenium hysterophorus,*	2.65 kg	4.56	300-400	15-20
	Cyperus rotundus	2.5 kg	4.30	300-400	-
2,4-D Sodium salt Technical (having 2,4-D acid 80 % w/w) (Earlier Registered as 80%WP)					

Citrus	*Euphorbia spp.* *Convolvulus arvensis* *Coronopus didymus* *Amaranthus viridis* *Oxalis corniculata* *Tribulus terrestris* *Fumaria parviflora* *Sonchus arvensis*	1.00-2.5 kg	1.25-3.2 kg	600	>6 months
Grapes	Convolvulus spp. Tridax procumbens	2.0	2.5	500	> 90 days
Maize	*Amaranthus viridis,* *Trianthema portulacastrum* *Phyllanthus niruri.,* *Euphobia geniculata,* *Amaranthus spinosus.* *Cleome chelidonii,* *Lagasca mollis*	1.00 Kg.	1.25	500	120(Pre-em) 90(post-em)
Sugarcane	*Boerhaavia diffusa* *Chenopodium album* *Tribulus terristris* *Portulaca oleracea* *Xanthium spp.* *Convolvulus arvensis* *Amaranthus spinosus* *Digera arvensis* *Celosia argentina.*	2.0-2.6	2.5-3.25	600-900	300
Wheat	*Leucas aspera,* *Chenopodium album,Vicia sativa,* *Argemone maxicana,* *Fimbristylis miliacea,* *Anagalis arvensis,* *Amaranthus spinosus.*	0.5-0.84 kg.	0.625-1.0	500	90
Aquatic Weeds	*Boerhaavia hispada,* *Eichhornia crassipes.*	1.5 kg	1.85.	600-1000	-
Non crop land	*Parthenium hysterophorus,* *Cyperus rotundus,* *Solanum elaeagnifolium.*	2.5-6.0 kg. 4-8 Kg 1.8 kg	3.2-7.5 5-10 2.25	600-1000 500-600 500-600	- - -

2,4-D Ethyl Ester 38 % EC (having 2,4-D acid 34 % w/w)					
Maize	*Trianthema monogyna , Amaranthus sp. , Portulaca oleracea., Tribulus terristris, Boerhaavia diffusa, Euphorbia hirta ,Cyperus sp.*	0.9 kg	2.65 ltr	400-450	50-60
Sorghum	*Cyperus iria, Striga sp. Digera arvensis, Convolvulus arvensis, Trianthema sp., Tridax procumbens,* *Euphorbia hirta, Phyllanthus niruri.*	1.0 kg	2.94	425	-
Transplanted Paddy	Echinochloa colonum, Echinochloa crusgalli.	0.85 kg	2.5	400	-
Wheat	*Chenopodium album, Asphodelus tenuifolius, Fumaria parviflora Melilotus alba. Spergula arvensis*	0.45-0.75 kg	1.32-2.2	450-500	-
Sugarcane	*Cyperus iria, Digitaria sp., Dactyloctenium, Aegyptiana, Digera arevensis, Portuluca oleeracea, Commelina benghalensis, amaranthus sp., Convolvulus arvensis*	1.2 to 1.8	3.53- 5.29	500	300-330
Aquatic Weeds	*Eichhornia crassipes*	2.5 kg	7.5	700-1000	-
2,4-D Ethyl Ester 4.5 % GR (having 2,4-D acid 4 % w/w)					

Transplanted Rice	*Echinochloa Coloum* *E. Crusgalli* *Panium ischaemum* *Cynodon dactylon (germinating)* *Cyperus rotundus (germinating)* *Cyperus iria* *C. difformis* *Ludwigia parviflora* *Monochoria Vaginalis* *Marsilea quadrifoliata* *Cyanotis cucutata* *Eclipta alba* *Ammania baccifera*	1.0 kg	25 kg	-	-
Diclofop Methyl 28% EC					
Wheat	*Avena fatua, Phalaris minor*	0.7-1.0 kg	2.5-3.5 ltr	500	90
Diuron 80% WP					
Cotton	*Amaranthus spp, Chenopodium album, Convolvulas arvensis Setaria glauca, Digitaria sp, Portulaca oleracea, Xanthium strumerium, Anagallis arvensis, Asphodelus temifolius, Euphorbia sp, Visia sativa Paspalum conjugatum,*	0.75-1.5 kg	1-2.2Kg.	625	-
Banana	*Cyperus iria, Commelina benghalensis, Digitaria sp,Amaranthus spp,Dactyloctenium,Chloris barbata,Eragrostis zeylenica,*	1.60 kg	2 kg.	625	-
Rubber	*Grasses & Non grasses*	1.6-3.2 kg	2-4kg.	625	-
Maize	*Cyperus iria, Echinochloa spp, Digitaria spp, Chenopodium album,*	0.8 kg	1.0 kg.	600	-

	Eleusine sp, Amaranthus sp, Phyllanthus niruri				
Citrus (sweet orange)	*Cyperus iria,Tribulus Terristris,Digera arvensis, Commelina nudiflora,Cocumis trigonus..*	2-4.0kg	2.5-5.0kg	600	-
Sugarcane	*Cyperus iria, Portulaca racea, Echinochloa rusgalli, Cynotis spp, Amaranthus spp, Convonvulus spp' Digitaria spp.*	1.6-3.2kg	2.0-4.0 kg.	600	-
Grapes	*Cleome viscose, Chenopodium album. Cyperus iria, Euphorbia hirta, Alternanthera echinata, Amaranthus spp, Argemone maxicana, Ipomoea spp, Xanthium strumerium, Fumeria parviflora, Asphodelus tenuifolius, Medicago denticulata, Eleusine aegyptia.*	1.6kg	2.0 kg.	625	-
Diclosulam 84% WDG					
Soybean	Cyperus spp, Commilena benghalensis, Euphorbia geniculata, Digera arvensis, Acylipha spp, Echinochlo colona	22-26gm	26.2-30.9 Time of application 0-3 DAS	500	60
Groundnut	*Amaranlhus viridis, Parthenium hysterophorus, Trianthema sp., Euphorbia geniculate, Cyperus spp., Echinochloa colona*	22-26	26.2-30.9	-	77
Ethoxysulfuron 15% WDG					

Transplanted Rice.	*Fimbristylis miliacea Cyperus iria ,Cyperus difformis, Scirpus sp.,Eclypta alba, Marsilea quadrifoliata, Ammania baccifera, Monochoria vaginallis ,*	12.5-15gm	83.3-100gm	500	110
Fenoxaprop-p-ethyl 9.3% w/w EC (9% w/v)					
Soybean	*Echinochloa colonum, Echinochloa crusgalli, Digitaria sp, Eleusine indica, Setaria sp, Brachiaria sp.*	100gm.	1111 ml. (15-20 DAS)	250-300	100
Rice (transplaned)	*Echinochloa crusgalli, Echinochloa colona*	56.25 gm	625 ml. (10-15 DAT)	300-375	70
Blackgram	*Echinochloa crusgalli, Echinochloa colona Digitaria sp. Dactylocteneum Aegyptium*	56.25-67.5 g	625-750ml. (15-20 DAS)	375-500	43
Cotton	*Echinochloa sp. Eluesine indica Dactylocteneum Aegyptium Eragrostit minor*	67.5 g	750ml. (20 -25 DAS)	375-500	87
Onion	*Echinochloa colonum Dactyloctenium aegyptium*	78.75	875	375	10
Fenoxaprop-p-ethyl 10% EC					
Wheat	*Phalaris minor*	100-120gm	1.0-1.20 kg.	250-300	110
Fenoxaprop-p-ethyl 6.7% w/w EC					

Rice (Transplanted & Direct Seeded)	*Echinochloa sp.*	56.6-60.38g	812.5-875	375-500	61
Fluazifop-p-butyl 13.4% EC					
Soybean	*Echinochloa colonum,* *Echinolchloa crusgalli,* *Eleusine indica,* *Cyanodon dactylon,* *Dactyloctenium Aegyptium,* *Digitaria sp.,* *Setaria sp.*	125-250 g	1000-2000	500	90
Flucetosulfuron 10% WG					
Rice (Transplanted)	*Echinochloa colonum* *Echinolchloa crusgalli* *Digitaria sanguinalis* *Paspalum discichum* *Paspalum scrobitulatum* *Leersia hexandra* *Panicum repens* *Setaria glauca* *Dinebra retroflexa* *Cyprus difformis* *Cyprus iria* *Fimbristylis miliaceae* *Alternanthera philoxeroides* *Alternanthera sessilis* *Marsilea quadrifolia* *Ammania baccifera* *Eclipta alba* *Eclipta prostrate* *Monochoria vaginalis* *Lindernia ciliate* *Ludwigia parviflora* *Sphenoclea zeylanica* *Commelina diffusa* *Cyanotis axillaris*	25	250	500	90
Fluchloralin 45% EC					

Cotton	*Acanthospermum hispidum, Cleome viscosa, Datura sp. Trianthema monogyna Tridax procumbens, Cynodon dactylon (germinating) Amaranthus spp., Portulaca spp, Achyranthus aspera, Euphorbia hirta, Cenchrus cathorticus, Digitaria sanguinalis, Eleusine sp, Panicum sp, Lagasca mollis, Gynandropsis pentaphylla, Achalypha indica*	0.9-1.2kg	2.0-2.68 ltrs.	500-800	180
Soybean	*Eragrostis sp., Boerhaavia hispada, Cyperus compestris,*	1.0-1.5kg.	2.22-3.33	500-800	120-150
Flufenacet 60% DF					
Paddy (Transplanted)	*Echinochloa crusgalli Echinochloa colonum Cyperus iria*	120 gm	200 gm	500	90-110
Flumioxazin 50% SC					
Soybean	*Commelina benghalensis, Digera arvensis, Euphorbia spp., Phyllannthus niruri, Echinochloa crusgalli*	125 g.a.i/ha	250ml/ha	500	110
Wheat	*Runnex spp., Medicago denticulate, Coronopus didymus, Chenopodium album, Phalaris minor, Avena fatua*	125 g.a.i/ha	250 ml/ha	500	137
Fluthiacet Methyl 10.3% EC					

Soybean	*Commelina sp, Digeru arvensis, Acalypha indica, Amaranlhus viridis.*	13.6	125	500	73
Glufosinate Ammonium 13.5% SL (15% w/v)					
Tea	*Panicum repens, Borreria hispida,Imperata cylindrical, Digitaria sanguinalis,Commelina benghalensis, Ageratum conyzoides, Eleusine indica,Paspalum conjugatum*	0.375-0.500	2.5-3.3	375-500	15
Cotton	*Echinochloa sp. Cynodon dactylon Cyperus rotundus Digitaria marginata Dactylocteneum aegyptium*	375-450	2.5-3.0	500	96
Glyphosate 20.2% SL IPA salt					
Non Crop area	*Phyllanthus niruri, Ageratum conyzoides, Parthenium hysterophorus, Sorghum halepense, Amaranthus spinosus, Alternanthera sessilis, Cynodon dactylon, Cyperus rotundus, Echinochloa colonum, Trianthema portalucastrum*	0.82-1.23 kg	4.1-6.15	400-500	N/A
Glyphosate Ammonium salt 20 % SL					

Non Crop area	*Cynodon dactylon* *Commelina benghalensis* *Panicum spp.* *Dactyloctenium aegyptium* *Eragrostis major* *Poa anua* *Cyperus rotundus* *Parthenium hysterophorous* *Acalypha indica* *Digeria arvensis* *Phyllanthus niruri* *Euphorbia geniculate* *Corchorus actangularis* *Saccharum spontenium* *Eleusine indica* *Imperata cylindrical* *Ageratum conzoides*	4.52-6.79g a.i./litre	20-30ml/lit	300-600	-
Glyphosate 41% SL IPA Salt					
Tea	*Arundinella bengalensis* *Axonopus compressus* *Cynodon dactylon* *Imperata cylindrical* *Kalm grass* *Paspalum scrobiculatum* *Polygonum perfoliatum*	0.820-1.230kg.	2.0-3.0	450	21
Non-cropped area	Soghum helepense and other dicot & monocot weeds in general	0.820-1.230kg.	2.0-3.0	500	-
Glyphosate 54% SL (IPA Salt)					
Non Crop Area	*Ageratum conyzoides* *Alternenthera sessilis* *Commilina spp* *Cyperus spp* *Echinochloa sp.* *Eclipta alba* *Iscaemum rogosum* *Setaria spp*	1.8 kg	3.33 ltrs.	400-500	-
Glyphosate Ammonium Salt 5% SL					

Tea	*Ageratum conyzoides* *Biden pilosa* *Boreria latifolia* *Cynodon dactylon* *Cyperus rotundus* *Digitaria sanguinalis* *Euphorbia spp.* *Imperata cylendrica* *Paspalum conjugatum*	1.5 kg.	30 ltrs.	500	7 days
Non Crop area	*Cynodon dactylon* *Cyprus rotundus* *Digera arvensis* *Digitaria sanguinalis* *Eragrostis minor* *Euphorbia spp.* *Parthenium hysterophorus* *Tribulus terrestris* *Xantrhium stremerium*	2 kg.	40 ltrs.	500	-
Glyphosate 71% SG (Ammonium Salt)					
Tea & Non Crop area	*Acalypha indica* *Ageratum conyzoides* *Cychorium intybus* *Digera arvensis* *Cynondon dactylon* *Cyperus rotunedus* *Digitaria sanguinalis* *Eragrostis spp.* *Ipomea digitarea* *Paspalum conjugatum* *Sida aculata*	2.13 kg	3.0 kg.	500	7
Halosulfuron Methyl 75% WG					
Sugarcane	Cyperus rotundus	60-67.5	80-90	375	294
Maize	Cyperus rotundus Cyperus iria	67.5	90	375	45
Bottle gourd	Cyperus rotundus Cyperus iria	67.5	90	375	46
Haloxyfop R Methyl 10.5% w/w EC					
Soybean	Brachiaria sp. Digitaria sanguinalis Dinebra arabica	108-135	1000-1250	500	60

	Echinochloa sp. Eleusine indica Eragrostis sp. Pnicum isochmi				
Imazethapyr 10% SL					
Soybean	*Cyperus difformis* *Echinochloa colonum* *E. crusgalli* *Euphorbia hirta* *Croton sperrsifeorus,* *Digera arvensis,* *Commelina Benghalensis*	100 gm	1.0 Ltr.	500-600	75
Groundnut	*Cyperus difformis* *Commelina benghalensis,* *Trianthema portulacasturm,* *Eragrostis pilosa*	100-150 gm	1.0-1.5 ltrs.	500-700	90
Imazethapyr 10% SL + Surfactant					
Soybean (1-2 Leaf stage of weeds or 7-14 days after sowing)	*Echinochloa colonum* *Brachiaria mutica,* *Euphorbia hirta* *Commelina benghalensis* *Dinebra arabica,* *Digitaria spp.,*	75-100 gm+ MSO adjuvant @ 2ml/l of water	750-1000 ml+ MSO adjuvant @ 2ml/l of water	375	72
Groundnut (1-2 Leaf stage of weeds or 7-14 days after sowing)	*Echinochloa colonum* *Euphorbia hirta* *Commelina benghalensis* *Digera arvensis,* *Amaranthus viridis,* *Physalis minima.*	100-150 gm+ MSO adjuvant @ 2ml/l of water	1000-1500 ml+ MSO adjuvant @ 2ml/l of water	375	102
Imazethapyr 70% WG + Surfactant					

Soybean (2-3 leaf stage of weeds)	*Cyperus routandus* *Echinochloa spp.* *Dinebra arabica* *Digera spp.,* *Brachiaria mutica,* *Commelina benghalensis* *Commelina communis* *Euphorbia geneculata* *Cyanotis axiallaris*	70 g/ha + Surfactant (Cyspread) @ 1.5ml/Litre + Ammonium Sulphate @ 2 g/lit of Water	100 g/ha + Surfactant (Cyspread) @ 1.5ml/Litre+ Ammonium Sulphate @ 2 g/lit of Water	500	56
Isoproturon 50% WP					
Wheat	Phalaris minor Avena fatua Poa annua	1.0kg	2.0	750	-
Isoproturon 75% WP					
Wheat	*Phalaris minor* *Avena fatua* *Poa annua*	1.0kg	1.33 kg.	750	60 days
MCPA, Amine salt 40% WSC					
Transplanted Rice	*Cyperus rotundus* *Impmoea reptans* *Ammania baccifera* *Lippia nodiflora* *Alternanthera sp.* *Ludwigia parviflora* *Marsilea quadrifoliata*	0.8-2.0 kg	2-5	400-600	

Wheat	*Chenopodium album, Asphodelus tenuifolius Fumaria parviflora Carthamus oxyacantha Launea sp., Pluchia lanceolata, Melilotus indica, Vicia hirsuta, Lathyrus aphaca, Medicago denticulata, M. lupulina, Spergula arvensis, Argemone maxicana, Phyllathus niruri.*	1.0 kg	2.5	300-600	
Metamifop 10% EC					
Direct seeded Rice	*Barnyard grass (Echinocloa spp), Sacchiolepis Dactyloctenium, Digiteria, panicum*	100 g.a.i	1000 ml	350	87
Metamitron 70% SC					
Sugarbeet	**<u>Sedges & Grasses</u>** *Cynodon dactylon Cyperus rotundus Dactyloctenium aegyptium* **<u>Broad Leaves</u>** *Convolvulus arvensis Chenopodium album Parthenium hysterophorus Digera arvensis*	a) 2-3 leaf stage of weed – 0.7 kg a.i/ha, b) 4-6 leaf stage of weed – 1.4 kg a.i/ha, c) 8-10 leaf stage of weed – 1.4 kg a.i/ha	a)2-3 leaf stage of weed – 1kg/ha, b) 4-6 leaf stage of weed – 2 kg/ha, c) 8-10 leaf stage of weed – 2 kg/ha	500	90
Methabenzthiazuron 70% WP					
Wheat (PE –2DAS)	*Phalaris minor, Avena fatua, Avena ludoviciana,Poa annua,*	1.05-1.4kg	1.5-2.0 kg.	700-1000	100
Wheat (Post –EM 30 DAS)	*Polypogom monspliensis, Anagallis arvensis, Chenopodium album*	1.05-1.75kg	2.0-2.5 kg.	700-1000	100

Wheat (Early POE.16-18 DAS)	*Phalaris minor,* *Avena fatua,* *Avena ludoviciana,* *Chenopodium album*	0.7-0.87 kg	1.0-1.25 kg.	700-1000	100
Metolachlor 50% EC					
S loybean	*Echinochloa colonum* *Eleusine indica* *Digitaria sp.* *Dactyloctonium aegyptium* *Panicum sp.* *Cyperus sp.* *Amaranthus viridis*	1.0 kg	2.0 ltrs.	600-750	-
Metribuzin 70% WP					
Soybean	*Digitaria spp.* *Cyperus esculentus* *Cyperus campestiris* *Borreria spp.* *Eragrostis spp.*	0.35-0.525 kg	0.5-0.75kg.	750-1000	30
Wheat	*Phalaris minor* *Chenopodium album* *Melilotus spp.*	Medium soil-0.175kg Heavy soil - 0.21kg	0.25 kg 0.30 kg.	500-750	120
Metsulfuron Methyl 20% WP					
Wheat	*Chenopodium album,* *Melilotus indica,* *Lathyrus aphaca,* *Anagallis arvensis,* *Vicia sativa,* *Cirsium arvense.*	4 gm	20 gm	500-600 + Surfactant (Iso-Octyl Phenoxyl-Poloxethanol 12.5%)@ 500 ml/ha	80
Rice (transplanted)	*Cyperus rotundus,* *Spheanochlea spp.,* *Fimbristylis sp.* *Ludwigia parviflora*	4 gm.	20 gm.	500-600	60

	Marsilea quadrifoliata				
Sugarcane	*Cyperus esculentus, Amaranthus viridis, Portulaca oleracea, Parthenium hysterophorus, Trianthema sp., Cleome viscosa, Solanum sp., Commelina benghalensis, Euphorbia sp., Digeria sp.*	6	30	500-600 (Add non - ionic surfactant Iso-octyl-phenoxyl - poloxethanol 12.5% @ 2ml per liter of spray volume (0.2%)	346
Metsulfuron Methyl 20% WG					
Wheat	*Chenopodium album Melilotus indioca Melilotus alba Lathyrus aphaca Anagalis arvensis Vicia sativa Rumex denticulate Convolvulus arvensis Meedicago denticulate*	4 gm.	20 gm.	500-600 + Surfactant (Iso-Octyl Phenoxyl-Poloxethanol 12.5%) @0.2%	76
Transplanted Rice	*Monochoria vaginalis Ludwigia parviflora Ludwigia adscendens Marselea quadrifoliata Eclipta alba Oxalis minima Dapatorium juncecum Commelina benghalensis Ammania baccifera Sphenoclea zeylanica Caesulia axillaries.*	4 gm	20 gm.	500-600 + Surfactant (Iso-Octyl Phenoxyl-Poloxethanol 12.5%) @0.2%	71
Orthosulfamuron 50% WG					

Transplanted Rice (Paddy)	*Echinocloa spp.* (Barnyard grass) *Cyperus spp.* (Nut grass) *Scirpus spp*. *Ludwigia parviflora* (water crest) *Fimbristylis spp.* (Hoora grass) *Rotala spp.*	60-75	150 3 DAT	500	65
Oxadiargyl 80% WP					
Transplanted Rice	*Echinochloa crusgalli E. Colonum, Cyperus iria, C. difformis, Eclipta alba, Ludwigia quadrifoliata*	100	125	500	97
Sunflower	*Echinochloa colonum Dactyloctenium aegyptium*	240	300	500	81
Oxadiargyl 6%EC					
Transplanted Rice	*Echinochloa crusgalli Echinochloa colonum,*	100gm	1.66 ltrs	500	97
Cumin	*Cyperus iria, cyperus difformis, Eclipta alba Ludwigia quadrifoliata Chenopodium album Remex sp., Melilotus indica, Asphodelus tenuifolius*	60-75gm	1.0-1.25 ltrs.	500	87
Mustard	*Chenopodium album, Melilotus sp*	90	1500	500	35
Oxadiazon 25% EC					
Transplanted Rice	*Echinochloa crusgalli E. colonum Cyperus iria C. difformis Marsilea quadrifoliata, Eclipta alba, Ludwigia sp.*	0.5kg	2.0 ltrs.	500	-

Oxyflourfen 0.35% GR					
Rice (Direct sown puddled or Transplanted)	*Echinochloa sp. Cyperus difformis* *Cyperus iria* *Eclipta alba* *Ludwigia parviflora* *Fimbristlylis miliacia,* *Marsilea spp*	100-150 gm	30-40 kg.	-	-
Oxyflourfen 23.5% EC					
Rice (Direct sown as pre-emergence)	*Echinochloa sp. Cyperus iria, Eclipta alba,*	150-240 gm	650-1000	500	-
Tea	*Digiteria, Imperata, Paspalum, Borreria hispida,*	150-250 gm	650-1000	500-750	15 days
Onion	*Chenopodium album, Amaranthus viridis,*	100-200 gm	425-850	500-750	-
Potato	*Chenopodium ,Coronpus Trianthema, Cyperus, Heliotropium*	100-200 gm	425-850	500-750	-
Groundnut	*Echinochloa colonum* *Digitaria arginata*	100-200 gm	425-850	500-750	-
Pendimethalin 30% EC					
Wheat	*Phalaris minor,* *Chenopodium album,* *Melilotus alba,* *Portulaca oleracea,* *Anagallis arvensis,* *Fumaria parviflora,* *Poa annua*	Light soil-1.0 kg, Medium soil-1.25 kg, Heavy soil-1.5 kg	3.3 ltr. 4.2 5.0	500-700 500-700 500-700	-
Rice (Transplanted &direct sown Upland)	*Echinochloa colona,* *E. crusgalli,* *Fimbristylis miliacea,* *Marselia quadrifoliata,* *Alternanthera sessilis,* *Ammonia baccifera,* *Ludwigra parviflora,* *Eclipta alba,* *Cyperus difformis*	Light to Heavy soil 1-1.5kg	3.3 –5 Ltrs.	500-700	

Cotton	*Echinochloa spp.* *Euphorbia hirta* *Amarnanthus viridisPortulaca oleraceaTrianthema spp.* *Eleusine indica*	0.75-1.25kg	2.5-4.165 ltrs	500-700	150
Soybean	*Echinochloa spp.,* *Euphorbia spp.,* *Amarnanthus viridis,* *Portulaca oleracea,* *Trianthema spp.,* *Eleusine indica*	0.75-1.0kg	2.5-3.3 ltrs.	500-700	110
Pigeon pea	*Digitaria sanguinalis* *Digera arvensis* *Amaranthus sp.* *Euphorbia hirta* *Trianthema sp.* *Cyperus sp.* *Eragrostis sp.*	0.7 – 1.00	2.5 – 3.33	500	133
Pendimethalin 5 % G					
Rice (Transplanted & Direct sown puddled)	*Echinochloa colona,* *E. crusgalli,* *Fimbristylis miliacea,* *Marselia quadrifoliata,* *Alternanthera sessilis,* *Ammonia baccifera,* *Ludwigra parviflora,* *Eclipta alba,* *Cyperus difformis*	1.0-1.5 kg	20-30 kg	-	-
Pendimethalin 38.7% CS					
Soybean	*Echinochloa colonum* *Dinebra arabuica* *Digitaria sanguinalis* *Bracharia mutica* *Dactyloctinum aegyptium* *Portulaca oleracea* *Amaranthus viridis* *Euphorbia geniculata* *Cleome viscose*	580.5-677.25gm	1500-1750	500	40

Cotton	Panicum repens, Digitaria sanguinalis, Brachiaria mutica (Grasses), Pennisetum purpureum, Cyperus rotundus (sedge), Lantana camjara, Portulaca oleracea, Eclipta prostrate, Commelina benghalensis (Broad leaves weeds)	580.5-677.25gm	1500-1750	500	101
Chilli	Panicum repens, Digitaria sanguinalis, Elusine indica, Dinebra arabiaca, Echinochloa colonum, Portulaca oleracea, Commelina benghalensis, Aramthus blitum, Chenopodium album	580.5-677.25gm	1500-1750	500	98
Onion	*Echinochloa colonum, Cyperus rotundus(Sedge) Cynodon dactylon Dinebra Arabic Euphor beageneculata Commelina bengalensis (Broad Leave weeds)*	580.50-677.25gm	1500-1750	500	104
Pinoxaden 5.1% EC					
Wheat	*Phalaris minor (*Canary grass) *Avena ludoviciana (*Wild oat)	40-45 g	800-900 ml 30-35 DAS	225-300	90
Penoxsulam 21.7 % SC					
Rice (Transplanted)	Ammania bacifera, Cyperus difformis, Echinochloa colonum, Echinochloa crusgalli, Cyperus iria, Fimbristylis miliacea, Ludwigia spp. Monochoria spp. Sphenecelea zeylanica,	22.5 to 25 (pre-emergence 0-5 DAT) 20 to 22.5 (post-emergence 10-12 DAT)	93.7 to 104.2 83.3 to 93.7		60

Penoxsulam 2.67% OD						
Rice (Transplanted Rice)	Grasses	*Echinochloa Colona* *Echinochloa Crusagalli*	22.5-25	900-1000 ml/ha	300-500	60
	Sedges	*Cyperus difformis*				
	Broad Leaved Weeds	*Caesulia axillaris*				
Pretilachlor 37%EW						
Transplanted Rice		*Echinochloa crusgalli* *Echinochloa colonum* *Cyperus difformis* *Cyperus iria* *Digitaria sanguinalis* *Fimbristylis miliacae* *Eclipta alba* *Ludwigia parviflora* *Monochoria vaginalis*	0.60-0.75 kg	1.5-1.875 ltrs.	500	90
Pretilachlor 30.7% EC						
(Direct seeded rice under puddled condition)		*Echinochloa crusgalli* *Echinochloa colonum* *Cyperus difformis* *Cyperus iria*	0.45-0.60kg.	1.5-2.0 ltr.	500	110
Pretilachlor 50% EC						
Transplanted Rice		*Echinochloa crusgalli* *Echiniochloa colonum* *Cyperus difformis* *Cyperus iria* *Fimbristylis miliacae* *Eclipta alba* *Ludwigia parviflora* *Monochoria vaginalis* *Leptochloa chinensis* *Panicum repens*	0.50-0.75 kg.	1.0-1.5 ltrs.	500-700	75-90
Propaquizafop 10% EC						

Soybean	*Echinochloa colonum, Echinochola crusgalli, Digiteria sanguinalis, Dactyloctenium eigyptium, Eleucine indica*	50-75 g	500-750	500-750	21
Blackgram	*Echinochloa colonum, Echinochola crusgalli, Digiteria sanguinalis, Dactyloctenium eigyptium, Eleucine indica*	75-100 g	750-1000	500-750	21
Onion	*Echinochloa colonum, Digiteria sanguinalis, Dactyloctenium eigyptium, Phalaris minor*	62.5	625	500	7
Paraquat dichloride 24% SL					
Tea (Post-emergence directed inter row application at 2-3 leaf stage of weeds)	*Imperata Setaria sp., Commelina benghalensis, Boerraria hispida, Paspalum conjugatum,*	0.2-1.0 kg	0.8-4.25 ltr (For season long weed control, use 2.5-5.0 ltr for initial application. For subsequent repeat spot application use 1 litre)	200-400	Not Necessary (For season-long weed control, muse 2.5 to 5 lit for initial application. For subsequent repeat spot application use 1 lite)
Potato (Post-emergence overall / inter-row application at 5-10 % emergence)	*Chenopodium sp. Angallis arvensis Trianthema monogyna Cyperus rotundus Fumeria parviflora*	0.5 kg	2.0 ltr.	500	100
Cotton (Post-emergence directed inter row application at 2-3 leaf stage of weeds)	*Digera arvensis, Cyperus iria, Trianthema monogyna, Corchorus spp., Leucas aspera, Euphorbia spp.*	0.3-0.5 kg	1.25-2.0	500	150-180

Rubber (Post-emergence directed inter row application at 2-3 leaf stage of weeds)	*Digitaria sp., Eragrostis sp., Fimbristylis sp.*	0.3-0.6 kg	1.5-2.5	600	N.A.
Coffee	*Digitaria marginata, paspalum Conjugatum, Ageratum, Conyzides, Borreria hispida, Euphorbia hirta, Commelina benghalensis, Eleusine indica*	250	1.0	400	N.A.
Rice [pre-plant (minimum tillage) before sowing/transplanting for controlling standing weeds]	*Echinochloa crusgalli, Cyperus iria, Ageratum conyzides, Commelina benghalensis, Marsilea quadriofoliata, Brachiaria mutica*	0.3-0.8 kg	1.25-3.5	500	N.A.
Wheat [pre-plant (minimum tillage) before sowing]	*Grassy & Broad leaf weeds*	1.0 kg	4.25 ltrs	500	120-150
Maize [pre-plant (minimum tillage) before sowing]	*Cyperus rotundus, Commelina benghalensis, Trianthema monogyna, Amaranthus sp., Echinochloa sp*	0.2-0.5 kg	0.8-2.0 ltrs	500	90-120
Maize (Post-emergence directed inter row application at 2-3 leaf stage of weeds)	*Cyperus iria, Cyperus rotundus, Commelina benghalensis Amaranthus sp. Echinochloa sp Trianthema monogyna*	0.2-0.5 kg	0.8-2.0 ltrs	500	90-120
Grapes (Post-emergence directed inter row application at 2-3 leaf stage of weeds)	*Cyperus rotundus Cynodon dactylon Convolvulus sp. Portulaca sp. Tridax sp.*	0.5 kg.	2.0ltrs.	500	90
Apple (Post-emergence directed inter row application at 2-3 leaf stage of weeds)	*Rosa moschata Rosa eglantaria Rubus ellipticus*	0.75 kg	3.25 ltrs	700-1000	N.A.

Aquatic weed control Water ways Canals, Ponds Etc	 *Eichhornia crassipes* *Hydrilla* *Typha latifolia*	 1000 1000 1000-2000	 4.25 4.25 4.25-8.5	 600-1000 600 600-1000	 N.A
Pyroxasulfone 85% w/w WG					
Maize	*Echinochloa crusgalli,* *Eleusine indica,* *Phyllanthus niruri*	127.5	150	500	103
Wheat	*Phalaris minor*	127.5	150	500	131
Soybean	*Echinochloa colonum,* *Celosia argentia,* *Trianthema porulacastrum,* *Amarthanas viridis,* *Digeria arvensis*	127.5	150	500	94
Pyrazosulfuron Ethyl 10% WP					
Transplanted Rice	*Cyperus Iria,* *Cyperus difformis,* *Fimbristylis miliacea,* *Monochoria vaginalis,* *Ludwigia parviflora*	10-15 g	100-150	500-600	95
Pyrithiobac Sodium 10% EC					
Cotton (Gossypium)	*Trianthema Spp* *Amaranthus Spp* *Chenopodium Spp* *Digera Spp* *Celosia argentia*	62.5-75 gm	625-750	500	160
Pyrozosalfuron Ethyl 70% WDG					
Transplanted Rice	*Echinicloa spp,* *Cyparus rotundus,*	21g	-	-	43

	Ludwigia parviflora				
Quizalofop-ethyl 5% EC					
Soybean	*Echinochloa crusgalli* *E. colomum* *Eragrostis sp.*	37.5-50 gm.	0.75-1.0	500-600	95
Cotton	*Echinolchloa crusgalli,* *Echinochloa colonum,* *Dinebra retroflexa* *Digiteria marginata*	50.5	1000	500	94
Groundnut	*Echinochloa colonum,* *Dinebra retroflexa* *Dactyloctenium sp.*	37.5-50.0	750-1000	500	89
Black gram	*Eleusine indica,* *Dactyloctenium aegyptium,* *Digitaria sanguinalis,* *Eragrostis sp.,* *Paspalidium sp.,* *Echinochloa sp.,* *Dinebra ratroflexa*	37.5-50.0	750-1000	500	52
Onion	*Digitaria sp.,* *Eleusine indicia,* *Dactyloctenium aegyptium,* *Eragrostis sp.,*	37.5-50.0	750-1000	375-450	7
Quizalofop-ethyl 10% EC					
Soyabean	Love grass (eragrosts ipilosa), Crab grass (digitaria sanguinalis/ wild finger/ Makra grass Viper grass, Barnyard grass, sanwa/Samel, Brown top millet	375-45.0	375-450	300-500	69-103
Quizalofop –p-tefuryl 4.41% EC					

Soybean	*Echinochloa spp.* *Dinebra arabica* *Digitaria sanguinalis* *Cynodon dactylon* *Hemarthria compressa* *Eleusine indica*	30-40 gm	750-1000 ml	400	30
Sulfentrazone 39.6% w/w SC					
Soybean	*Acalypha sp.* *Commelina sp.* *Digera sp.* *Cyprus sp.* *Echinochloa sp.* *Brachiaria sp.* *Dinebra sp.*	360	750	500	88
Sugarcane	*Trianthema sp., Digera spp., Amaranlhus spp., Phyllanthus spp., Euphorbio spp., Dacteloctenium spp., Digitaria spp., Brachiaria spp., Echinocloa spp., Cynodon spp and Cyperus spp.*	720	1500	500	306
Sulfosulfuron 75% WG					
Wheat	*Phalaris minor* *Chenopodium sp.* *Melilotus alba*	25 gm	33.3 gm	200-250 + Cationic surfactant 1250ml/ha	110
Tembotrione 34.4% SC					
Maize	*Trianthema portulacastrum,* *Echinochloa sp.* *Bracheria sp.*	120g	286ml	500L	55
Triallate 50% EC					
Wheat	*Avena fatua*	1.25 kg	2.5 kg.	250-500	150

Triasulfuron 20% WG					
Wheat	*Chenopodium album, Anagallis arvensis, Medilotus alba, Rumex spp, Medicago denticulata, Fumeria pomiflora, Cronopus didymus, Spergula arvensis Malvela perviflora*	20	100	500	81
Tea	*Ageratum conyzoides, Borreria spp., Crassocephalum crepidiodes, Oxalis spp., Bidens pilosa, Conyza ambigua, Drymaria diandra, Emillia sonchifolia, Mitracarpus verticilatus, Syndnedrella nodiflora.*	25	125	500	7
Topramezone 336 g/l w/v SC					
Maize	*Elusine indica, Digitaria sanguinalis, Dactyloctenium aegyptium, Echinocloa spp., Chloris barbata, Parthenium hysterophorus, Digera arvensis, Amaranthus viridis, Physalis minima, Alternanthera sessilis, Convolvulus arvensis, Celotia argentea.*	25.2 to 33.6 g a.i./ha + MSO adjuvant @ 2 ml/l of water	75 to 100 ml + MSO adjuvant @ 2 ml/l of Water	375	83

HERBICIDE COMBINATIONS

Anilofos 24% +2,4-D ethyl Ester 32% EC					
Transplanted rice	*Echinochloa crusgalli* *Echinochloa colonum* *Ischaemum rugosum* *Fimbristylis miliacea*	(0.24+ 0.32) to (0.36 + 0.48) kg	1-1.5 ltrs.	300	90
Bensulfuron methyl 0.6%+Pretilachlor 6% GR					
Transplanted Rice	*Echinochloa crusgalli,* *Echinochloa colonum,* *Cynodon dactylon* *Cyperus iria,* *Cyperus difformis,* *Cyperus rotundus,* *Fimbristylis miliacea,* *Ludwigia parviflora,* *Marselia quadrifolia,* *Enhydra fluctuans,* *Sphenoclea zeylanica,* *Eclipta alba,* *Ammania baccifera.*	60 + 600 gm	10 kg	N.A.	88
Carfentrazone ethyl 0.43% + Glyphosate 30.82% EW					
Tea	*Ageratum conyzoides* *Bidenspilosa* *Borreria sp.* *Crassocephalumcr* *epidioides* *Cynadon sp.* *Cyperous sp.* *Digitaria sp.* *Eleusine indica* *Mimosa sp.* *Mltracarpus villosus* *Oxalis sp.*	12.90 +924.60	3000	500	7
Non-cropped area	*Ageratum conyzoides* *Axonopus sp.* *Brachiaria sp.* *Commelina sp.* *Cynodon dactylon* *Cyperous sp.* *Digitaria sp.* *Eleusine indica* *Imperata cylendrica*	12.90 +924.60	3000	500	--

	Lantana camera *Parthenium sp.*				
Carfentrazone ethyl 20% + Sulfosulfuron 25% WG					
Wheat	Phalaris minor Avena ludoviciana Chenopodium album Medilotus alba Rumex spp	20+25 +750 ml Surfactant	100	300	110
Clodinafop Propargyl 15% + Metsulfuron Methyl 1% WP					
Wheat	*Phalaris minor,* *Avena fatua,* *Chenopodium album,* *Melilotus sp.,* *Fumaria parviflora,* *Vicia sativa,* *Rumex sp.,* *Anagallis arvensis,* *Coronopus didymus,* *Lathyrus sp.,* *Convolvulus arvensis*	60+4	400	375 (Add 1250 ml surfactant at the time of sparying)	100
Clodinafop propargyl 9% + Metribuzin 20% WP (W/W)					
Wheat	*Phalaris minor* *Chenopodium album,* *Melilotus sp* *Vicia sativa,* *Rumex sp* *Medicago sp* *Cronopus didymus* *Dinebra vetroflexa*	54+120	600	300	120
Clomazone 20%+2,4-D EE 30% EC					
Transplanted Rice	Echinochloa colonum, Echinochloa crusgalli, Cyperus iria, Cyperus difformis,Eclipta alba,Leptochloa chinensis,Panicum repens,Fimbristylis miliacea,Marsilea quadrifoliata, Ludwigia parviflora.	0.250-0.375 Kg	1.25 ltrs.	500	100-110

Fenoxaprop-p-ethyl 7.77% w/w + Metribuzin 13.6% w/w EC					
Wheat	*Phalaris minor* (Little seed canary grass) *Chenopodium album* (Lambs quarter) *Lathyrus aphaca* (Meadow Pea) *Rumes Sp.* (Golden dock) *Melilotus spp.*(Sweet clover) *Avena ludoviciana.*	100+175	1250	375	110
Fluazifop-p-butyl 11.1% w/w + Fomesafen 11.1% w/w SL					
Soybean	*Echinochloa colona* *Digitaria sp* *Eleusine indica* *Dactyloctenium aegyptium* *Brachiaria reptans* *Commelina benghalensis* *Digera arvensis* *Trianthema sp.* *Phyllanthus niruri* *Aclypha indica* *Dinebra arbica*	250	1000	500	71
Groundnut	*Echinochloa colona* *Digitaria sp.* *Eleusine indica* *Dactyloctenium aegyptium* *Commelina benghalensis* *Eluropus villosus* *Indigofera glandulosa* *Chloris barbata* *Trianthema sp.* *Digera arvensis* *Cleome viscose* *Phyllanthus niruri* *Amaranthus virdis* *Cyperus sp.*	250	1000	500	82
Hexazinone 13.2% + Diuron 46.8 % WP					

Sugarcane	Enchinochloa colonum Dactylotenium aegyptium Trianthema monogyna Amaranthus virdis Ipomea spp Cyperus rotundus Cyperus esculentus Setaria spp Parthenium hysterophorus Euphorbia hirta	1200 gm (264+936)	2 Kg	500	282-306
Indaziflam 1.65% w/w (2%w/v) + Glyphosate Isopropylammonium 44.63% w/w (40%w/v) SC					
Tea	*Ageratum sp.* *Borreria sp.* *Eleusine indica*	50+1000 to 70 + 1400 g.a.i/ha	2500 to 3500 ml/ha	500 L	14 days
Imazethapyr 35% + Imazamox 35% WG					
Soybean	Echinochloa Colonum, Dinebra Arabica, *Digitaria sanguinalis,* Brachiaria mutica Commelina benghalensis Euphorbia hirta	70 g a.i/ha + MSO Adjuvant @ 2 ml/l of water	100 g MSO Aadjuvant @ 2ml/l of water	375-500	56
Groundnut	Echinochloa Colonum, *Digira arvensis,* Commelina benghalensis Euphorbia hirta Amaranthus viridis Physalis minima	70 g a.i/ha + MSO Adjuvant @ 2 ml/l of water	100 g MSO Aadjuvant @ 2ml/l of water	375-500	83
Cluster bean	*Echinochloa colonum,* *Euphorbia spp.,* *Digitaria arvensis,* *Amaranthus viridis.*	70 g a.i./ha + MSO adjuvant @ 2m/l of water	100 g/ha + MSO adjuvant @ 2m/l of water	500	64
Red gram	*Euphorbia spp.,* *Amaranthus viridis.*	70 g a.i./ha + MSO adjuvant @ 2m/l of water	100 g/ha + MSO adjuvant @ 2m/l of water	375-500	125
Mesoulfuron Methyl 3% + Iodosulfuron Methyl Sodium 0.6% WG					

Wheat	Phalaris minor Medicago denticulata Chenopodium album Melilotus sp. Rumex sp. Anagallis arvensis Coronopus didymus Lathyrus aphaca Fumaria parviflora	(12+2.4 gm)	400 ml.	400-500 + Surfactant (Genopol LRO fluid) @ 500 ml/ha	96
Metsulfuron Methyl 10% + Chlorimuron ethyl 10% WP					
Transplanted Rice (Pre-emergence application-3 DAT	Cyperus iria, Cyperus difformis, Fimbristlylis miliaceae, Eclipta alba, Ludwigia parviflora, Cyanotis axillaries, Monocoria vaginalis, Marsilea quadrifoliata,	4gm	20 gm.	300	90
Metsulfuron Methyl 10% + Carfentrazone ethyl 40% DF					
Wheat	*Rumex dentatus* *Rumex spinosus* *Medicago denticulate* *Malva parviflora* *Lathyrus aphaca* *Chenopodium album* *Melilotus alba* *Melilotus indica* *Anagallis arvensis* *Solanum nigrum* *Vicia sativa* *Convolvulus arvensis*	25	50	300	100
Oxyflurofen 2.5% + Glyphosate (Isopropyl amime salt)41% SC(w/w)					
Tea	Ageratrum Conyzoids Cyperous sp Borreriabispida Pospalumcon jugatum Digitaria ciliaris	50+820	2000	500L/ha.	14
Pendimethalin 30%+ Imazethapyr 2% EC					

Soybean	Echinocloa crusgalli Digera arvensis Commelina benghalensis, Amaranthus viridis Portulaca oleracea	(750+50) to (900+60) gm	2.5-3.0 ltrs	500-600	90
Penoxsulam 0.97% w/w + Butachlor 38.8% w/w SE					
Transplanted Rice	*Echinochloa colonum,* *Echinochloa crusgalli,* *Cyperus iria,* *Cyperus difformis,* *Marsilia quadrifoliata,* *Alternanthera spp.*	820 g.a.i/ha	2000ml/ha	750	60
Penoxsulam 1.02 % + Cyhalofop-butyl 5.1% OD					
Rice (Direct seeded Rice)	*Echinochloa colona* *Echinochloa crusgalli* *Leptochloa chinesis* *Eleusine indica* *Alternanthera sessilis* *Caesulia axillaris* *Cyperus spp*	120-135	2000-2250	300-500	60
Rice (Transplanted Rice)	*Echinochloa colona* *Echinochloa crusgalli* *Leptochloa chinesis* *Caesulia axillaris* *Cyperus difformis* *Cyperus spp*	120-135	2000-2250	300-500	60
Pretilachlor 6% + pyrazosulfuron Ethyl 0.15%(H)					
Paddy	Grassy weeds, Broad Leave, Sedges	600+15	10	-	83
Pretilachlor 6.0% +Pyrazosulfuron Ethyl 0.15% GR					

Transplanted Paddy	*Echinochloa Colonum* *Echinochloa Crusagalli* *Ludwigia paviflora,* *Elipta alba,* *Leptochola chinensis,* *Monochoria vaginalis,* *Cyperus difformis,* *Cyperus iria,* *Fimbristylis miliaceae*	600	10	-	83
Pretilachlor 30.0% + Pyrazosulfuron Ethyl 0.75% WG					
Paddy (Direct seeded Rice)	*Echinochloa colona,* *Eleusine indica,* *Leptochloa chinensis,* *Abernanthe a sessllis,* *Parthenium hysterophrous,* *Cyprus iria* *Cyprus difformis,* *Fimbristylis miliacea*	15+600	2000	375	113
Propaquizafop 2.5% + Imazethapyer 3.75% w/w ME					
Soybean	<u>Grassy weeds:</u> Dactyloctnium aegyptium Echinocloa colonum Eleusine indica Digitaria sanguinalis <u>BLW:</u> Commelina Benghalensis Euphorbia hirta Digera arvensis Amaranthus viridis	50+75	2000	500	80
Pyrithiobac Sodium 6% EC w/w+ Quizalofop-ethyl 4% EC w/w MEC					

Cotton	*Trianthema spp* *Digera spp* *Celosia argentia* *Dinebra retroflexa* *Digitaria marginata*	(60+40) to (75+50) g.a.i/ha	1.0-1.25 Ltr/ha	500	160
Sulfentrazone 28% + Clomazone 30% WP					
Soybean	*Commelina benghalinsis,* *Acalypha indica,* *Corchorus spp.,* *Euphorbia spp.,* *Parthenium hysterophorus,* *Echinochloa colonum,* *Brachiaria spp.,* *Dinebra spp.,* *Cyperus rotundus.*	350+375	1250	500	84
Sugarcane	*Amaranthus viridis,* *Trianthema spp.,* *Digera arvensis,* *Physalis spp.,* *Brachiaria spp.,* *Cynodon dactylon,* *Echinochloa spp.,* *Dactyloctenium aegtptium,* *Cyperus rotundus.*	700+750	2500	500	302
Sulfosulfuran 75%+ Metsulfuron Methyl 5%WG					
Wheat	Phalaris minor, Chenopodium sp., Medicago denticulata, Coronopos dedymus, Rumex spp. Melilotus alba, Anagallis arvensis	(30+2)	40 gm	250-500 + surfactant 1250 ml/ha	110
Sodium Aceflourofen 16.5% + Clodinafop Propargyl 8% EC					

Soybean	*Acalypha indica, aegyptium, Alternanthera v philoxeroides, Amaranthus spp., Celosia argentea, Cleome viscose, Commelina benghalinsis, Dactyloctanium Digera arvensis, Digitaria sanguinalis,* Echinochloa spp., *Eleusine indica, Euphorbia spp., Parthenium spp., Phyllanthus niruri, Physalis minima, Stellaria media Trianthema monogyna*	80 + 165	1000	500	61
Triafamone 20% + Ethoxysulfuron l0% WG					
Rice Transplanted	*Echinochloa colona, Echinochloa crusgalli, Cyperus rotundus, Cyperus difformis, Fimbistylis miliaceae, Marsilea quadrifolia.*	44+22.5	225	300	83
Rice Direct Seeded	*Echinochloa colona, Cyperus rotundus, Digera arvensis, Commelina benghalinsis.*	44+22.5	225	300	83

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Government of India

Ministry of Agriculture & Farmers Welfare
Department of Agriculture, Cooperation & Farmers Welfare
Directorate of Plant Protection, Quarantine & Storage
Central Insecticides Board & Registration Committee
N.H.-IV, Faridabad-121 001

Major Uses of Pesticides

Registered under the Insecticides Act, 1968

UP TO 31.10.2019

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

PLANT GROWTH REGULATORS (PGR)

Plant Growth Regulators (PGR)

APPROVED USES OF REGISTERED PGR

PLANT GROWTH REGULATORS (PGR)

Name of PGR & approved Crops	Time of application / purpose	Dosage /ha		Dilution In Water (Litres) / Preparation of solution	Waiting period / PHI between last application & harvest (days)
		a.i. (ppm/gm/ %)	Formu-lation (ml/gm/Ltr/ kg/%)		
Alpha Naphthyl Acetic Acid 4.5% SL (Na salt)					
Tomato	At the time of flowering two spray.	45ppm	-	-	-
Chillies	Ist spray during flowering & 2nd spray 20 -30 days later.	10ppm	-	-	-
Mango	Ist spray when tender fruits one of pea size. 2nd spray when fruits one of marble size(about 2 cm diameter) <u>To control Mango malformulation</u>- Before fruit bud differentiations approx.3 months before flowering	20ppm 200ppm	- -	2 ml in 4.5litre. 20 ml in 4.5 ltrs.	- -

Grapes	(a)To increase size & weight of arriers. – Ist sprays at pruning time. – 2nd spray when flowering shoot appear (b)To control berry drop (spray on matured grape bunches 10-15 days before harvesting.	10ppm 100ppm	- -	2 ml in 49 ltrs. 20 ml. in 49 ltrs.	- -
Pineapple	**(a)**<u>To induce flowering and uniform growth</u> (b)To increase fruit size. I To delay maturity - Two weeks before harvest.	10ppm (In dry weather half strength solution i.e. 5 ppm may be used) 199ppm 100ppm	- - -	1 ml in 4.5 ltrs (pour 30-50 ml of solution in to the head of each plant) 10 ml in 4.5 ltrs. (spray to wet the whole plant) 10 ml in 4.5 ltrs.(Wet the whole fruit 2 weeks before harvest.)	- - -
Cotton	To prevent shedding of flower squares & bolls (3 sprays at 15 days interval from square formation stage	10-20 ppm.	222-444 ml	1000 ltr.	
Chlormequat Chloride 50% SL					
Cotton (American)	Square formation of early flowering (one spray)	20-40 gm a.i/ha	40-80 ml/ha	High Volume 375-600 Low volume 125-187	-

Cotton (Deshi)	Square formation of early flowering (one spray)	75 a.i. gm/ha	150 ml/ha	High volume 375-600	-
Brinjal	Seed soaking for 24 hours (before sowing)	50ppm	100ppm	1ml/ 10L water	-
Potato	Dipping of cut pieces for 10 minutes	100ppm	200ppm	2.0ml/ 10 L water	
Grapes 1st spray: 2nd Spray: 3rd Spray:	3-5 leaf stage after April pruning 5-7 leaf stage after April Pruning 3-5 leaf stage after October Pruning	500 g a.i./ha 1000 g a.i./ha 250 g a.i./ha	1000ml 2000 ml 500ml	1000L	91
Chlorpropham 50% HN					
Potato	Antisprouting agent for stocked potatoes under cold storage condition Temp= 10±2ºC R.H.= 90±5%	18-20 gm/MT	36-40 ml/MT	Formulation is to be applied as such with fogging applicator	20
Ethephon 10% Paste					
Rubber	For renewed bark 4 times bark swabbing. During March, August, September & November below the tapping panel after 4cm scrap of the bark /above the tapping panel/on the tapping cut after removing the lace.	10%	50 ml. formulation per tree directly used without dilution.	-	-

Ethephon 39 % SL					
Mango	a)For breaking alternate bearing tendencies	200 ppm	770-1025	1500-2000	26 ml in 10 lit of water
	b)For Flower induction in juvenile mango	1000 ppm	3846-5128	1500-2000	5ml in 10 lit of water
	c)Post-harvest treatment (For Uniform Ripening)	500 ppm	1923-2564	1500-2000	26 ml in 10 lit of water
Pine apple	For flower induction	100 ppm	385-513	1500-2000	13 ml in 10 lit of water
Coffee (Arabica)	For uniform ripening of berries, One spray at fly pricking stage ,when 10-15% berries are ripened.	192 ppm	738-985	1500-2000	5 ml in 10 lit of water
Coffee (Robusta)	For uniform ripening of berries, one spray at fly pricking stage, when 10-15% berries are ripened.	96 ppm	215-287	1500-2000	2.5 ml in 10 lit of water
Tomato	Post-harvest treatment (for Uniform Ripening)	2500 ppm	-	-	65 ml in 10 lit of water
Rubber	Yielding rubber latex	1000 ppm	0	1500-2000	2.5 ml in 10 lit of water
Pomegranate	Defoliation for better flowering and fruit yield	390-48.5 gm	1000-1250 ml	500	135 days (2-2.5 ml/lit water)
Forchlorfenuron 0.1% L (w/v)					
Grapes	Two dipping applications. 1st When size of berry is 3-4 mm diameter and 2nd When size of berry is 6-7 mm diameter,	2ppm.	1 ltrs.	500	60 days
Forchlorfenuron 0.12% EC w/w					
Grapes	To enhance the fruit size in seedless grapes single	3 ppm	1.5 liter	500 liter/ha.	20

	directed spray on berries at 4-6 mm berry size				
Gibberellic Acid Technical (90% w/w)					
Grape fruit	a) At full bloom (for fruit set)-single spray b) Ist week of May (For June fruit drop) –single spray c) Ist week of October (For pre-harvest drop)-single spray	500-1000 ppm	-	-	-
Sweet cherry	When more than 60% buds opened fully.	40-80ppm	-	-	-
Grapes	Two directed spray Ist at full bloom & 2nd at fruit set stages.	100ppm.	-	-	-
Grape (Seedless)	Two blanket spray at Ist full bloom & 2nd at post bloom stage.	15-60ppm	-	-	-
Brinjal	a) seed treatment (dipping) b) When 4 weeks old - weekly spray	10ppm 50ppm	- -	- -	- -
Gibberellic Acid 0.001%L					
Paddy	To increase the yield and quality of the crop produce				
	Short duration varieties 20-25DAT Medium duration varieties 30-35 DAT Long duration varieties 40-45 DAT	0.018gm	180 ml	450-500	-

Sugarcane (Planted crops)	a)First spray 40-45 DAP b)Second spray 70-80 DAS	0.018gm	180 ml	450-500	-
Cotton	a) First spray 40-45 DAP b) Second spray: At the time of ball formation	0.018gm	180 ml	450-500	-
Groundnut	a) First spray at flowering (30-35 AS) b) Second spray at the time of flowering	0.018gm	180 ml	450-500	-
Banana	a) First spray 3rd month b) Second spray 5th month Third spray at the time of fruit formation	0.027gm	270 ml.	450-500	-
Tomato / Potato / Cabbage / Cauliflower	a) First spray 45 DAS b) Second spray 65 DAS	0.018gm	180 ml.	450-500	-
Grapes	**a)** First spray 30-35 days after pruning **b)** Second during the match head stage	0.018gm	180 ml.	450-500	-
Brinjal, Bhindi	a)First spray 34 DAP b)Second spray 70 DAP c)Third spary 105 DAP	0.045 gm	450 ml.	450-500	-
Tea	Five spray at monthly interval.	-	270ml	450-500	-
Mulberry	First spray: 15-20 days after harvest	0.045	450	450-500	
Gibberellic Acid 0.186% SP					
Cotton	to improve fibre quality one spray at square formation or early flowering stage	142ppm.	71 gm	450-500	-
Gibberellic Acid 40% WSG					

Grape	Pre Bloom- Elongation	40	50	500	
	Fruit Setting Thinning				
	6-7mm berry size-enlargement				
Rice	20-25 Days After Transplanting	20-25	20-62.5	500	
	At Panicle emergence	20-25	50-62.5	500	
Hydrogen Cynamide 50% SL (Import)					
Grapes	For breaking bud dormancy Single application as spray Just after pruning ,	1-1.5%	2-3%	375-500	90-120 days
Hydrogen Cynamide 50% SL (Indigenous manufacture)					
Grapes	For breaking dormancy of fruiting buds Just after pruning, single application by swabbing.	1.5%	1.5 ltrs.	Mix with 200-300 ml. of product in 10 litres of water.	120 days
Hydrogen Cyanamide 49% AS (Import)					
Grapes	For breaking bud dormancy One directed spray, just after pruning.	1.0-1.5%	2-3%	50 ltrs.	110 days
Sugarcane	Dipping of setts	0.50	1.00%	Mix 1000 ml of the product per 100 litres of water	319 days

Mepiquat chloride 5% AS					
Potato	One spray 45 DAP To restrict the excessive vegetative growth of potato and increasing its yield	62.5-75gm	1.25-1.5Ltr	Mix 200 - 300 ml of products in 10 ltrs of water.	60-90 days
Cotton	single spray at flowering stage to Control of excessive vegetative growth and to increase crop yield in cotton	50-62.5 gm	1.0-1.25 ltr	500-600	57
Paclobutrazol 23% SC (W/W) / (25% W/V) **(Import Source:- ZENECA Agrochemicals, Fernhurst, Haslemere, Surrey, UK)**					
Mango	To reduce the inter node length of new shoots and earliar formation of terminal bud. Favourably, influence the fruit bud production, fruit colour and harvest yield 7-15yrs old 16-25 yrs.old >25 yrs old Application after the harvest of fruits (Any time from July to Oct)	- - -	15 ml. Per tree 20 ml. Per tree. 25-40 ml. Per tree (Note: If the soil is sandy the rate of applicatio n may be reduced to 75 % of the recomme	Recomm ended quantity diluted in clean water of 5-10 lit. and applied in furrow 5 to 10 cm deep about 30 cm away from the trunk. Fill up with soil after applicatio n or apply as soil – collar drench.	-

			nded. For repeat use the rate of applicatio n can be 50 to 75 % of the rate used in the 1st year)		
Paclobutrazol 23% SC (W/W) / (25% W/V) **(Import Source:- PGR International Pty. Ltd., 4 Dairy road, Werribee Vic. 3030 Australia)**					
Mango	To reduce the inter node length of new shoots and earlier formation of terminal bud. increase fruit bud production, and improve fruit yield texture 16-25 yrs old Application after the harvest of fruits (Any time from July to Oct)	4.0 gm per tree - -	16 ml. Per tree (Note: If the soil is sandy the rate of applicatio n be reduced to 75 % of the recomme nded. For repeat use the rate of applicatio n can be 50 to 75 % of the rate used in 1st year)	Make a round furrow about 5 to 10 cms deep at least 30cm away from the trunk. Mix the recommend ed dose with about 5-10 litres of clean water and apply to the furrow. Fill up with soil after application and irrigate once or twice a month subsequentl y	Waiting Period- NIL as the chemical is applied 8 months before harvest of fruits

Paclobutrazol 23% SC (W/W) / (25% W/V) (Indigenous manufacture)					
Mango	To reduce the inter node length of new shoots and earlier formation of terminal bud. Favourably, influence the fruit bud production, fruit colour and harvest yield 7-15 yrs old 16-25 yrs old >25 yrs old Application after the harvest of fruits (Any time from July to Oct)	- - -	15 ml. Per tree 20 ml. Per tree. 30 ml. Per tree (Note: If the soil is sandy the rate of application may be reduced to 75 % of the recommended. For repeat use the rate of application can be 50 to 75 % of the rate used in the 1st year)	Recommended quantity diluted in clean water of 5 lit. and applied in furrow 5 to 10 cm deep about 30 cm away from the trunk. Fill up with soil after application or apply as soil – collar drench.	-
Paclobutrazole 40% SC					
Pigeon Pea	At Flowering initiation stage	30	75	500	48
Prohexadione-Ca 10% WG					

Apple	Two split applications: 1st application: at 3-5 leaves/ shoot 2nd application 4 weeks after 1st application	125 150	50 gm per 100 liter 60 gm per 100 liter	2500 2500	94
Sodium Para –Nitrophenolate 0.3% SL					
Cotton	Flower bud initiated stage and fruit set stage	0.5%	5ml	800	16
Tomato	Flowering and fruit stages	0.5%	4ml	200	7
Triacontanol 0.05% EC					
Cotton	To increase the yield Three sprays at 45, 65 and 85 days after planting	0.125 gm	0.25ltr	400-500	
Rice	Three sprays at 25, 45 and 65 days after transplanting	0.125 gm	0.25ltr	400-500	
Chilli	Three sprays at 25, 45 and 65 days after planting	0.125 gm	0.25ltr	400-500	
Tomato	Three sprays at 25, 45 and 65 days after planting	0.125gm	0.25 ltr	400-500	
Groundnut	Three sprays at 25, 45 and 65 days after planting	0.125 gm	0.25 ltr	400-500	-
Potato	Two sprays at 30 and 45 days after planting	0.250 gm	0.50 ltr	500-600	-
Triacontanol 0.05%w/w min. GR					

Cotton	To increase the yield Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	12.5 gm	25 kg.	-	-
Rice	Broadcast & mix the desired quantity of granules in soil 2-3 days before transplanting.	12.5 gm	25 kg.	-	-
Chilli	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	12.5 gm	25 kg.	-	-
Tomato	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	12.5 gm	25 kg.	-	-
Groundnut	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	12.5 gm	25 kg.	-	-
Triacontanol 0.1% EW					
Cotton	To increase the yield Three sprays at 45, 65 and 85 days after planting	0.25 gm	0.25 ltr.	400-500	-
Rice	Three sprays at 25, 45 and 65 days after transplanting	0.25 gm	0.25 ltr.	400-500	-
Chilli	Three sprays at 25, 45 and 65 days after planting	0.25 gm	0.25 Ltr.	400-500	-
Tomato	Three sprays at 25, 45 and 65 days after planting	0.25 gm	0.25 ltr.	400-500	-
Groundnut	Three sprays at 25, 45 and 65 days after planting	0.25gm	0.25 ltr.	400-500	-