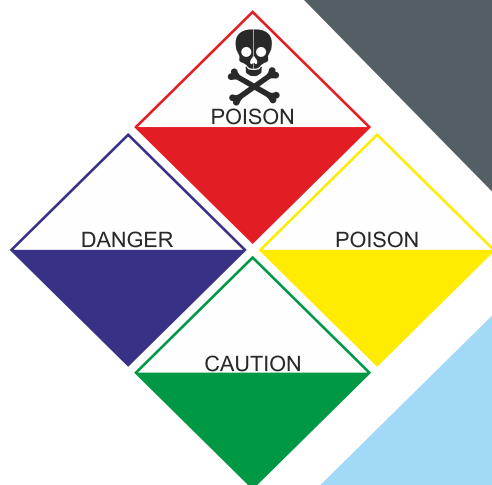




# EXPERT COMMITTEE RECOMMENDATIONS 2019-20



DEPARTMENT OF AGRICULTURE  
AND FARMERS' EMPOWERMENT



GOVERNMENT OF ODISHA

# EXPORT COMMITTEE RECOMMENDATIONS 2019-20

DIRECTORATE OF AGRICULTURE  
AND FOOD PRODUCTION ODISHA





DR. ARUN KUMAR SAHU

**MINISTER**

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## MESSAGE

Pests are causing damage to the crops at different stages and farmers suffered a lot due to the crop loss. Although pesticide use is a remedial measure, it should be adopted as a last resort based on pest surveillance and use of right pesticide in right dose and in right time for better result.

The expert committee comprising of many scientists from OUAT, NRRI, CHES, CIPMC & Directorate of Agriculture & Food Production, Odisha have contributed their recommendation of different inputs for use in crop production and pest management, which I hope this will help a lot to the extension functionaries for proper recommendation to the farmers.

(DR. ARUN KUMAR SAHOO)



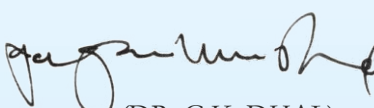
DR. G. K. DHAL, IAS

AGRICULTURE PRODUCTION COMMISSIONER  
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Government of Odisha

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## MESSAGE

Management of crop pests is a major challenge for the farmers in modern agriculture system. It is also a challenge for the extension functionaries in recommending effective management option. The State has experienced the outbreak of BPH during 2017 and the issues regarding its management. The new pest Fall Army Worm is causing wide spread concern among the agri scientists. There is increasing infestation of Rice panicle mite, Cutworm, Swarming caterpillar and Black headed caterpillar which are causing significant crop loss and effective diagnosis and effective recommendation are required to manage the pests and avoid crop loss. Further, use of proper agricultural inputs will boost up crop production. The expert committees lead by Scientists of OUAT, NRRI, CHES, CIPMC and Directorate of Agriculture & Food Production, Odisha have come out with a crop wise recommendation of pesticides, micronutrients and organic fertilizers, bio fertilizers, plant growth regulators, pheromone traps, lures and IPM kits which I hope will enlighten and guide our extension functionaries in recommending properly and adequately.



(DR. G.K. DHAL)



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Government of Odisha

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## MESSAGE

Pest attack is one of the major causes of yield loss in crops. Farmers are depending solely on the use of the pesticides to mitigate the pest problem. Often lack of awareness causes wrong selection of the chemicals, inadequate or overdose, improper timing which lead to resistance or resurgence problem. Recommended Plant Protection chemicals at correct dose and correct time can manage the pest timely and save the crop. The use of Integrated Pest Management (IPM) techniques which are more holistic and make use of natural and non-chemical based methods need more awareness.

Scientists of the Odisha University of Agriculture and Technology (OUAT), National Rice Research Institute (NRRI), Central Horticultural Experiment Station (CHES), Central Integrated Pest Management Centre (CIPMC) and Directorate of Agriculture & Food Production, Odisha have come out with a crop wise and pest wise recommendation of pesticides, micronutrients and organic fertilizers, bio fertilizers, plant growth regulators, pheromone traps, lures and IPM kits, which I believe will help the extension functionaries in informing the farmers.

I commend the team of experts for preparing this document.

  
(DR. SAURABH GARG)



DR. M. MUTHUKUMAR, IAS  
DIRECTOR

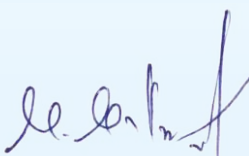
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Food Production, Odisha

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## MESSAGE

We are observing crop pests are creating hindrance in production. Climatic aberration, wrong and indiscriminate use of pesticides results in increasing the pest population to menacing proportion and in many cases minor pests have attained major status and new pests have come up. Our extension functionaries need to update their technical knowledge to properly advise the farmers on effective management of pest with recommended pesticides basing on surveillance report as a last resort.

We have come up with a recommendation on crop wise and pest wise use of pesticides, micronutrients and organic fertilizers, bio fertilizers, plant growth regulators, pheromone traps, lures & IPM kits with the help of experts from OUAT, NRRI, CHES, CIPMC & Directorate of Agriculture & Food Production, Odisha which I hope will be of much help to the extension functionaries while recommending the use of these inputs towards crop production.

  
(DR M. MUTHUKUMAR)

**Minutes of 2<sup>nd</sup> Expert Committee meeting for selection of Technical products for the year- 2019-20.**

As per the discussion in last Expert Committee meeting held on 01.02.2019 at 4.30 PM the 2<sup>nd</sup> meeting of Expert Committee was held on dt.20.05.19 at 3/30 PM under the Chairmanship of the Director of Agriculture and Food Production, Odisha in Board Room of this Directorate to select the crop wise recommendation of Technical Products for departmental use and procurement.

The Members present in the meeting is enclosed at Annexure-I

As decided by the Experts of the respective Departments of OUAT, Directorate of Horticulture, RCOF, CIPMC, CHES (IIHR), NRRI and Scheme Officer of the Directorate of Agriculture and Food Production, Odisha participated in the discussion. The detail discussion was held on recommendations submitted by the above concerned on crop wise technical formulation, dosage per hectare and its usages for each recommended products.

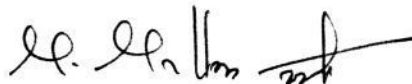
The Chairman suggested Technical Products of different new recommendations given by the DAC & FW- ICAR for inclusion in the list of products during 2019-20.

Finally the committee prepared a list of products recommended by the HOD, Entomology/ Agronomy/Nematology/Soil Chemistry/Plant Physiology/Plant Pathology, Department of OUAT, Directorate of Horticulture, RCOF, CIPMC, CHES (IIHR), NRRI and Scheme Officers of the Directorate of Agriculture and Food Production, Odisha on following products.

1. Insecticides
2. Fungicides
3. Herbicides
4. Nematicides
5. Bio-Insecticides
6. Bio-Fungicides
7. Plant Growth Regulator (PGR)
8. Micronutrients
9. Bio-fertilizers and Organic fertilizers
10. IPM Kits, Traps and Lures and Yellow Sticky Traps

The Expert Committee recommended the products of the above Trade groups, Appended in Annexure-II & submitted for approval of the Government for its use.

The meeting was ended with vote of thanks for the chair.



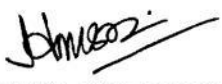
Director of Agriculture & Food Production, Odisha  
-Cum-Chairman Expert Committee

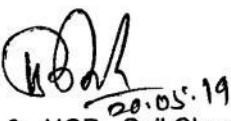


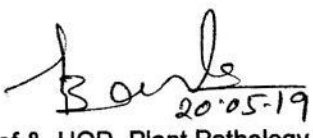
  
Addl. Director of Agriculture  
(Extension), O/O-The DA&FP(O)

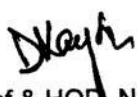
  
Addl. Director of Horticulture  
O/O-The Director, Horticulture(O)


  
Joint Director of Agriculture (SP&C)  
O/O-The DA&FP(O)


  
Prof & HOD, Entomology  
OUAT, Bhubaneswar

  
Prof & HOD, Soil Chemistry  
OUAT, Bhubaneswar

  
Prof & HOD, Plant Pathology  
OUAT, Bhubaneswar

  
Prof & HOD, Nematology  
OUAT, Bhubaneswar

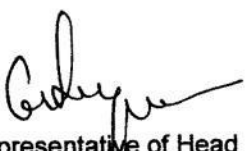
  
OIC Weed Management  
OUAT, Bhubaneswar

  
Asst. Professor, Plant Physiology  
OUAT, Bhubaneswar

  
Asst. Director, Regional Centre for  
Organic Farming, Bhubaneswar

  
Plant Protection Officer  
CIPMC, Bhubaneswar

  
Deputy Director of Agriculture  
(Plant Protection), Odisha

  
Representative of Head  
CHES(IIHR), Bhubaneswar

  
Representative of Director  
ICAR, NRRI, Cuttack

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**1**  
SECTION

# CROP & PEST WISE RECOMMENDATION OF INSECTICIDES

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
ARHAR	Jassids	IMIDACLOPRID 17.8 % SL	OUAT	25	140	500	Foliar Spray
		THIAMETHOXAM 25 % WG	OUAT	25	100	500	Foliar Spray
		CLOTHIANIDIN 50 % WDG	OUAT	50	100	500	Foliar Spray
	Pod borer, Plume Moth & Pod Fly	CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	30	150	500	Foliar Spray
		FLUBENDIAMIDE 39.35% M/M SC	CIBRC/OUAT	48	100	500	Foliar Spray
		EMAMECTIN BENZOATE 5% SG	CIBRC/OUAT	11	220	500	Foliar Spray
		SPINOSAD 45.0% SC	CIBRC/OUAT	56-73	125-162	500	Foliar Spray
		INDOXACARB 15.8% EC	CIBRC/OUAT	50	333	500	Foliar Spray
		INDOXACARB 14.5% SC	CIBRC/OUAT	50-60	353-400	500	Foliar Spray
	Stem fly	IMIDACLOPRID 70%WS	CIBRC/OUAT	3.5 gm / Kg of Seed		(Seed Treatment)	
		IMIDACLOPRID 48% FS	OUAT	5 ml / Kg of Seed		(Seed Treatment)	
		THIAMETHOXAM 30 %FS	OUAT	10 ml / Kg of Seed		(Seed Treatment)	

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
ARHAR	Pod Sucking Bug ,Cow Bug & Aphid	IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
		THIAMETHOXAM 25% WG	OUAT	25	100	500	Foliar Spray
		ACETAMIPRID 20% SP	OUAT	25	125	500	Foliar Spray
		CLOTHIANIDIN 50 % WDG	OUAT	50	100	500	Foliar Spray
	Leaf Webber	CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000-1250	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
BENGAL GRAM	Pod Borer ( <i>Helicoverpa armigera</i> )	NOVALURON 10% EC	CIBRC/OUAT	75	750	500	Foliar Spray
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	25	125	500	Foliar Spray
		EMAMECTIN BENZOATE 5% SG	CIBRC/OUAT	11	220	500	Foliar Spray
		LAMBDA-CYHALOTHRIN 5% EC	CIBRC/OUAT	25	500	500	Foliar Spray
	Cut worm	CHLORPYRIFOS 20% EC	CIBRC/OUAT	500	2500	500	Foliar Spray
		CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
	Termite	CHLORPYRIFOS 20% EC	OUAT	500	2500	500	Soil Drench
		FIPRONIL 5% SC	OUAT	75	1500	500	Soil Drench
		BIFENTHRIN 10% EC	OUAT	100	1000	500	Soil Drench
	Semilooper	FLUBENDIAMIDE 20 % WG	OUAT	100	500	500	Foliar Spray
		INDOXACARB 14.5% SC	OUAT	72.5	500	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
BLACK & GREEN GRAM	Bihar hairy Caterpillar	QUINALPHOS 25% EC	CIBRC/OUAT	375	1500	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		PROFENOPHOS 40% + CYPERMETHRIN 4% EC	OUAT	400 + 40	1000	500	Foliar Spray
	Jassids, Aphid & Thrips	IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
		THIAMETHOXAM 25% WG	OUAT	25	100	500	Foliar Spray
		CLOTHIANIDIN 50% WDG	OUAT	125	250	500	Foliar Spray
		ACETAMIPRID 20% SP	OUAT	25	125	500	Foliar Spray
	Pod borer , Plume moth & Pod fly	FLUBENDIAMIDE 39.35% M/M SC	CIBRC/OUAT	48	100	500	Foliar Spray
		EMAMECTIN BENZOATE 5% SG	OUAT	11	220	500	Foliar Spray
		THIODICARB 75% WP	CIBRC/OUAT	468-562	625-750	500	Foliar Spray
		PROFENOPHOS 50% EC	CIBRC/OUAT	500	1000	500	Foliar Spray
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	20	100	500	Foliar Spray
	Stem fly	IMIDACLOPRID 70%WS	OUAT	3.5 gm / Kg of Seed		Seed Treatment	
		IMIDACLOPRID 48% FS	OUAT	5 ml / Kg of Seed		Seed Treatment	
		THIAMETHOXAM 30% FS	OUAT	10 ml / Kg of Seed		Seed Treatment	
	White fly	ACETAMIPRID 20% SP	OUAT	25	125	500	Foliar Spray
		BUPROFEZIN 25%SC	OUAT	125	500	500	Foliar Spray
		PYRIPROXYFEN 10%EC	OUAT	50	500	500	Foliar Spray
	Tobacco Caterpillar & Hawk Moth	QUINALPHOS 20% + CYPERMETHRIN 3% EC	OUAT	200 + 30	1000	500	Foliar Spray
		CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000	500	Foliar Spray
		PROFENOPHOS 40% + CYPERMETHRIN 4% EC	OUAT	400 + 40	1000	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
BLACK & GREEN GRAM	Flee Beetle	FIPRONIL 5% SC	OUAT	50	1000	500	Foliar Spray
		TOLFENPYRAD 15% EC	OUAT	150	1000	500	Foliar Spray
		CHLORPYRIFOS 1.5%DP	OUAT	375-450	25-30 KG	--	Dusting
	Mites	PROPARGITE 57% EC	OUAT	570	1000	500	Foliar Spray
		FENAZAQUIN 10% EC	OUAT	100	1000	500	Foliar Spray
		FENPYROXYMATE 5% EC	OUAT	50	1000	500	Foliar Spray
COTTON	Boll Worms complex	FLUBENDIAMIDE 39.35% M/M SC	CIBRC/OUAT	48-60	100-125	500	Foliar Spray
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	30	150	500	Foliar Spray
		FLUBENDIAMIDE 20% WG	CIBRC/OUAT	50	250	500	Foliar Spray
		NOVALURON 10% EC	CIBRC/OUAT	100	1000	500	Foliar Spray
		SPINOSAD 45.0% SC	CIBRC/OUAT	75-100	165-220	500	Foliar Spray
		INDOXACARB 15.8% EC	CIBRC/OUAT	75	500	500	Foliar Spray
		EMAMECTIN BENZOATE 5% SG	CIBRC/OUAT	11	190-220	500	Foliar Spray
	Aphid, Jassids, Thrips, Red & Dusky Cotton Bug	THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
		CLOTHIANIDIN 50% WDG	CIBRC/OUAT	50	100	500	Foliar Spray
		DINOTEFURAN 20% SG	CIBRC/OUAT	25-30	125-150	500	Foliar Spray
		IMIDACLOPRID 30.5% M/M SC	CIBRC/OUAT	21-26.25	60-75	500	Foliar Spray
		IMIDACLOPRID 17.8% SL	CIBRC/OUAT	20 – 25	100 – 125	500	Foliar Spray
		FLONICAMID 50% WG	CIBRC/OUAT	75	150	500	Foliar Spray

<b>CROP</b>	<b>Common Name of the Pest</b>	<b>Recommended Insecticides by CIBRC/OUAT</b>		<b>Dosage / ha a.i (gm)</b>	<b>Formulation (gm/ml)/ha</b>	<b>Dilution in Water (Litre/ha)</b>	<b>Remarks</b>
<b>COTTON</b>	Cut worm / Green Semi-looper / Hairy Caterpillar	<b>CHLORPYRIFOS 20% EC</b>	CIBRC/OUAT	500-750	2500-3750	500-1000	Foliar Spray
		<b>QUINALPHOS 20% + CYPERMETHRIN 3% EC</b>	OUAT	200 + 300	1000	500	Foliar Spray
		<b>CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC</b>	OUAT	500 + 50	1000	500	Foliar Spray
		<b>PROFENOPHOS 40% + CYPERMETHRIN 4% EC</b>	OUAT	400 + 40	1000	500	Foliar Spray
	Leaf Eating Caterpillar/ Leaf Roller	<b>CHLORPYRIFOS 20% EC</b>	OUAT	500	2500	500	Foliar Spray
		<b>QUINALPHOS 25 % EC</b>	OUAT	375	1500	500	Foliar Spray
	Mite	<b>SPIROMESIFEN 22.9% SC</b>	CIBRC/OUAT	144	600	500	Foliar Spray
		<b>PROPARGITE 57% EC</b>	OUAT	570	1000	500	Foliar Spray
		<b>FENAZAQUIN 10% EC</b>	OUAT	100	1000	500	Foliar Spray
	Stem weevil	<b>CHLORPYRIFOS 20% EC</b>	OUAT	200	1000	500	Foliar Spray
	Tobacco caterpillar	<b>CHLORANTRANILIPROLE 18.5% SC</b>	CIBRC/OUAT	30	150	500	Foliar Spray
		<b>SPINETORAM 11.7 % SC</b>	CIBRC/OUAT	50-56	420-470	500	Foliar Spray
		<b>DIFLUBENZURON 25% WP</b>	CIBRC/OUAT	75-87.5	300-350	500	Foliar Spray
	White flies	<b>ACETAMIPRID 20% SP</b>	CIBRC/OUAT	20	100	500	Foliar Spray
		<b>BUPROFEZIN 25% SC</b>	CIBRC/OUAT	250	1000	500	Foliar Spray
		<b>FLONICAMID 50% WG</b>	CIBRC/OUAT	75	150	500	Foliar Spray
		<b>PYRIPROXYFEN 10% EC</b>	CIBRC/OUAT	100	1000	500	Foliar Spray
		<b>SPIROMESIFEN 22.9% SC</b>	CIBRC/OUAT	144	600	500	Foliar Spray



<b>CROP</b>	<b>Common Name of the Pest</b>	<b>Recommended Insecticides by CIBRC/OUAT</b>		<b>Dosage / ha a.i (gm)</b>	<b>Formulation (gm/ml)/ha</b>	<b>Dilution in Water (Litre/ha)</b>	<b>Remarks</b>
<b>COTTON</b>	Leafminer	SPINOSAD 45% SC	OUAT	90	200	500	Foliar Spray
		IMIDACLOPRID 17.8% SL	OUAT	20-25	100-125	500	Foliar Spray
		FIPRONIL 5% SC	OUAT	75-100	1500-2000	500	Foliar Spray
	Mealy Bug	ACEPHATE 75 %SP	OUAT	292	390	500	Foliar Spray
		BUPROFEZIN 25%SC	OUAT	250	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
<b>GROUNDNUT</b>	Aphid / Jassids/ Thrips	THIAMETHOXAM 25% WG	OUAT	25	100	500	Foliar Spray
		OXYDEMETON – METHYL 25% EC	CIBRC/OUAT	250	1000	500	Foliar Spray
		IMIDACLOPRID 17.8% SL	CIBRC/OUAT	20-25	100-125	500	Foliar Spray
	Tobacco Leaf eating caterpillar	CHLORPYRIFOS 20% EC	OUAT	200	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		DIFLUBENZURON 25% WP	OUAT	75-87.5	300-350	500	Foliar Spray
	Leaf miner	PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		QUINALPHOS 25% EC	CIBRC/OUAT	250	1000	500	Foliar Spray
		SPINOSAD 45% SC	OUAT	90	200	500	Foliar Spray
	Leaf Webber	CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000	500	Foliar Spray
		QUINALPHOS 25% EC	OUAT	250	1000	500	Foliar Spray
		PROFENOPHOS 40% + CYPERMETHRIN 4% EC	OUAT	400 + 40	1000	500	Foliar Spray
	Mites	PROPARGITE 57% EC	OUAT	570	1000	500	Foliar Spray
		FENPYROXIMATE 5% EC	OUAT	50	1000	500	Foliar Spray
		FENAZAQUIN 10% EC	OUAT	100	1000	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
GROUND NUT	Red hairy Caterpillar	CHLORPYRIFOS 1.5%D	OUAT	375-450	25-30 Kg/ha	--	Dusting
		PROFENOPHOS 40% + CYPERMETHRIN 4% EC	OUAT	400 + 40	1000	500	Foliar Spray
		CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000	500	Foliar Spray
	Termites	THIAMETHOXAM 75% W/W SG	CIBRC/OUAT	94	125	500	Soil Drench
		CHLORPYRIFOS 20% EC	OUAT	400	2000	500	Soil Drench
		FIPRONIL 5% SC	OUAT	75	1500	500	Soil Drench
		BIFENTHRIN 10% EC	OUAT	100	1000	500	Soil Drench
	White grub	CHLORPYRIFOS 1.5%D	OUAT	375-450	25-30 Kg/ha	500	Foliar Spray
		CARBOFURAN 3% CG	CIBRC/OUAT	1000	33.3 kg	500	Foliar Spray
		CHLORPYRIFOS 20% EC	OUAT	400	2000	500	Foliar Spray
SUNFLOWER	Bihar hairy caterpillar, Cabbage Semilooper, Green Semilooper, Tobacco Caterpillar, Cut Worm & Army Worm	QUINALPHOS 25 %EC	OUAT	250	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		CHLORPYRIFOS 20% EC	OUAT	400	2000	500	Foliar Spray
	Jassid/ Leaf Hopper/ Thrips	IMIDACLOPRID 17.8% SL	CIBRC/OUAT	20-25	100-140	500	Foliar Spray
		IMIDACLOPRID 70% WS	CIBRC/OUAT	490	7	1 kg seed	Seed Treatment
		IMIDACLOPRID 48% FS	CIBRC/OUAT	300 – 540	5-9	1 kg seed	Seed Treatment
		THIAMETHOXAM 30% FS	CIBRC/OUAT	3 gm / Kg of Seed	10 ml / kg of seed		Seed Treatment
	White fly	ACETAMIPRID 20% SP	OUAT	25	125	500	Foliar Spray
		IMIDACLOPRID 17.8% SL	CIBRC/OUAT	20-25	100-140	500	Foliar Spray
		IMIDACLOPRID 70% WS	CIBRC/OUAT	490	700	100 kg seed	Seed Treatment

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
SUNFLOWER	White fly	IMIDACLOPRID 48% FS	CIBRC/OUAT	300 – 540	500 – 900	100 kg seed	Seed Treatment
	Termite/ White ants	CHLORPYRIFOS 20% EC	OUAT	400	2000	500	Soil Drench
		FIPRONIL 5% SC	OUAT	75	1500	500	Soil Drench
		BIFENTHRIN 10% EC	OUAT	100	1000	500	Soil Drench
	Capitulum Borer ( <i>Helicoverpa armigera</i> )	FLUBENDIAMIDE 39.35 %M/MS	OUAT	48-60	100-125	500	Foliar Spray
SESAMUM	Gall Fly	PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		ACEPHATE 75% SP	OUAT	375	500	500	Foliar Spray
		ETHOFENPROX 10% EC	OUAT	50	500	500	Foliar Spray
	White fly	ACETAMIPRID 20 %SP	OUAT	25	125	500	Foliar Spray
		BUPROFEZIN 25%SC	OUAT	125	500	500	Foliar Spray
	Jassids	THIAMETHOXAM 25% WG	OUAT	25	100	500	Foliar Spray
		DIMETHOATE 30% EC	OUAT	300	1000	500	Foliar Spray
		OXYDEMETON – METHYL 25% EC	CIBRC/OUAT	300	1200	500	Foliar Spray
	Leaf webber & Hawk Moth	QUINALPHOS 25% EC	CIBRC/OUAT	500	2000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		EMAMECTIN BENZOATE 5% SG	OUAT	11	220	500	Foliar Spray
	MUSTARD Aphid/ Painted Bug	IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
		OXYDEMETON – METHYL 25% EC	CIBRC/OUAT	250	1000	500	Foliar Spray
		THIAMETHOXAM 25% WG	CIBRC/OUAT	12.5-25.0	50-100	500	Foliar Spray
		DIMETHOATE 30% EC	CIBRC/OUAT	200	660	500	Foliar Spray
		CLOTHIANIDIN 50% WDG	OUAT	50	100	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
MUSTARD	Leaf Webber/ Diamond Back Moth	ETHOFENPROX 10% EC	OUAT	50	500	500	Foliar Spray
		EMAMECTIN BENZOATE 5% SG	OUAT	11	220	500	Foliar Spray
		INDOXACARB 14.5% SC	OUAT	72.5	500	500	Foliar Spray
		FIPRONIL 5% SC	OUAT	50	1000	500	Foliar Spray
	Sawfly / Cabbage Butterfly/ Bihar hairy caterpillar	QUINALPHOS 25% EC	CIBRC/OUAT	300	1200	500	Foliar Spray
		ETHOFENPROX 10% EC	OUAT	50	500	500	Foliar Spray
		ACEPHATE 75% SP	OUAT	375	500	500	Foliar Spray
		CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000	500	Foliar Spray
	White fly	ACETAMIPRID 20% SP	OUAT	25	125	500	Foliar Spray
		BUPROFEZIN 25%SC	OUAT	125	500	500	Foliar Spray
		PYRIPROXYFEN 10%EC	OUAT	50	500	500	Foliar Spray
	Flea Beetle	CHLORPYRIFOS 20% EC	OUAT	200	1000	500	Foliar Spray
		FIPRONIL 5% SC	OUAT	50	1000	500	Foliar Spray
		CHLORPYRIFOS 1.5%D	OUAT	375 - 450	25-30 Kg/ha		Dusting
	Termite/ White ant	CHLORPYRIFOS 20% EC	OUAT	400	2000	500	Soil Drench
		FIPRONIL 5% SC	OUAT	75	1500	500	Soil Drench
		BIFENTHRIN 10% EC	OUAT	100	1000	500	Soil Drench
PADDY	Army worm / Cut Worm/ Swarming Caterpillar	CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
PADDY	Brown Plant Hopper (BPH)/ White Backed Plant Hopper (WBPH)/ Green Leaf Hopper (GLH)	ETHIPROLE 40 + IMIDACLOPRID 40%WG	CIBRC/OUAT	37.5 + 37.5	93.75	500	Foliar Spray
		BUPROFEZIN 15% + ACEPHATE 35% W/W WP	CIBRC/OUAT	187.5+ 437.5	1250	500	Foliar Spray
		CLOTHIANIDIN 50% WDG	CIBRC/OUAT	10-12	20-24	500	Foliar Spray
		DINOTEFURAN 20% SG	CIBRC/OUAT	30-40	150-200	500	Foliar Spray
		ETHOFENPROX 10% EC	CIBRC	50	500	500	Foliar Spray
		FLONICAMID 50% WG	CIBRC/OUAT	75	150	500	Foliar Spray
		IMIDACLOPRID 17.8% SL	CIBRC/OUAT	20 – 25	100 – 140	500	Foliar Spray
		PYMETROZINE 50% WG	CIBRC/OUAT	150	300	500	Foliar Spray
		THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
		TRIFLUMEZOPYRIM 10% SC	CIBRC/NRRI	25	250	500	Foliar Spray
	Case worm	FIPRONIL 5% SC	OUAT	50	1000	500	Foliar Spray
		INDOXACARB 14.5 % SC	OUAT	72.5	500	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
	Ear head bug/ Caterpillar & Gundhi Bug	CHLORPYRIFOS 1.5%D	OUAT	375 - 450	25-30 Kg	--	Dusting
		FERMENTED SNAIL TRAP	OUAT			--	Field preparation
		MALATHION 50 % EC	OUAT	500	1000	500	Foliar Spray
	Gall midge	FIPRONIL 0.3% GR	OUAT	60 - 75	20- 25 Kg	--	Soil Treatment
		CARBOFURAN 3% CG	CIBRC/OUAT	750	25 Kg	--	Soil Treatment

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
PADDY	Gall midge	CARBOSULFAN 25% EC	CIBRC/OUAT	200-253	800-1000	500	Foliar Spray
		CHLORPYRIFOS 20% EC	CIBRC/OUAT	250	1250	500	Foliar Spray
		THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
		FIPRONIL 5% SC	CIBRC/OUAT	50-75	1000-1500	500	Foliar Spray
	Green Horn Caterpillar / Rice Skipper/ Hispa	INDOXACARB 15.8% EC	CIBRC/OUAT	30	200	500	Foliar Spray
		CHLORPYRIFOS 20% EC	OUAT	200	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
	Mealy Bug	PROFENPHOS 50 % EC	OUAT	500	1000	500	Foliar Spray
		THIAMETHOXAM 25% WG	OUAT	25	100	500	Foliar Spray
		IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
	leaf folder	CHLORANTRANILIPROLE 0.4% GR	CIBRC	41	11 Kg	---	Soil Treat,ment
		CHLORANTRANILIPROLE 18.5% SC	OUAT	40	200	500	Foliar Spray
		FLUBENDIAMIDE 20% SG	CIBRC/OUAT	25	125	500	Foliar Spray
		CARTAP HYDROCHLORIDE 50% SP	CIBRC/OUAT	500	1000	500	Foliar Spray
		INDOXACARB 15.8% EC	CIBRC/OUAT	30	200	500	Foliar Spray
		LAMBDA-CYHALOTHRIN 2.5% EC	CIBRC/OUAT	12.5	500	500	Foliar Spray
		THIOCYCLAM HYDROGEN OXALATE 4% GR	CIBRC/OUAT	500	12.5 kg	500	Broadcast (15- 25 DAT)
	Grass hopper	CHLORPYRIFOS 1.5% DP	CIBRC/OUAT	375	25 Kg	--	Dusting
	Stem borer	CHLORANTRANILIPROLE 0.4% GR	CIBRC/OUAT	41	10Kg	---	Soil Treat,ment
		CHROMAFENOZIDE 80% WP	CIBRC/OUAT	75-100	94-125	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
PADDY	Stem borer	FIPRONIL 5% SC	CIBRC/OUAT	50-75	1000-1500	500	Foliar Spray
		FIPRONIL 0.3% GR	CIBRC/OUAT	50-75	16.67-25.00kg	--	Soil Treat,ment
		FLUBENDIAMIDE 20% SG	CIBRC/OUAT	25	125	500	Foliar Spray
		FLUBENDIAMIDE 39.35% M/M SC	CIBRC/OUAT	24	50	500	Foliar Spray
		PROFENPHOS 50 % EC	CIBRC/OUAT	500	1000	500	Foliar Spray
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	30	150	500	Foliar Spray
		IMIDACLOPRID 0.3%G	CIBRC	50	15 kg	--	Soil Treat,ment
		CARTAP HYDROCHLORIDE 4% G	CIBRC/OUAT	750	18.75 Kg	--	Soil Treat,ment
	Paniclemite	FENAZAQUIN 10% EC	OUAT	100	1000	500	Foliar Spray
		FENPYROXIMATE 5% EC	OUAT	50	1000	500	Foliar Spray
		PROPARGITE 57% EC	OUAT	570	1000	500	Foliar Spray
		DIAFENTHIURON 50%WP	OUAT	500	1000	500	Foliar Spray
	Thrips	THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
	Whorl maggot	CHLORPYRIFOS 20% EC	CIBRC/OUAT	250	1250	500	Seedling Root Dip
		CARTAP HYDROCHLORIDE 4% GRANULES	CIBRC/OUAT	750-1000	18.75-25.00kg	--	Soil Treat,ment
		FIPRONIL 0.3% GR	CIBRC/OUAT	50-80	16.67-25.00kg	--	Soil Treat,ment
		FIPRONIL 5% SC	CIBRC/OUAT	50-75	1000-1500	500	Foliar Spray
	Termite (Upland Condition)	THIAMETHOXAM 75% W/W SG	CIBRC/OUAT	94	125	500	Soil Drench
		CHLORPYRIFOS 20% EC	OUAT	400	2000	500	Soil Drench
		FIPRONIL 5% SC	OUAT	75	1500	500	Soil Drench
		BIFENTHRIN 10% EC	OUAT	100	1000	500	Soil Drench

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
MAIZE	Aphid/Thrips	IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
		THIAMETHOXAM 25 %WG	OUAT	25	100	500	Foliar Spray
		CLOTHIANIDIN 50% WDG	OUAT	125	250	500	Foliar Spray
	Shoot fly	PROFENOPHOS 50% EC	CIBRC/OUAT	500	1000	500	Foliar Spray
		CARBOFURAN 3% CG	CIBRC/OUAT	1000	33.300 Kg	--	Soil Treatment
		THIAMETHOXAM 30% FS	CIBRC/OUAT	2.4	8 gm / kg of seed		Seed Treatment
	Stem Borer	FIPRONIL 5% SC	OUAT	50	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		CARBOFURAN 3% CG	OUAT	1000	33.300 Kg	--	Soil Treatment
	Fall Army Worm ( <i>Spodoptera frugiperda</i> )	CARBOFURAN 3% CG	CIBRC	1000	33.300 Kg	--	Soil Treatment
		CHLORANTRANILIPROLE 0.4 % G	CIBRC	400	10.0 KG		Soil Treatment
		CYANTRANILIPROLE 19.8% +THIAMETHOXAM 19.8%EC	CIBRC	4 ml / kg of seed protected the crop up to 2-3 weeks after germination			seed Treatment
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		SPINOSAD 45% SC	CIBRC	67	150	500	Foliar Spray at second Window stage ( Mid whorl to Late Whorl)
		EMAMECTIN BENZOATE 5% SG	OUAT	11	200	500	Foliar Spray at second Window stage ( Mid whorl to Late Whorl)
		CHLORANTRANILIPROLE 18.5% SC	CIBRC	38	200	500	Foliar Spray at second Window stage ( Mid whorl to Late Whorl)
		THIAMETHOXAM 12.6% + LAMBDAHALOTHHRIN 9.5% EC	CIBRC	50	250	500	Foliar Spray at second Window stage ( Mid whorl to Late Whorl)
		POISON BAITING	For Late instar larvae of second instar, keep the mixture of 10 kg Rice bran ++ 2 kg Jaggery with 2-3 litre of water for 24 hours to ferment. Add 100 gm Thiodicarb just half an hour before application in the field. The bait should be applied into the whorl of the plants.				



CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
MAIZE	Hairy Caterpillar	CHLORPYRIFOS 1.5% DP	OUAT	375-450	25 -30 Kg	--	Dusting
		CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000	500	Foliar Spray
		QUINALPHOS 25% EC	OUAT	250	1000	500	Foliar Spray
	Grass Hopper	CHLORPYRIFOS 1.5% DP	OUAT	375-450	25 -30 Kg	--	Dusting
	Mite	PROPARGITE 57% EC	OUAT	570	1000	500	Foliar Spray
		FENPYROXIMATE 5% EC	OUAT	50	1000	500	Foliar Spray
		FENAZAQUIN 10% EC	OUAT	100	1000	500	Foliar Spray
	Termite/ White ants	CHLORPYRIFOS 20% EC	OUAT	400	2000	500	Soil Drench
		FIPRONIL 5% SC	OUAT	75	1500	500	Soil Drench
		BIFENTHRIN 10% EC	OUAT	100	1000	500	Soil Drench
	American Cob borer	FLUBENDIAMIDE 39.35 % M/M SC	OUAT	80	200	500	Foliar Spray
RAGI	Stem Borer	CHLORPYRIFOS 20% EC	OUAT	200	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		FIPRONIL 5% SC	OUAT	50	1000	500	Foliar Spray
	Cut worm	CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
	Hairy caterpillar	PROFENOPHOS 40% + CYPERMETHRIN 4% EC	OUAT	400 + 40	1000	500	Foliar Spray
		CHLORPYRIFOS 50% + CYPERMETHRIN 5% EC	OUAT	500 + 50	1000	500	Foliar Spray
	Grass Hopper	CHLORPYRIFOS 1.5% DP	OUAT	375	25 Kg	--	Dusting

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
RAGI	Aphids & Jassids	IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
		THIAMETHOXAM 25 % WG	OUAT	25	100	500	Foliar Spray
		CLOTHIANIDIN 50% WDG	OUAT	50	100	500	Foliar Spray
	Termites	CHLORPYRIFOS 20% EC	OUAT	400	2000	500	Soil Drench
		FIPRONIL 5% SC	OUAT	75	1500	500	Soil Drench
		BIFENTHRIN 10% EC	OUAT	100	1000	500	Soil Drench
SUGARCANE	Top borer	CHLORANTRANILIPROLE 0.4% GR	CIBRC/OUAT	75	18.75	500	Soil application
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	75	375	500	Foliar Spray
		CARBOFURAN 3% CG	CIBRC/OUAT	1000	33.30 kg	--	Soil Treatment
	Termites	BIFENTHRIN 10% EC	CIBRC/OUAT	100	1000	500	Soil Drench
		THIAMETHOXAM 75% W/W SG	CIBRC/OUAT	120	160	500	Soil Drench
		IMIDACLOPRID 17.8% SL	OUAT	150	750		Soil Treatment @ 1.5ml/ lt of water & Soil Drench
	Early shoot borer	CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	75	375	500	Foliar Spray
		FIPRONIL 0.3% GR	CIBRC/OUAT	75-100	25.00 - 33.300 Kg	--	Soil Treatment
		FIPRONIL 5% SC	CIBRC/OUAT	75-100	1500-2000	500	Foliar Spray
		CHLORANTRANILIPROLE 0.4% GR	CIBRC/OUAT	75	18.75 Kg	-	Soil Treatment
		PROFENOPHOS 50% EC	CIBRC/OUAT	500	1000	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
SUGARCANE	Stalk/ Internode borer	CHLORPYRIFOS 20% EC	CIBRC/OUAT	250-300	1250-1500	500	Foliar Spray
		PROFENOPHOS 50% EC	CIBRC/OUAT	500	1000	500	Foliar Spray
		FIPRONIL 5% SC	OUAT	50	1000	500	Foliar Spray
	Mealy bug	PROFENOPHOS 50% EC	CIBRC/OUAT	500	1000	500	Foliar Spray
		THIAMETHOXAM 25% WG	OUAT	25	100	500	Foliar Spray
	Pyrilla	IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
		THIAMETHOXAM 25% WG	OUAT	25	100	500	Foliar Spray
	Root borer	FIPRONIL 5% SC	CIBRC/OUAT	75-100	1500-2000	500	Foliar Spray
		FIPRONIL 0.3% GR	CIBRC/OUAT	75-100	25000-33300	--	Soil Treatment
		CHLORANTRANILIPROLE 0.4% GR	OUAT	75	18.75 kg	--	Soil Treatment
	Scale Insect/ Black Bug	THIAMETHOXAM 25 %WG	OUAT	25	100	500	Foliar Spray
		ACETAMIPRID 20 % SP	OUAT	25	125	500	Foliar Spray
	White grub	CHLORPYRIFOS 20% EC	OUAT	400	2000	500	Foliar Spray
		FIPRONIL 40% + IMIDACLOPRID 40% WG	CIBRC/OUAT	175+175-200+200	437.5-500 ( Soil Drench)		
		CARTAP HYDROCHLORIDE 4% G	OUAT	800	20 kg	--	Soil Treatment
	Red Mite & Yellow Mite	PROPARGITE 57% EC	OUAT	570	1000	500	Foliar Spray
		FENPYROXIMATE 5% EC	OUAT	50	1000	500	Foliar Spray
		FENAZAQUIN 10% EC	OUAT	100	1000	500	Foliar Spray
	Whitefly	ACETAMIPRID 20% SP	OUAT	25	125	500	Foliar Spray
		BUPROFEZIN 25% SC	OUAT	125	500	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
SUGARCANE	White-fly	PYRIPROXYFEN 10% EC	OUAT	50	500	500	Foliar Spray
	Wooly aphid	IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
		THIAMETHOXAM 25% WG	OUAT	25	100	500	Foliar Spray
		CLOTHIANIDIN 50% WDG	OUAT	50	100	500	Foliar Spray
	Grass Hopper	CHLORPYRIFOS 1.5% DP	OUAT	375	25 kg	--	Dusting on foliage
JUTE & MESTA	Bihar Hairy caterpillar	CHLORPYRIFOS 1.5% DP	OUAT	375-450	25 - 30 kg	--	Dusting on foliage
		PROFENOPHOS 40% + CYPERMETHRIN 4% EC	OUAT	400 + 40	1000	500	Foliar Spray
	Leaf roller	QUINALPHOS 25% EC	CIBRC/OUAT	375	1500	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		ACEPHATE 75% SP	OUAT	375	500	500	Foliar Spray
	Red spider mite, Yellow mite	SPIROMESIFEN 22.9% SC	OUAT	144	600	500	Foliar Spray
		PROPARGITE 57% EC	OUAT	570	1000	500	Foliar Spray
		FENPYROXIMATE 5% EC	OUAT	50	1000	500	Foliar Spray
		FENAZAQUIN 10% EC	OUAT	100	1000	500	Foliar Spray
	Semi Looper	QUINALPHOS 25% EC	CIBRC/OUAT	375	1500	500	Foliar Spray
	Stem Weevil & Stem Girdler	PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		FIPRONIL 5% SC	OUAT	50	1000	500	Foliar Spray
		ACEPHATE 75% SP	OUAT	375	500	500	Foliar Spray
	Leaf Eating Cater- pillar	CHLORPYRIFOS 20% EC	OUAT	200	1000	500	Foliar Spray
		QUINALPHOS 25% EC	OUAT	250	1000	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
JUTE & MESTA	Cow Bug	IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
		THIAMETHOXAM 25% WG	OUAT	25	100	500	Foliar Spray
		ACETAMIPRID 20% SP	OUAT	25	125	500	Foliar Spray
	Mealybug	THIAMETHOXAM 25 % WG	OUAT	25	100	500	Foliar Spray
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
		IMIDACLOPRID 17.8% SL	OUAT	25	140	500	Foliar Spray
BITTER GOURD	Fruit borers & Caterpillars	CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	20-25	100-125	500	Foliar Spray
BOTTLE GOURD & BITTER GOURD	Red Spider mite	DICOFOL 18.5% EC	CIBRC/OUAT	250-500	1350-2700	500	Foliar Spray
BRINJAL	Two spotted spider mite	PROPARGITE 57% EC	CIBRC/OUAT	570	1000	500	Foliar Spray
		MILBEMECTIN 1% EC	CIBRC/OUAT	5	500	500	Foliar Spray
		HEXYTHIAZOX 5.45% W/W EC	CIBRC/OUAT	21.8 - 27.25	400-500	500	Foliar Spray
		SPIROMESIFEN 22.9% SC	CIBRC/OUAT	96	400	500	Foliar Spray
	Epilachna grub	CHLORPYRIFOS 1.5%D	CIBRC/OUAT	375 - 450	25 - 30 kg		Dusting

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
BRINJAL	Fruit and Shoot borer ( <i>Leucinodes orbonalis</i> )	NOVALURON 10% EC	CIBRC/OUAT	50	500	500	Foliar Spray
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	40	200	500	Foliar Spray
		FLUBENDIAMIDE 39.35% M/M SC	CIBRC/OUAT	78.7	200	500	Foliar Spray
		SPINETORAM 11.7% SC	CIBRC/OUAT	58.5	500	500	Foliar Spray
		SPINOSAD 45% SC	CIBRC/OUAT	84.5	187.5	500	Foliar Spray
		EMAMECTIN BENZOATE 5% SG	CIBRC/OUAT	10	200	500	Foliar Spray
	Mites	FENPROPATHRIN 30% EC	CIBRC/OUAT	75-100	250-340	500	Foliar Spray
		FLUMITE 20% SC	CIBRC/OUAT	80-100	400-500	500	Foliar Spray
		FLUFENZINE 20%SC	CIBRC/OUAT	80-100	400-500	500	Foliar Spray
	Red Spider Mite	ETOXAZOLE 10% SC	CIBRC/OUAT	40	400	500	Foliar Spray
		FENAZAQUIN 10% EC	CIBRC/OUAT	125	1250	500	Foliar Spray
		SPIROMESIFEN 22.9% SC	CIBRC/OUAT	96	400	500	Foliar Spray
	Yellow mite	DICOFOL 18.5% EC	CIBRC/OUAT	500-1000	2700-5400	500	Foliar Spray
	White flies	DIAFENTHIURON 50%WP	CIBRC/OUAT	300	600	500	Foliar Spray
		PYRIPROXYFEN 10% EC	CIBRC/OUAT	50	500	500	Foliar Spray
		PYRIPROXYFEN 5% EC + FENPROPATHRIN 15% EC	CIBRC/OUAT	25+75 to 37.5 + 112.5	500-750	500	Foliar Spray
CABBAGE & CAULIFLOWER	Cabbage Aphid ( <i>Brevicoryne brassicae</i> ), Painted Bug, Mustard Aphid	THIAMETHOXAM 25% WG	CIBRC/OUAT	50	200	500	Foliar Spray
		ACETAMIPRID 20% SP	CIBRC/OUAT	15	75	500	Foliar Spray
		CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	60	600	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
CABBAGE & CAULIFLOWER	Diamond back moth ( <i>Plutella xylostella</i> )	FLUBENDIAMIDE 20% WG	CIBRC/OUAT	18.24	37.5-50	500	Foliar Spray
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	10	50	500	Foliar Spray
		EMAMECTIN BENZOATE 5% SG	CIBRC/OUAT	7.5-10	150-200	500	Foliar Spray
		FIPRONIL 5% SC	CIBRC/OUAT	40-50	800-1000	500	Foliar Spray
		FIPRONIL 80%WG	CIBRC/OUAT	75	93.75	500	Foliar Spray
		INDOXACARB 14.5% SC	CIBRC/OUAT	30-40	200-266	500	Foliar Spray
		METAFLUMIZONE 22% SC	CIBRC/OUAT	165-220	750-1000	500	Foliar Spray
		NOVALURON 10% EC	CIBRC/OUAT	75	750	500	Foliar Spray
		PYRIDALYL 10% EC	CIBRC/OUAT	50-75	500-750	500	Foliar Spray
		THIODICARB 75% WP	CIBRC/OUAT	750 to 1000	1000 to 1330	500	Foliar Spray
	Diamond back moth ( <i>Plutella xylostella</i> ), Head Borer	SPINOSAD 2.5% SC	CIBRC/OUAT	15.0-17.5	600-700	500	Foliar Spray
		CHLORFENAPYR 10% SC	CIBRC/OUAT	75-100	750-1000	500	Foliar Spray
		TOLFENPYRAD 15% EC	CIBRC/OUAT	150	1000	500	Foliar Spray
		CYPERMETHRIN 10% EC	CIBRC/OUAT	60-70	650-760	500	Foliar Spray
		LUFENURON 5.4% EC	CIBRC/OUAT	30	600	500	Foliar Spray
		FLUBENDIAMIDE 39.35% M/M SC	CIBRC/OUAT	18.24	37.5-50	500	Foliar Spray
	Diamond back moth, Tobacco leaf eating caterpillar	CHLORFLUAZURON 5.4% EC (W/W)	CIBRC/OUAT	75	1500	500	Foliar Spray
	Tobacco caterpillar	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	60	600	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
CHILLY	Aphid, Thrips	ACETAMIPRID 20% SP	CIBRC/OUAT	25	125	500	Foliar Spray
		ABAMECTIN 1.8%(W/W) EC	CIBRC/OUAT	5.4	300	500	Foliar Spray
		PROFENOPHOS 40% + FENPYROXIMATE 2.5% EC	CIBRC	425	1000	500	Foliar Spray
		THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
	Fruit borer ( <i>Helicoverpa armigera</i> )	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	60	600	500	Foliar Spray
		NOVALURON 10% EC	CIBRC/OUAT	33.5	375	500	Foliar Spray
		SPINOSAD 45.0% SC	CIBRC/OUAT	73	160	500	Foliar Spray
		EMAMECTIN BENZOATE 5% SG	CIBRC/OUAT	10	200	500	Foliar Spray
		PROFENOPHOS 40% + FENPYROXIMATE 2.5% EC	CIBRC	425	1000	500	Foliar Spray
		FIPRONIL 5% SC	CIBRC/OUAT	40-50	800-1000	500	Foliar Spray
	Mites ( <i>Polyphagotarsonemus latus</i> )	DIMETHOATE 30% EC	CIBRC/OUAT	300	990	500	Foliar Spray
		PROPARGITE 57% EC	CIBRC/OUAT	850	1500	500	Foliar Spray
		ABAMECTIN 1.8%(W/W) EC	CIBRC/OUAT	5.4	300	500	Foliar Spray
		MILBEMECTIN 1% EC	CIBRC/OUAT	3.25	325	500	Foliar Spray
		SPIROMESIFEN 22.9% SC	CIBRC/OUAT	96	400	500	Foliar Spray
		PROFENOPHOS 40% + FENPYROXIMATE 2.5% EC	CIBRC	425	1000	500	Foliar Spray
		DIAFENTHIURON 50%WP	CIBRC/OUAT	300	600	500	Foliar Spray
		ETHION 50% EC	CIBRC/OUAT	750-1000	1500-2000	500	Foliar Spray
		CHLORFENAPYR 10% SC	CIBRC/OUAT	75-100	750-1000	500	Foliar Spray



CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
CHILLY	Fruit borer ( <i>Spodoptera litura</i> )	FLUBENDIAMIDE 20% WG	CIBRC/OUAT	50-60	250-300	500	Foliar Spray
		SPINETORAM 11.7 % SC	CIBRC/OUAT	56-60	470-500	500	Foliar Spray
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	30	150	500	Foliar Spray
		FLUBENDIAMIDE 39.35% M/M SC	CIBRC/OUAT	48-60	100-125	500	Foliar Spray
		LUFENURON 5.4% EC	CIBRC/OUAT	30	600	500	Foliar Spray
		THIODICARB 75% WP	CIBRC/OUAT	470 to 750	626 to 1000	500	Foliar Spray
		NOVALURON 10% EC	CIBRC/OUAT	33.5	375	500	Foliar Spray
		CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	60	600	500	Foliar Spray
		INDOXACARB 14.5% SC	CIBRC/OUAT	50-60	333-400	500	Foliar Spray
		PYRIDALYL 10% EC	CIBRC/OUAT	50 -75	500- 750	500	Foliar Spray
	Jassid, Aphid, Thrips	IMIDACLOPRID 70% WS	CIBRC/OUAT	700 – 1050	1000 – 1500		Seed Treatment
		IMIDACLOPRID 17.8% SL	CIBRC/OUAT	25 – 50	125-250	500	Foliar Spray
CUCUMBER	Aphids & Jassids	IMIDACLOPRID 70% WG	CIBRC/OUAT	24.5	35	500	Foliar Spray
CUCURBIT	Red pumpkin beetle/ Tobacco caterpillar	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	90	900	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
FRENCH BEAN	Stem fly	QUINALPHOS 25% EC	CIBRC/OUAT	250	1000	500	Foliar Spray
		THIAMETHOXAM 30% FS	CIBRC/OUAT	5 ml / kg of seed			Seed Treatment
		QUINALPHOS 1.5% DP	CIBRC/OUAT	300	20Kg	--	Dusting
	Pod borer, Black bug	FLUBENDIAMIDE 19.92% W/W + THIACLOPRID 19.92% W/W	CIBRC/OUAT	48.0 + 48.0 - 60 +60	200-250	500	Foliar Spray
GHERKINS	Leaf miner /Red pumpkin beetle/ Aphid/ Thrips/ Whitefly/ Pumpkin Caterpillar/ Fruit fly	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	90	900	500	Foliar Spray
OKRA	Aphids, Jassids, Thrips and white fly	DIMETHOATE 30% EC	CIBRC/OUAT	700	2310	500	Foliar Spray
		ACETAMIPRID 20% SP	CIBRC/OUAT	15	75	500	Foliar Spray
		IMIDACLOPRID 17.8% SL	CIBRC/OUAT	20	100	500	Foliar Spray
		THIAMETHOXAM 70% WS	CIBRC/OUAT	200	286	Seed treatment for 100 kg seed	Use as seed dresser at the time of sowing
		IMIDACLOPRID 48% FS	CIBRC/OUAT	300 – 540	500– 900	for 100 kg Seeds	Seed Treatment
		IMIDACLOPRID 70% WS	CIBRC/OUAT	350 – 700	500 – 1000	for 100 kg Seeds	Seed Treatment
		TOLFENPYRAD 15% EC	CIBRC/OUAT	150	1000	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
OKRA	Fruit borer ( <i>Earias spp.</i> )/ Spotted Bollworm	EMAMECTIN BENZOATE 5% SG	CIBRC/OUAT	6.75-8.5	135-170	500	Foliar Spray
		PYRIDALYL 10% EC	CIBRC/OUAT	50-75	500-750	500	Foliar Spray
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	25	125	500	Foliar Spray
	Fruit borer, Mites	FENPROPATHRIN 30% EC	CIBRC/OUAT	75-100	250-340	500	Foliar Spray
	White flies	THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
		PYRIPROXYFEN 5% EC + FENPROPATHRIN 15% EC	CIBRC/OUAT	25+75 – 37.5 + 112.5	500-750	500	Foliar Spray
	Pod Borer	AZADIRACHTIN 5% W/W MIN. NEEM EXTRACT CONCENTRATES	CIBRC/OUAT	-	200	500	Foliar Spray
	Red spider mite	FENAZAQUIN 10% EC	CIBRC/OUAT	125	1250	500	Foliar Spray
		SPIROMESIFEN 22.9% SC	CIBRC/OUAT	96-120	400-500	500	Foliar Spray
		DICOFOL 18.5% EC	CIBRC/OUAT	250-500	1350-2700	500	Foliar Spray
ONION	Root grub	CHLORPYRIFOS 20% EC	CIBRC/OUAT	1000	5000	500	Foliar Spray
	Thrips	THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
		ACETAMIPRID 20% SP	CIBRC/OUAT	25	125	500	Foliar Spray
		DIMETHOATE 30% EC	CIBRC/OUAT	200	660	500	Foliar Spray
PEA	Pod borer	FLUBENDIAMIDE 39.35% M/M SC	CIBRC/OUAT	48	100	500	Foliar Spray
	Leaf miner	CYROMAZINE 75% WP	OUAT	500	1000	500	Foliar Spray
POTATO	Aphid	CLOTHIANIDIN 50% WDG	CIBRC/OUAT	50	100	500	Foliar Spray
		OXYDEMETON – METHYL 25% EC	CIBRC/OUAT	250	1000	500	Foliar Spray
		THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
	Thrips	DIMETHOATE 30% EC	CIBRC/OUAT	200	660	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
RADISH	Stem borer	MALATHION 50% EC	CIBRC/OUAT	750	1500	500	Foliar Spray
TOMATO	Leaf miner ( <i>Liriomyza trifolii</i> )	CHLORANTRANILIPROLE 8.8% W/W + THIAMETHOXAM 17.5 % W/W SC:	CIBRC/OUAT	150 (Soil drench (Single application))	500	50-100 ml/plant (8-10 days after transplanting)	
		CYROMAZINE 75% WP	OUAT	150	200	500	Foliar Spray
		CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	90	900	500	Foliar Spray
	Aphids. White fly & Thrips	DIMETHOATE 30% EC	CIBRC/OUAT	200	660	500	Foliar Spray
		CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	90	900	500	Foliar Spray
		THIAMETHOXAM 70% WS	CIBRC/OUAT	420	600		Use as seed dresser at the time of sowing
	Fruit borer ( <i>Helicoverpa armigera</i> )	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	90	900	500	Foliar Spray
		CHLORANTRANILIPROLE 18.5% SC	CIBRC/OUAT	30	150	500	Foliar Spray
		FLUBENDIAMIDE 20% WG	CIBRC/OUAT	48	100	500	Foliar Spray
		FLUBENDIAMIDE 39.35% M/M SC	CIBRC/OUAT	48	100	500	Foliar Spray
		INDOXACARB 14.5% SC	CIBRC/OUAT	60-75	400-500	500	Foliar Spray
		NOVALURON 10% EC	CIBRC/OUAT	75	750	500	Foliar Spray
		CHLORANTRANILIPROLE 8.8% W/W + THIAMETHOXAM 17.5 % W/W SC	CIBRC/OUAT	150	500	50-100 ml/plant	( Soil drench (Single application) (8-10 days after transplanting)
		NOVALURON 5.25% + INDOXACARB 4.5% SC	CIBRC/OUAT	43.31 + 37.13 to 45.94 + 39.38	825-875	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
TOMATO	leaf eating caterpillar	NOVALURON 5.25% + INDOXACARB 4.5% SC	CIBRC/OUAT	43.31 + 37.13 to 45.94 + 39.38	825-875	500	Foliar Spray
	Two spotted spider mite	FENAZAQUIN 10% EC	CIBRC/OUAT	125	1250	500	Foliar Spray
	Mites	SPIROMESIFEN 22.9% SC	CIBRC/OUAT	150	625	500	Foliar Spray
	White fly ( <i>Bemisia tabaci</i> )	THIAMETHOXAM 25% WG	CIBRC/OUAT	50	200	500	Foliar Spray
		PYRIPROXYFEN 10% EC	CIBRC/OUAT	50	500	500	Foliar Spray
		CHLORANTRANILIPROLE 8.8% W/W + THIAMETHOXAM 17.5 % W/W SC:	CIBRC/OUAT	150	500	50-100 ml/plant	(8-10 days after transplanting )
		SPIROMESIFEN 22.9% SC	CIBRC/OUAT	150	625	500	Foliar Spray
BANANA	Aphid, Lace wing bug	DIMETHOATE 30% EC	CIBRC/OUAT	0.03%	1485-1980	1500-2000	Foliar Spray
	Aphid	OXYDEMETON – METHYL 25% EC	CIBRC/OUAT	0.05%	3000-4000	1500-2000	Foliar Spray
	Tingid bug	QUINALPHOS 25% EC	CIBRC/OUAT	0.05%	3000-4000	500-1000	Foliar Spray
		OXYDEMETON – METHYL 25% EC	CIBRC/OUAT	0.03%	1500-2000	1500-2000	Foliar Spray
BER	Leaf hopper	CLOTHIANIDIN 50% WDG	CIBRC/OUAT	50.00%	100	500	Foliar Spray
CITRUS	Black citrus, Aphid	IMIDACLOPRID 17.8% SL	CIBRC/OUAT	30-35 gm	150-175	500	Foliar Spray
		DIMETHOATE 30% EC	CIBRC/OUAT	0.03%	1485-1980	500	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
CITRUS	Citrus butterfly	QUINALPHOS 25% EC	CIBRC/OUAT	0.03%	1500-2000	500	Foliar Spray
	Leaf miner	CYROMAZINE 75% WP	OUAT	150	200	500	Foliar Spray
	Mite	SPIROMESIFEN 22.9% SC	CIBRC/OUAT	150 gm	625	500	Foliar Spray
	Psylla	IMIDACLOPRID 17.8% SL	CIBRC/OUAT	10	50	500	Foliar Spray
		THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
	Red Spider mite	DICOFOL 18.5% EC	CIBRC/OUAT	0.05%	2700-4050	500	Foliar Spray
	Scale	THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	500	Foliar Spray
LITCHI	Red Spider mite	DICOFOL 18.5% EC	CIBRC/OUAT	0.05%	2700-4050	1000-5000	Foliar Spray
COCONUT	Eriophyde mite	FENPYROXIMATE 5% EC	CIBRC/OUAT	0.5gm/. tree (Root feeding)	10ml/lit.	1500-2000	Foliar Spray
		FENPYROXIMATE 5% EC	CIBRC/OUAT	0.056 – 0.075gm /tree	0.75 – 1ml/lit	1500-2000	Foliar Spray
	Black headed Caterpillar	MONOCROTOPHOS 36% SL	CIBRC/OUAT	3.5 -7gm per tree	8.75-17.5ml per tree		Lower dose to be applied on plants below 9 years & higher Or more than 9 years of age
MANGO	Bud mite	PROPARGITE 57% EC	CIBRC/OUAT	570	1000	500	Foliar Spray
	Gall maker	PROFENOPHOS 50% EC	CIBRC/OUAT	500 gm	1000	500	Foliar Spray
	Hopper	DIMETHOATE 30% EC	CIBRC/OUAT	0.05%	2475-3300	1500-2000	Foliar Spray
		IMIDACLOPRID 17.8% SL	CIBRC/OUAT	0.4 – 0.8	2-4 ml/tree	10 litre	Foliar Spray

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
MANGO	Hopper	BUPROFEZIN 25% SC	CIBRC/OUAT	0.025% to 0.05%	1-2 ml/liter of water	5-15 liter per tree	Foliar Spray
		OXYDEMETON – METHYL 25% EC	CIBRC/OUAT	0.03%	1500-2000	1500-2000	Foliar Spray
		THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	1000	Foliar Spray
	Mealy bug	PROFENOPHOS 50% EC	CIBRC/OUAT	500 gm	1000	500	Foliar Spray
	Mealy scale,	THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	1000	Foliar Spray
	Shoot borer	PROFENOPHOS 50% EC	CIBRC/OUAT	500 gm	1000	500	Foliar Spray
POMEGRANATE	Thrips ( <i>Scirtothrips dorsalis</i> )	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	75 (0.0075%)	750 (0.075%)	1000	Foliar Spray
	Pomegranate butterfly ( <i>Deudorix isocrates</i> )	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	75 (0.0075%)	750 (0.075%)	1000	Foliar Spray
	Whitefly ( <i>Siphoninus phillyreae</i> )	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	90 (0.009%)	900 (0.09%)	1000	Foliar Spray
	Aphids ( <i>Aphis punicae</i> )	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	90 (0.009%)	900 (0.09%)	1000	Foliar Spray
	Scales	THIAMETHOXAM 25% WG	CIBRC/OUAT	25	100	1000	Foliar Spray
CASHIEW	Apple & Nut borer	LAMBDA-CYHALOTHRIN 5% EC	CIBRC/OUAT	0.0025-0.005%	0.5-1.0 ml/l of water	1000	Foliar Spray
	Tea Mosquito Bug	LAMBDA-CYHALOTHRIN 5% EC	CIBRC/OUAT	0.003%	0.5-1.0 ml/l of water	1000	1st spray during New flushing stage (Nov-Dec), if necessary repeat at initial fruiting stage (Feb-March)

CROP	Common Name of the Pest	Recommended Insecticides by CIBRC/OUAT		Dosage / ha a.i (gm)	Formulation (gm/ml)/ha	Dilution in Water (Litre/ha)	Remarks
CASHEW	Tea Mosquito Bug	CHLORPYRIFOS 20% EC	CIBRC/OUAT	0.05%	2ml/l	1000	2nd spray during flowering Stage (Dec-January)
		PROFENOPHOS 50% EC	OUAT	500	1000	500	Foliar Spray
	Mealy Bug	DIMETHOATE 30% EC	CIBRC/OUAT	0.05%	1.75ml/l	1000	Spray in combination with fish oil resin soap @ 20g/litre of water to reduce bug incidence effectively.
	Thrips (Flower & Foliage)	CYANTRANILIPROLE 10.26% OD	CIBRC/OUAT	90 ml	900	1000	Foliar Spray
	Leaf & blossom Webber	CHLORPYRIFOS 20% EC	CIBRC/OUAT	0.05%	2ml/l	1000	Foliar Spray
ROSE	Two Spotted Mite (Tetranych-usurticae)	BIFENAZATE 50% WP	CIBRC/OUAT	375	750	500	Foliar Spray
		BIFENAZATE 22.6% SC	CIBRC/OUAT	120	500	500	Foliar Spray
		MILBEMECTIN 1% EC	CIBRC/OUAT	4.5	450	500	Foliar Spray
	Scale/Thrips	DIMETHOATE 30% EC	CIBRC/OUAT	750	2475	500	Foliar Spray
	Mites	FLUFENOXURON 10% DC	CIBRC/OUAT	50	500	500	Foliar Spray

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SECTION

## CROP & DISEASE WISE RECOMMENDATION OF FUNGICIDES

CROP	Common name of the disease	Recommeneded Insecticides by CIBRC/ OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
ARHAR	Alternaria Leaf Blight	COPPER OXYCHLORIDE 50% WP	OUAT	3g/ litre	500	Foliar Spray
		MANCOZEB 75% WP	OUAT	2.5g/litre	500	Foliar Spray
		CARBENDAZIM 12%+ MANCOZEB 63% WP	OUAT	2g/litre	500	Foliar Spray
	Bacterial Leaf Spot	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP + COPPER OXYCHLORIDE 50% WG	OUAT	0.15g + 3g /1 litre	500	Foliar Spray
		(STREPTOMYCIN SULPHATE 9% + TETRACYCLINE HYDROCHLORIDE 1%) + COPPER OXYCHLORIDE 50%WG	OUAT	1g + 2g/litre	500	Foliar Spray
	Botrytis Gray mold	CARBOXIN 75%WP	OUAT	4g/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1g/litre	500	Foliar Spray
	Cercospora Leaf Spot	CHLOROTHALONIL 75%WP	OUAT	2g/litre	500	Foliar Spray
		DIFENCONAZOLE 25%EC	OUAT	1ml/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63% WP	OUAT	2 g / litre	500	Foliar Spray

CROP	Common name of the disease	Recommeneded Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
ARHAR	Collar Rot	METALAXYLM 4%+MANCOZEB 64%WP	OUAT	2 g / litre		Basal drenching
		CARBENDAZIM 50%WP	OUAT	2 g / litre		Basal drenching
		VALIDAMYCIN 3%L	OUAT	2ml/litre		Basal drenching
	Wilt	TEBUCONAZOLE 2% DS	OUAT	2 g/kg of seed		Seed Tretment
		METIRAM 70%WG	OUAT	1.5g/litre		Soil drenching
	Phytophthora Blight	METALAXYL 35%WS	OUAT	1.0 g/litre		Soil drenching
		METALAXYL M 4%+MANCOZEB 64% WP	OUAT	2.5 g/litre	500	Foliar Spray
		FOSETYL -AL 80%WP	OUAT	2g/litre		Soil drenching
	Powdery Mildew	SULPHUR 80% WP	OUAT	2 g /litre	500	Foliar Spray
		PROPICONAZOLE 25% EC	OUAT	1 ml /litre	500	Foliar Spray
		PENCONAZOLE 10% EC	OUAT	0.5ml/litre	500	Foliar Spray
	Rust	TRIADIMEFON 25%WP	OUAT	1ml/4litre	500	Foliar Spray
		CHLOROTHALONIL 75%WP	OUAT	2g/litre	500	Foliar Spray
		DIFENOCONAZOLE25%EC	OUAT	1ml/litre	500	Foliar Spray
	Yellow Mosaic Virus	SULPHUR 80% WP	OUAT	4 g/litre	500	Foliar Spray
		IMIDACLOPRID 17.8%SL	OUAT	1ml/3litre	500	Foliar Spray
		THIAMETHOXAM 25%WG	OUAT	1g/litre	500	Foliar Spray
	Dry Root Rot	VALIDAMYCIN 3%L	OUAT	2ml/litre		Basal drenching
		PENCYCURON22.9%SC	OUAT	1.5ml/litre		Basal drenching
		CARBENDAZIM 50%WP	OUAT	2g/litre		Basal drenching
BLACK GRAM & GREEN GRAM	Powdery mildew ( <i>Erysiphe polygoni</i> )	PENCONAZOLE 10% EC	CIBRC/OUAT	5 ml/10 Litre	500	Foliar Spray
		SULPHUR 80% WP	CIBRC/OUAT	4 g/ litre	500	Foliar Spray
	Root rot ( <i>Macrophomina Phaseolina</i> )	MANCOZEB 63%+CARBENDAZIM 12%WP	OUAT	2g/litre		Basal drenching
		VALIDAMYCIN 3%L	OUAT	2ml/litre		Basal drenching
	Rust	SULPHUR 85% DP	CIBRC/OUAT	15-20 kg		Dusting
		CHLOROTHALONIL 75%WP	OUAT	2g/litre	500	Foliar Spray
		DIFENOCONAZOLE25%EC	OUAT	1ml/litre	500	Foliar Spray

CROP	Common name of the disease	Recommeneded Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
BLACK & GREEN GRAM	Seed Rot	CARBOXIN 37.5% +THIRAM 37.5% WP	OUAT	2.5 g/kg of seed		Seed Treatment
		CARBENDAZIM 50% WP	OUAT	2.0 g/kg of seed		Seed Treatment
		THIRAM 75% WS	OUAT	3g/kg of seed		Seed Treatment
	Bacterial Leaf Blight	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP + COPPER OXYCHLORIDE 50% WG	OUAT	0.15g + 3 g /litre	500	Foliar Spray
		(STREPTOMYCIN SULPHATE 9% + TETRACYCLINE HYDROCHLORIDE 1%) + COPPER OXYCHLORIDE 50%WG	OUAT	1g + 3g / litre	500	Foliar Spray
	Yellow Mosaic Virus	IMIDACLOPRID 17.8%SL	OUAT	1ml/3 litre	500	Foliar Spray
		THIAMETHOXAM 25%WG	OUAT	1g/litre	500	Foliar Spray
	Anthracnose	CARBENDAZIM 12%+MANCOZEB 63%WP	OUAT	2.0 g/litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50%WG	OUAT	3.0 g/litre	500	Foliar Spray
		KASUGAMYCIN 3%SL	OUAT	2.5g/litre	500	Foliar Spray
	Leaf Spot (Cercospora) & Drechslera Leaf spot	CHLOROTHALONIL 75%WP	OUAT	2.0 g/litre	500	Foliar Spray
		DIFENOCONAZOLE 25%EC	OUAT	1ml/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63%WP	OUAT	2.0 g/litre	500	Foliar Spray
		THIRAM 75% WS	CIBRC	3.0 g/ kg of seed		Seed Treatment
		CARBENDAZIM 50% WP	CIBRC	3.0 g/ kg of seed		Seed Treatment
		CAPTAN 50% WP	CIBRC	3.0 g/ kg of seed		Seed Treatment
	Leaf Spot (Macrophomina)	CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63%WP	OUAT	2.0 g/litre	500	Foliar Spray
	Wilt	TEBUCONAZOLE 2% DS	OUAT	2-2.5 g/ kg of seed		Seed Treatment
		METIRAM 75%WG	OUAT	1.5g/ litre		Soil drenching
	Ascochyta Blight	CARBENDAZIM 50%WP	OUAT	1.5 g/litre	500	Foliar Spray
		CHLOROTHALONIL 75%WP	OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63%WP	OUAT	2.0 g/litre	500	Foliar Spray

CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
BENGAL GRAM	Botrytis Grey Mould	COPPER OXYCHLORIDE 50%WP	OUAT	3.0g/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5 g/litre	500	Foliar Spray
		CARBOXIN 75%WP	OUAT	2.0 g/litre	500	Foliar Spray
	Dry Root Rot	VALIDAMYCIN 3%L	OUAT	2ml/litre	500	Foliar Spray
		PENCYCURON 22.9%SC	OUAT	1.5ml/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5 g/litre	500	Foliar Spray
	Collar Rot	METALAXYL 8%+MANCOZEB 64%WP	OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5 g/litre	500	Foliar Spray
		VALIDAMYCIN 3%L	OUAT	2ml/litre	500	Foliar Spray
	Rust	TRIADIMEFON 25%WP	OUAT	1ml/4litre	500	Foliar Spray
		CHLOROTHALONIL 75%WP	OUAT	2.0 g/litre	500	Foliar Spray
		DIFENOCONAZOLE 25%EC	OUAT	1ml/litre	500	Foliar Spray
	Powdery Mildew	SULPHUR 80% WP	OUAT	4.0 g/litre	500	Foliar Spray
		PROPICONAZOLE 25% EC	OUAT	1ml/litre	500	Foliar Spray
		PENCONAZOLE 10% EC	OUAT	0.5ml/litre	500	Foliar Spray
COTTON	Leaf spot I ( <i>Myrothecium</i> )	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5g/litre	500	Foliar Spray
		CHLOROTHALONIL 75% WP	OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63%WP	OUAT	2.0 g/litre	500	Foliar Spray
	Angular Leaf Spot	CARBOXIN 75% WP	CIBRC/OUAT	2.0 g / kg of seed		Seed Treatment
		THIRAM 37.5%+CARBOXIN 37.5%WP	OUAT	2.0 g / kg of seed		Seed Treatment
	Seed borne disease	THIRAM 75% WS	CIBRC/OUAT	2.5-3.0 gm/ kg of seed		Seed Treatment

CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
COTTON	Grey mildew	COPPER OXYCHLORIDE 50% WG	OUAT	2.0 g/litre	500	Foliar Spray
	Bacterial Leaf Blight	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP	OUAT	40 ppm (40 mg/litre water)	Seeds treatment: Prepare streptocycline 40 ppm solution and soak seeds for 12 hours at room temperature before sowing	
		(STREPTOMYCIN SULPHATE 9% + TETRACYCLINE HYDROCHLORIDE 1%) + COPPER OXYCHLORIDE 50%WG	OUAT	1.0 g +2.5g/litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50% WP	OUAT	3.0 g/litre	500	Foliar Spray
	Alternaria Leaf blight	PYRACLOSTROBIN 20% WG	CIBRC/OUAT	1g/litre	500	Foliar Spray
		DIFENOCONAZOLE25%EC	OUAT	1ml/litre	500	Foliar Spray
	Dry Root Rot	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray
		VALIDAMYCIN 3%L	OUAT	2ml/litre	500	Foliar Spray
		PENCYCURON22.9%SC	OUAT	1.5ml/litre	500	Foliar Spray
	Wilting (Fusarium)	TEBUCONAZOLE 2% DS	OUAT	2-2.5 g/kg of seed		Seed Treatment
		METIRAM 70%WG	OUAT	1.5 g/litre		Soil drenching
	Leaf Curl Virus	IMIDACLOPRID 17.8%SL	OUAT	1.0 ml/3litre	500	Foliar Spray
		THIAMETHOXAM 25%WG	OUAT	1.0 g/litre	500	Foliar Spray
		ACETAMAPRID 20% SP	OUAT	1.0 g/3litre	500	Foliar Spray
GROUNDNUT	Collar rot	TEBUCONAZOLE 2% DS	CIBRC/OUAT	2-2.5 g/kg of seed		Seed Treatment
		CARBENDAZIM 25% + MANCOZEB 50% WS	CIBRC	3 - 3.5 g / kg of seed		Seed Treatment
		THIRAM 75% WS	CIBRC/OUAT	3.0 g/kg of seed		Seed Treatment

CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
GROUND NUT	Early leaf spot ( <i>Cercospora arachidicola</i> )	PROPICONAZOLE 25% EC	CIBRC/OUAT	0.5-1.0 ml/litre	500	Foliar Spray
		DIFENCONAZOLE 25%EC	OUAT	1.0 ml/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63% WP	OUAT	1.5g/litre	1.5g/l	Foliar Spray
	Late leaf spot ( <i>C. personata</i> )	PROPICONAZOLE 25% EC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Foliar Spray
	Root rot	TEBUCONAZOLE 2% DS	CIBRC/OUAT	2.0-2.5 g/kg of seed		Seed Treatment
		CARBENDAZIM 25% + MANCOZEB 50% WS	CIBRC	3 - 3.5 g / kg of seed		Seed Treatment
		PENCYCURON 22.9%SC	OUAT	1.5ml/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5 g/litre	500	Foliar Spray
	Rust	MANCOZEB 75% WP	CIBRC/OUAT	2- 3 g/litre	500	Foliar Spray
		BITERTANOL 25%WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		CHLOROTHALONIL 75% WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		TEBUCONAZOLE 25.9%M/M EC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
		PROPICONAZOLE 25% EC	CIBRC/OUAT	0.5-1.0 ml/litre	500	Foliar Spray
	Tikka	BITERTANOL 25%WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		CHLOROTHALONIL 75% WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 25% + MANCOZEB 50% WS	CIBRC	3 - 3.5 g / kg of seed		Seed Treatment
		MANCOZEB 75% WP	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
		CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray
		HEXACONAZOLE 5% EC	CIBRC/OUAT	1.5 ml/litre	500	Foliar Spray

CROP	Common name of the disease	Recommeneded Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
GROUNDNUT	Aspergillus Crown Rot	CARBOXIN 37.5%+THIRAM 37.5%	OUAT	2g/ kg of seed		Seed Treatment
		CARBENDAZIM 50% WP	OUAT	2g/ kg of seed		Seed Treatment
		CAPTAN 50%WP	OUAT	2.5g/ kg of seed		Seed Treatment
	Stem rot	TEBUCONAZOLE 2% DS	CIBRC/OUAT	2.0-2.5 g/ kg of seed		Seed Treatment
		METALAXYL 8%+MANCOZEB 64%WP	OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5 g/litre	500	Foliar Spray
		VALIDAMYCIN 3%L	OUAT	2.0 ml/litre	500	Foliar Spray
	Bud Necrosis	IMIDACLOPRID 17.8%SL	OUAT	1.0 ml/3litre	500	Foliar Spray
		DIMETHOATE 30% EC	CIBRC	2.0 ml/ litre	500	Foliar Spray at 25-30 DAS
		THIAMETHOXAM 25%WG	OUAT	1.0 g/litre	500	Foliar Spray
		ACETAMAPRID 20% SP	OUAT	1.0 g /3litre	500	Foliar Spray
MUSTARD	Alternaria blight	IPRODIONE 50% WP	CIBRC/OUAT	5.0 to 6.0 g / litre	500	Foliar Spray
		MANCOZEB 75% WP	OUAT	3.0 g/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Foliar Spray
	Downey Mildew	METALAXYL-M 31.8% ES	CIBRC	3.5ml/litre	500	Foliar Spray
		METALAXYL L8%+MANCOZEB 64%WP	OUAT	2.0 g/litre	500	Foliar Spray
		FOSETYL-AL 80%WP	OUAT	3.0 g/litre	500	Foliar Spray
	White rust	METALAXYL-M 31.8% ES	CIBRC/OUAT	3.5ml/litre	500	Foliar Spray
		METALAXYL 35% WS	CIBRC/OUAT	6-7.5g/kg of seed		Seed Treatment
		COPPER OXYCHLORIDE 50%WP	OUAT	3.0 g/litre	500	Foliar Spray
	Powdery Mildew	SULPHUR 80% WP	OUAT	4.0 g/litre	500	Foliar Spray
		PROPICONAZOLE 25% EC	OUAT	1.0 ml / litre	500	Foliar Spray
		PENCONAZOLE 10% EC	OUAT	0.5ml/litre	500	Foliar Spray



CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
MUSTARD	Sclerotinia Stem Rot	VALIDAMYCIN 3%L	OUAT	2ml/litre	500	Foliar Spray
		PENCYCURON 22.9%SC	OUAT	1.5ml/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5 g/litre	500	Foliar Spray
	Bacterial Rot	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP + COPPER OXYCHLORIDE 50% WG	OUAT	0.15gm + 3 gm / litre	500	Foliar Spray
		(STREPTOMYCIN SULPHATE 9% + TETRACYCLINE HYDROCHLORIDE 1%) + COPPER OXYCHLORIDE 50%WG	OUAT	1+ 3 g/litre	500	Foliar Spray
SUNFLOWER	Downy mildew	METALAXYL-M 31.8% ES	CIBRC/OUAT	2.0 ml/kg of seed		Seed Treatment
		METALAXYL 35% WS	CIBRC/OUAT	6-7.5g/kg of seed		Seed Treatment
		FOSETYL-AL 80%WP	OUAT	3.0 g/litre	500	Foliar Spray
	Alternaria Leaf Spot	IPRODINE 25%+ CARBENDAZIM 25%WP	CIBRC	3 gm / kg of seed		Seed Treatment
		CARBENDAZIM 12%+ MANCOZEB 63%WP	CIBRC	3 gm / kg of seed		Seed Treatment
		PROPICONAZOLE 25% EC	CIBRC	1 ml / litre	500	Foliar Spray at 30 & 45 DAS
		COPPER OXYCHLORIDE 50%WP	OUAT	3.0 g/litre	500	Foliar Spray
		CHLOROTHALONIL 75% WP	OUAT	2.0 g/litre	500	Foliar Spray
		MANCOZEB 75% WP	OUAT	3.0 g/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63%WP	OUAT	2.0 g/litre	500	Foliar Spray
	Rust	TRIADIMEFON 25%WP	OUAT	1.0 ml/4litre	500	Foliar Spray
		CHLOROTHALONIL 75%WP	OUAT	2.0 g/litre	500	Foliar Spray
		DIFENOCONAZOLE 25%EC	OUAT	1.0 ml/litre	500	Foliar Spray
	Powdery Mildew	PROPICONAZOLE 25% EC	CIBRC	1 ml / litre	500	Foliar Spray at 30 & 45 DAS
		DIFECONAZOLE 25% EC	CIBRC	1 ml / 2 litre	500	Foliar Spray at 30 & 45 DAS
		TRIADEMEFON 25% WP	CIBRC	1 ml / litre	500	Foliar Spray at 30 & 45 DAS



CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
SUNFLOWER	Head Rot	COPPER OXYCHLORIDE 50%WP	OUAT	3.0 g/litre	500	Foliar Spray
		MANCOZEB 75% WP	OUAT	3.0 g/litre	500	Foliar Spray
		CARBENDAZIM 12%+ MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Foliar Spray
	Sclerotium Wilt	TEBUCONAZOLE 2% DS	OUAT	2.0-2.5 g/kg of seed		Seed Treatment
		METIRAM 70%WG	OUAT	1.5g/litre		Soil drenching
SESAMUM	Phyllody	IMIDACLOPRID 17.8%SL	OUAT	1.0 ml/3litre	500	Foliar Spray
		THIAMETHOXAM 25%WG	OUAT	1.0 g/litre	500	Foliar Spray
		ACETAMAPRID 20% SP	OUAT	1.0 g/3litre	500	Foliar Spray
	Bacterial Leaf blight	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP + COPPER OXYCHLORIDE 50% WG	OUAT	1.5g + 30g/10lt.	500	Foliar Spray
		COPPER OXYCHLORIDE 50% WP	OUAT	3.0 g/litre	500	Foliar Spray
	Cercospora Leaf Spot	CHLOROTHALONIL 75%WP	OUAT	2.0 g/litre	500	Foliar Spray
		DIFENCONAZOLE 25%EC	OUAT	1.0 ml/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Foliar Spray
	Powdery Mildew	SULPHUR 80% WP	OUAT	4.0 g/litre	500	Foliar Spray
		PROPICONAZOLE 25% EC	OUAT	1.0 ml/litre	500	Foliar Spray
		PENCONAZOLE 10% EC	OUAT	0.5ml/litre	500	Foliar Spray
	Wilt	TEBUCONAZOLE 2% DS	OUAT	2.0-2.5g/kg of seed		Seed Treatment
		METIRAM 70%WG	OUAT	1.5g/litre	500	Soil drenching
	Charcoal Rot	CARBENDAZIM 50% WP	OUAT	1.5g/litre	500	Foliar Spray
		CARBENDAZIM 46.27 %SC	OUAT	1.5 ml/litre	500	Foliar Spray
		CARBENDAZIM 12%+MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Foliar Spray

<b>CROP</b>	<b>Common name of the disease</b>	<b>Recommeneded Insecticides by CIBRC/OUAT/CHES</b>		<b>Dose per water</b>	<b>Dilution in water (L)/ha</b>	<b>Remarks</b>
<b>JUTE &amp; MESTA</b>	Seedling Blight	CARBENDAZIM 50% WP	CIBRC/OUAT	2 gm/kg of seed		Seed Treatment
		CARBENDAZIM 50%WP	OUAT	1.5g/litre	500	Foliar Spray
		VALIDAMYCIN 3%L	OUAT	2.0 ml/litre	500	Foliar Spray
	Stem Rot	VALIDAMYCIN 3%L	OUAT	2.0 ml/litre	500	Foliar Spray
		PENCYCURON22.9% SC	OUAT	1.5ml/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5g/litre	500	Foliar Spray
	Root Rot	VALIDAMYCIN 3%L	OUAT	2.0 ml/litre	500	Foliar Spray
		PENCYCURON22.9% SC	OUAT	1.5ml/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5g/litre	500	Foliar Spray
	Collar Rot	METALAXYL 8%+MANCOZEB 64% WP	OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5g/litre	500	Foliar Spray
		VALIDAMYCIN 3%L	OUAT	2.0 ml/litre	500	Foliar Spray
	Soft Rot	VALIDAMYCIN 3% L	OUAT	2.0 ml/litre	500	Foliar Spray
		HEXAICONAZOLE 5%EC	OUAT	1.0 ml/litre	500	Foliar Spray
		HEXAICONAZOLE 5%SC	OUAT	2.0 ml/litre	500	Foliar Spray
		CARBENDAZIM 50% WP	OUAT	1.5g/litre	500	Foliar Spray
	Anthracnose	CARBENDAZIM 12%+MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50%WG	OUAT	3.0 g/litre	500	Foliar Spray
		KASUGAMYCIN 3%SL	OUAT	2.5g/litre	500	Foliar Spray
	Die Back	CARBENDAZIM 12%+MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50%WG	OUAT	3.0 g/litre	500	Foliar Spray
		KASUGAMYCIN 3%SL	OUAT	2.5g/litre	500	Foliar Spray

CROP	Common name of the disease	Recommeneded Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
MAIZE	Downy mildew	METALAXYL 35% WS	CIBRC/OUAT	7g/kg of seed		Seed Treatment
		METALAXYL-M 31.8% ES	CIBRC/OUAT	2- 4 ml/kg of seed		Seed Treatment
	Leaf blight	MANCOZEB 75% WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		ZINEB 75% WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Foliar Spray
	Seedling blight	THIRAM 40 FS	CIBRC/OUAT	24g/100ml	Slurry treatment	Seed Treatment
		THIRAM 75% WS	CIBRC/OUAT	2.5-3.0 gm/kg of seed		Seed Treatment
	Bacterial leaf & sheath blight	CARBENDAZIM 50% WP	CIBRC/OUAT	2 gm/ kg of seed		Seed Treatment
		KRESOXIM-METHYL 44.3% SC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
	Bacterial Stalk Rot	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP + COPPER OXYCHLORIDE 50% WG	OUAT	0.15gm + 3gm /1 litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50%WP	OUAT	3.0 g/litre	500	Foliar Spray
	Brown Spot	CAPTAN 75% WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		EDIPHENPHOS 50% EC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
	Head Smut	COPPER HYDROXIDE 77% WP	CIBRC/OUAT	2.5g/litre	500	Foliar Spray
		COPPER HYDROXIDE 53.8% DF	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		CARBOXIN 37.5%+THIRAM 37.5%WP	OUAT	3g/kg of seed		Seed Treatment
	Common Rust	TRIADIMEFON 25%WP	OUAT	1ml/4litre	500	Foliar Spray
		CHLOROTHALONIL 75%WP	OUAT	2.0 g/litre	500	Foliar Spray
		DIFENOCONAZOLE25%EC	OUAT	1ml/litre	500	Foliar Spray
	Root & Stalk Rot	VALIDAMYCIN 3%L	OUAT	2ml/litre	500	Foliar Spray
		PENCYCURON22.9%SC	OUAT	1.5ml/litre	500	Foliar Spray
		CARBENDAZIM 50%WP	OUAT	1.5g/litre	500	Foliar Spray

CROP	Common name of the disease	Reccommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
PADDY	Bacterial leaf blight	COPPER HYDROXIDE 53.8% DF	CIBRC/OUAT	3g/litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50%WP	OUAT	3.0 g/litre	500	Foliar Spray
		STREPTOMYCIN SULPHATE 90% + TETRACYCLINE HYDROCHLORIDE 10% SP	CIBRC/OUAT	4gm/10 Lit of water		Seedling treatment: Dip the seeding insides the seedlings
	Brown leaf spot	CAPTAN 75% WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		EDIPHENPHOS 50% EC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
		CARBENDAZIM 25% + MANCOZEB 50% WS	CIBRC	3 - 3.5 g / kg of seed		Seed Treatment
		HEXACONAZOLE4 % WP + ZINEB 6.8% WP	CIBRC	2 g / litre of water	500	Foliar Spray
		TRICYCLAZOLE 18% + MANCOZEB 62% WP	CIBRC	2 g / litre of water	500	Foliar Spray
		PROPINEB 70% WP	CIBRC/OUAT	3- 4g/litre	500	Foliar Spray
	False smut	COPPER HYDROXIDE 77% WP	CIBRC/OUAT	2.5g/litre	500	Foliar Spray
		COPPER HYDROXIDE 53.8% DF	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
		CARBOXIN 37..5%+THIRAM 37.5%WP	OUAT	3g/ kg of seed		Seed Treatment
		CARBENDAZIM 50%WP	OUAT	2.0 g/ kg of seed		Seed Treatment
	Seedborne disease	THIRAM 75% WS	CIBRC/OUAT	2.5-3.0 gm/ kg of seed		Seed Treatment
	Blast	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5g/litre	500	Foliar Spray
		CARBENDAZIM 25% + MANCOZEB 50% WS	CIBRC	3 - 3.5 g / kg of seed		Seed Treatment
		HEXACONAZOLE4 % WP + ZINEB 6.8% WP	CIBRC	2.0 g / litre	500	Foliar Spray
		TRICYCLAZOLE 18% + MANCOZEB 62% WP	CIBRC	2.0g / litre	500	Foliar Spray
		EDIPHENPHOS 50% EC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray

CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
PADDY	Blast	MANCOZEB 75% WP	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
		PROPICONAZOLE 10.7%+ TRICYCLAZOLE 34.2% SE	CIBRC/OUAT	1.0 ml/5litre	500	Foliar Spray
		TRICYCLAZOLE 75% WP	CIBRC/OUAT	6.0 g/10 litre	500	Foliar Spray
		AZOXYSTROBIN 18.2% W/W + DIFENOCONAZOLE 11.4% W/W SC	CIBRC/OUAT	1.0 ml /litre	500	Foliar Spray
		TEBUCONAZOLE 50% + TRIFLOXYSTROBIN 25% WG	CIBRC/OUAT	4.0 gm / 10 litre	500	Foliar Spray
		TRICYCLAZOLE 45% + HEXACONAZOLE 10% WG	CIBRC	1.0 g / litre	500	Foliar Spray
		HEXACONAZOLE 5% EC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
		HEXACONAZOLE 5% SC	CIBRC/OUAT	2.0 ml/litre	500	Foliar Spray
		KASUGAMYCIN 3% SL	CIBRC/OUAT	2-3ml/litre	500	Foliar Spray
		TEBUCONAZOLE 25% WG	CIBRC/OUAT	1.5g/litre	500	Foliar Spray
	Sheath rot	CARBENDAZIM 50%WP	OUAT	1.5 g/litre	500	Foliar Spray
		IPRODINE 25%+CARBENDAZIM 25%WP	OUAT	2.5g/litre	500	Foliar Spray
		PROPICONAZOLE 25%EC	OUAT	1ml/litre	500	Foliar Spray
	Sheath blight	CARBENDAZIM 50% WP	CIBRC/OUAT	2 gm/ kg seed		Seed Treatment
		AZOXYSTROBIN 11 % +TEBUCONAZOLE 18.3% SC W/W	CIBRC/OUAT	1.5 ml / litre	500	Foliar Spray
		TEBUCONAZOLE 50% + TRIFLOXYSTROBIN 25% WG	CIBRC/OUAT	4.0 gm / 10 litre	500	Foliar Spray
		PROPICONAZOLE 10.7%+ TRICYCLAZOLE 34.2% SE	CIBRC/OUAT	1.0 ml/5litre	500	Foliar Spray
		CARBENDAZIM 25% + MANCOZEB 50% WS	CIBRC	3 - 3.5 g / kg of seed		Seed Treatment
		HEXACONAZOLE 4 % WP + ZINEB 6.8% WP	CIBRC	2.0 g / litre	500	Foliar Spray
		TRICYCLAZOLE 45% + HEXACONAZOLE 10% WG	CIBRC	1.0 g / litre	500	Foliar Spray
		THIFLUZAMIDE 24.5% SC	CIBRC	1.5 ml / 2 litre	500	Foliar Spray
		DIFENOCONAZOLE 25% EC	CIBRC/OUAT	1.0 ml/2 litre	500	Foliar Spray

CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
PADDY	Sheath blight	DIFENOCONAZOLE 11.4% W/W SC	CIBRC/OUAT	1.0 ml/ litre	500	Foliar Spray
		FLUSILAZOLE 40% EC	CIBRC/OUAT	6.0 ml/10 litre	500	Foliar Spray
		HEXACONAZOLE 5% EC	CIBRC/OUAT	1.5 ml/litre	500	Foliar Spray
		IPRODIONE 50% WP	CIBRC/OUAT	4.0 -5.0 g/ litre	500	Foliar Spray
		VALIDAMYCIN 3% L	CIBRC/OUAT	1.0 ml/ litre	500	Foliar Spray
		PROPICONAZOLE 25% EC	CIBRC/OUAT	1.0 ml/ litre	500	Foliar Spray
	Foot Rot	METALAXYL 8% +MANCOZEB 64% WP	OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Foliar Spray
		CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Basal drench
		METALAXYL M 4% +MANCOZEB 64% WP	OUAT	5.0 g / litre	500	Basal drench
	Leaf Scald	CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Basal drench
		CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Basal drench
		MANCOZEB 75% WP	OUAT	3.0 g/litre	500	Foliar Spray
	Grain discoloration	CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Foliar Spray
		HEXACONAZOLE 4 % WP + ZINEB 6.8% WP	CIBRC	2.0 g/litre	500	Foliar Spray
		TRICYCLAZOLE 18% + MANCOZEB 62% WP	CIBRC	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Foliar Spray
RAGI	Blast	ZINEB 75% WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		PICOXYSTOBIN 22.52% W/W SC	OUAT	3.0 g/ 10 litre	150	Foliar Spray
	Smut	CARBOXIN 37.5%+THIRAM 37.5% WP	OUAT	2.0 g/kg of seed		Seed Treatment
		TEBUCONAZOLE 2% DS	OUAT	1.0 g/kg of seed		Seed Treatment
		CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Foliar Spray

CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
RAGI	Foot Rot	METALAXYL 8% +MANCOZEB 64% WP	OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Foliar Spray
		CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Basal drench
	Leaf Spot	CAPTAN 75% WP	OUAT	1.5 g/litre	500	Foliar Spray
		EDIPHENPHOS 50% EC	OUAT	5.0 ml/10litre	500	Foliar Spray
SUGARCANE	Whip smut	THIRAM 75%WS	OUAT	3.0 g/ litre	500	Foliar Spray
		TRIADIMEFON 25%WP	OUAT	1.0 g/litre	500	Foliar Spray
		CARBENDAZIM 50% WP	CIBRC	2.0 g / litre		Dipping of Sett for 10 minutes
		CARBOXIN 37.5% +THIRAM 37.5% WP	OUAT	3.0 g/ litre	500	Foliar Spray
	Red Rot	CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Foliar Spray
		CARBENDAZIM 50% WP	CIBRC	2.0 g / litre		Sett Treatment
		CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Basal drench
		METALAXYL M 8% +MANCOZEB 64%WP	OUAT	2.0 g/litre	500	Basal drench
	Sett Rot	CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Foliar Spray
		CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Basal drench
		METALAXYL 8% +MANCOZEB 64%WP	OUAT	2.0 g/litre	500	Foliar Spray
	Grassy Shoot Disease	IMIDACLOPRID 17.8%SL	OUAT	1.0 ml/3litre	500	Foliar Spray
		THIAMETHOXAM 25%WG	OUAT	1.0 g/litre	500	Foliar Spray
		ACETAMAPRID 20% SP	OUAT	1.0 g/3 litre	500	Foliar Spray
	Wilt	CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Basal drench
		MANCOZEB 63% + CARBENDAZIM 12%WP	OUAT	2.0 g/litre	500	Drenching



CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
SUGARCANE	Top Rot	CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Foliar Spray
		MANCOZEB 63% + CARBENDAZIM 12%WP	OUAT	2.0 g/litre	500	Drenching
		THIOPHANATE METHYL 70%WP	OUAT	1.0 g/litre	500	Foliar Spray
	Root Rot	CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Foliar Spray
		MANCOZEB 63% + CARBENDAZIM 12%WP	OUAT	2.0 g/litre	500	Drenching
		VALIDAMYCIN 3%L	OUAT	1.0 ml/litre	500	Drenching
	Rust	TRIADIMEFORN 25%WP	OUAT	1.0 ml/4litre	500	Foliar Spray
		CHLOROTHALONIL 75%WP	OUAT	2.0 g/litre	500	Foliar Spray
		DIFENOCONAZOLE25%EC	OUAT	1.0 ml/litre	500	Foliar Spray
	Leaf Scald	CARBENDAZIM 50% WP	OUAT	1.5 g/litre	500	Basal drench
		CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Basal drench
		MANCOZEB 75% WP	OUAT	2.0 g/litre	500	Foliar Spray
	Ring Spot	CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Basal drench
		TEBUCONAZOLE 25.9% M/M EC	OUAT	2.0 g/litre	500	Foliar Spray
		PROPICONAZOLE 25%EC	OUAT	1.0 ml/litre	500	Foliar Spray
	Mosaic	IMIDACLOPRID 17.8%SL	OUAT	1.0 ml/3litre	500	Foliar Spray
		THIAMETHOXAM 25%WG	OUAT	1.0 g/litre	500	Foliar Spray
		ACETAMAPRID 20% SP	OUAT	1.0 g/3litre	500	Foliar Spray
	Yellow Spot	CHLOROTHALONIL 75%WP	OUAT	2.0 g/litre	500	Foliar Spray
		CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Drenching
		DIFENOCONAZOLE25%EC	OUAT	1.0 ml/litre	500	Foliar Spray



CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
SUGARCANE	Eye Spot	COPPER OXYCHLORIDE 50%WG	OUAT	3.0 g/litre	500	Foliar Spray
		CARBENDAZIM 12% +MANCOZEB 63% WP	OUAT	2.0 g/litre	500	Drenching
		HEXACONAZOLE 5%EC	OUAT	1.0 ml/litre	500	Foliar Spray
	Red Stripe	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP	OUAT	1.5g / 10 litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50%WG	OUAT	3.0 g/litre	500	Foliar Spray
	Ratoon stunting disease	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP	OUAT	1.5g / 10 litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50%WG	OUAT	3.0 g/litre	500	Foliar Spray
BEAN	Anthracnose	COPPER HYDROXIDE 53.8% DF	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
	Halo blight	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP	CIBRC/OUAT	1.5g / 10 litre	500	Spray thrice at interval of 7 days. For prevention apply first spray 10 days after emergence of leaf.
	Powdery mildew	SULPHUR 40% WP	CIBRC/OUAT	8.0 g/litre	500	Foliar Spray
		SULPHUR 85% DP	CIBRC/OUAT	15-20 kg/ha		Dusting
		PROPICONAZOLE 25% EC	CIBRC/OUAT	1.0 ml / 2 litre	500	Foliar Spray
		PENCONAZOLE 10% EC	CIBRC/OUAT	1.0 ml / 2 litre	500	Foliar Spray
		TEBUCONAZOLE 25.9%M/M EC	CIBRC/OUAT	1.0 ml / 2 litre	500	Foliar Spray
BOTTLE GOURD	Anthracnose	THIOPHANATE METHYL 70% WP	CIBRC/OUAT	1.5g / litre	500	Foliar Spray
BRINJAL	Leaf spot/ Fruit rot	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5g / litre	500	Foliar Spray
	Blight	ZINEB 75% WP	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray

<b>CROP</b>	<b>Common name of the disease</b>	<b>Recommended Insecticides by CIBRC/OUAT/CHES</b>		<b>Dose per water</b>	<b>Dilution in water (L)/ha</b>	<b>Remarks</b>
<b>CABBAGE</b>	Damping off	<b>CAPTAN 75% WS</b>	CIBRC/OUAT	2.0-3.0 gm per kg seed		Seed Treatment
		<b>CAPTAN 75% WP</b>	CIBRC/OUAT	2.5 g/litre	500	Soil drenching to Nursery bed.
<b>CAULIFLOWER</b>	Collar rot	<b>MANCOZEB 75% WP</b>	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
	Leaf spot	<b>MANCOZEB 75% WP</b>	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
		<b>ZINEB 75% WP</b>	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
	Damping off	<b>CAPTAN 75% WP</b>	CIBRC/OUAT	3.0 g/litre	500	Soil drenching to Nursery bed.
<b>CHILLY</b>	Anthracnose	<b>COPPER HYDROXIDE 53.8% DF</b>	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
	Damping off	<b>MANCOZEB 75% WP</b>	CIBRC/OUAT	3.0 g/litre	500	(soil drench)
		<b>METALAXYL-M 31.8% ES</b>	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		<b>CAPTAN 75% WS</b>	CIBRC/OUAT	2.0-3.0 gm per kg seed		Seed Treatment
	Die back	<b>MYCLOBUTANIL 10% WP</b>	CIBRC/OUAT	4ml/10litre	500	Foliar Spray
		<b>PROPINEB 70% WP</b>	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
		<b>DIFENOCONAZOLE 25% EC</b>	CIBRC/OUAT	5 ml/ 10 litre	500	Foliar Spray
	Early blight	<b>CHLOROTHALONIL 75%WP</b>	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray
	Leaf spot	<b>MANCOZEB 75% WP</b>	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
		<b>COPPER OXYCHLORIDE 50% WP</b>	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
		<b>ZINEB 75% WP</b>	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
	Fruit rot	<b>TEBUCONAZOLE 25.9% M/M EC</b>	CIBRC/OUAT	1 ml/2 litre	500	Foliar Spray
		<b>MANCOZEB 75% WP</b>	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
		<b>AZOXYSTROBIN 23% SC</b>	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray

<b>CROP</b>	<b>Common name of the disease</b>	<b>Recommended Insecticides by CIBRC/OUAT/CHES</b>		<b>Dose per water</b>	<b>Dilution in water (L)/ha</b>	<b>Remarks</b>
<b>CHILLY</b>	Fruit rot	DIFENOCONAZOLE 25% EC	CIBRC/OUAT	5ml/ 10 litre	500	Foliar Spray
		CHLOROTHALONIL 75%WP	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50% WP	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
		HEXACONAZOLE 2% SC	CIBRC/OUAT	6.0 ml/litre	500	Foliar Spray
		ZINEB 75% WP	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
	Fruit rot / Anthracnose	CAPTAN 50% WG	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
	Fruit rot / dieback	KITAZIN 48% EC	CIBRC/OUAT	2.0 ml /litre	500	Foliar Spray
	Powdery mildew	TEBUCONAZOLE 25.9% M/M EC	CIBRC/OUAT	1.0 -1.5ml/ litre	500	Foliar Spray
		AZOXYSTROBIN 23% SC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
		FLUSILAZOLE 40% EC	CIBRC/OUAT	1.0 ml/5litre	500	Foliar Spray
		SULPHUR 52% SC	CIBRC/OUAT	4.0 ml/litre	500	Foliar Spray
		HEXACONAZOLE 2% SC	CIBRC/OUAT	6.0 ml/litre	500	Foliar Spray
		SULPHUR 80% WP	CIBRC/OUAT	4.0 g/litre	500	Foliar Spray
	Powdery mildew / Leaf spot	MYCLOBUTANIL 10% WP	CIBRC/OUAT	4ml/10litre	500	Foliar Spray
	Powdery mildew, fruit rot	TEBUCONAZOLE 25% WG	CIBRC/OUAT	1.0 g/litre	500	Foliar Spray
	Ripe rot	MANCOZEB 75% WP	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
<b>CLUSTER BEANS</b>	Powdery mildew	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray

CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
CORIANDER	Powdery mildew	SULPHUR 85% DP	CIBRC/OUAT	15-20 kg/ha		Dusting
COW PEA	Rust	SULPHUR 85% DP	CIBRC/OUAT	15-20 kg/ha	-	Dusting
	Powdery mildew	SULPHUR 80% WG	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
		SULPHUR 80% WP	CIBRC/OUAT	4.0 g/litre	500	Foliar Spray
CUCUMBER	Downey mildew Powdery mildew	AZOXYSTROBIN 23% SC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
	Anthracnose	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray
		ZINEB 75% WP	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
	Downy mildew	ZINEB 75% WP	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
	Leaf spot	ZINEB 75% WP	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
	Powdery mildew	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray
CUMIN	Powdery mildew	AZOXYSTROBIN 23% SC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
	Blight ( <i>Alternaria burnsii</i> )	MANCOZEB 75% WP	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
		DIFENOCONAZOLE 25% EC	CIBRC/OUAT	5 ml/ 10 litre	500	Foliar Spray
	Early blight	ZINEB 75% WP	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
	Powdery mildew ( <i>Erysipha polygoni</i> )	SULPHUR 80% WP	CIBRC/OUAT	4.0 g/litre	500	Foliar Spray
		SULPHUR 80% WG	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		SULPHUR 85% DP	CIBRC/OUAT	15-20 kg/ha	-	Dusting
		DIFENOCONAZOLE 25% EC	CIBRC/OUAT	5 ml/ 10 litre	500	Foliar Spray
GUAR	Powdery mildew	SULPHUR 80% WG	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray

CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
OKRA	Powdery mildew	SULPHUR 80% WP	CIBRC/OUAT	4.0 g/litre	500	Foliar Spray
ONION	Purple blotch ( <i>Alternaria porri</i> )	DIFENOCONAZOLE 25% EC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
		TEBUCONAZOLE 25.9% M/M EC	CIBRC/OUAT	1.0 ml / 2 litre	500	Foliar Spray
	Blight	ZINEB 75% WP	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
	Downy mildew	ZINEB 75% WP	CIBRC/OUAT	2.5 g/litre	500	Foliar Spray
	Leaf blight	MANCOZEB 75% WP	CIBRC/OUAT	3.0 g/litre	500	Foliar Spray
PAPAYA	Powdery mildew	THIOPHANATE METHYL 70% WP	CIBRC/OUAT	1.0 g/litre	500	Foliar Spray
PEA	Powdery mildew	SULPHUR 80% WP	CIBRC/OUAT	4.0 g/litre	500	Foliar Spray
		SULPHUR 80% WG	CIBRC/OUAT	4.0 g/litre	500	Foliar Spray
		SULPHUR 85% DP	CIBRC/OUAT	15-20 kg/ha	-	Dusting
		TRIADIMEFON 25% WP	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
		CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray
	Rust	SULPHUR 80% WP	CIBRC/OUAT	4.0 g/litre	500	Foliar Spray
		SULPHUR 85% DP	CIBRC/OUAT	15-20 kg/ha	-	Dusting
		TRIADIMEFON 25% WP	CIBRC/OUAT	1ml/lit	500	Foliar Spray
POTATO	Black leg and soft rot, bacterial brown wilt or ring or the bangle disease of potato	(STREPTOMYCIN SULPHATE 90% + TETRACYLIN HYDROCHLORIDE 10%) SP	CIBRC/OUAT	4.0 -10.0 gm/10 litre		Seeds treatment: Prior to planting soak potato seed in the solution for half an hour.
				4.0 -5.0 gm/10 litre	500	Spray: Two to three sprays at an interval of 20 days. First spray 30 days after planting.

CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
POTATO	Early & Late Blight	CHLOROTHALONIL 75% WP	CIBRC/OUAT	2.0 g/litre	500	Foliar Spray
		PROPINEB 70% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		CAPTAN 50% WG	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
	Scab	THIRAM 75% WS	CIBRC/OUAT	3.0 gm/kg of seed		Seed Treatment
	Leaf spot	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray
	Powdery mildew	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 g/litre	500	Foliar Spray
	Early blight	CAPTAN 50% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		CAPTAN 75% WP	CIBRC/OUAT	1.0 -2.0 g/ litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		MANCOZEB 75% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		ZINEB 75% WP	CIBRC/OUAT	2.5 g/ Litre	500	Foliar Spray
		ZIRAM 80% WP	CIBRC/OUAT	2.0 g/ Litre	500	Foliar Spray
		HEXACONAZOLE 2% SC	CIBRC/OUAT	6.0 ml/litre	500	Foliar Spray
	Late blight ( <i>Phytophthora infestans</i> )	AZOXYSTROBIN 23% SC	CIBRC/OUAT	1.0 ml/litre	500	Foliar Spray
		CAPTAN 50% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		CAPTAN 75% WP	CIBRC/OUAT	2.5 g/ Litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		CARBENDAZIM 25% + MANCOZEB 50% WS	CIBRC	6.0 - 7.0 g / litre		Tuber Treatment
		COPPER HYDROXIDE 53.8% DF	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		CYAZAFAMID 34.5% SC	CIBRC/OUAT	1.0 ml/2 litre	500	Foliar Spray
		HEXACONAZOLE 2% SC	CIBRC/OUAT	6.0 ml/litre	500	Foliar Spray
		MANCOZEB 75% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		MANDIPROPAMID 23.4% SC	CIBRC/OUAT	0.8 ml/litre	500	Foliar Spray
		ZINEB 75% WP	CIBRC/OUAT	2.5 g/ Litre	500	Foliar Spray
		DIMETHOMORPH 50% WP	CIBRC/OUAT	1.0 g/ Litre	500	Foliar Spray

CROP	Common name of the disease	Recommeneded Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
TAPIOCA	Sett rot	CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 g/litre		Dip the setts in 1gm/lit of water for 15 min
	Leaf spot	MANCOZEB 75% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
TOMATO	Early Blight	AZOXYSTROBIN 23% SC	CIBRC/OUAT	1.0 ml/ litre	500	Foliar Spray
	Alternaria blight ( <i>Alternaria solani</i> )	METIRAM 70% WG	CIBRC/OUAT	5.0 g/litre	500	Foliar Spray
	Buck eye rot	MANCOZEB 75% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		PROPINEB 70% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
	Damping off	METALAXYL-M 31.8% ES	CIBRC/OUAT	2.0 g/kg of seeds		seed dressing
		CAPTAN 75% WS	CIBRC/OUAT	3.0 g/kg of seeds		Seed Treatment
	Early blight	CAPTAN 50% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		CAPTAN 75% WP	CIBRC/OUAT	2.5 g/ Litre	500	Foliar Spray
		COPPER OXYCHLORIDE 50% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		IPRODIONE 50% WP	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		MANCOZEB 75% WG	CIBRC/OUAT	3.0 g/ Litre	500	Foliar Spray
		PYRACLOSTROBIN 20% WG	CIBRC/OUAT	0.7-1.0 g/ litre	500	Foliar Spray
		ZINEB 75% WP	CIBRC/OUAT	2.5 g/ Litre	500	Foliar Spray
		ZIRAM 80% WP	CIBRC/OUAT	2.0 g/ Litre	500	Foliar Spray
	Early blight & Late blight	MANCOZEB 35% SC	CIBRC/OUAT	3.0 gm/litre	500	Foliar Spray
	Grey leaf mould	ZINEB 75% WP	CIBRC/OUAT	2.5 g/ Litre	500	Foliar Spray
	Late blight	MANDIPROPAMID 23.4% SC	CIBRC/OUAT	8.0 ml/10 litre	500	Foliar Spray
		CAPTAN 50% WP	CIBRC/OUAT	3.0 gm/litre	500	Foliar Spray

<b>CROP</b>	<b>Common name of the disease</b>	<b>Recommended Insecticides by CIBRC/OUAT/CHES</b>		<b>Dose per water</b>	<b>Dilution in water (L)/ha</b>	<b>Remarks</b>
<b>TOMATO</b>		<b>CAPTAN 75% WP</b>	CIBRC/OUAT	2.5 gm/litre	500	Foliar Spray
		<b>COPPER OXYCHLORIDE 50% WP</b>	CIBRC/OUAT	3.0 gm/litre	500	Foliar Spray
		<b>MANCOZEB 75% WP</b>	CIBRC/OUAT	3.0 gm/litre	500	Foliar Spray
		<b>ZINEB 75% WP</b>	CIBRC/OUAT	2.5 gm/litre	500	Foliar Spray
	Leaf Spot	<b>COPPER OXYCHLORIDE 50% WP</b>	CIBRC/OUAT	3.0 gm/litre	500	Foliar Spray
		<b>MANCOZEB 75% WP</b>	CIBRC/OUAT	3.0 gm/litre	500	Foliar Spray
	Ring rot	<b>THIOPHANATE METHYL 70% WP</b>	CIBRC/OUAT	1.0 gm/litre	500	Foliar Spray
	Bacterial leaf spot	<b>STREPTOMYCINE SULPHATE 90% TETRACYCLINE HYDROCHLORIDE 10% SP+COPPER OXYCHLORIDE 50%WP</b>	CIBRC/OUAT	1.5 gm + 30 gm /10litre	500	Spray seedlings in seed beds and fields after the appearance of first true leaves two sprays of streptomycine, one before transplanting and another after are effective for controlling the disease.
<b>TOMATO, BRINJAL, CHILLIES, BEANS</b>	Damping off	<b>STREPTOMYCINE SULPHATE 90% TETRACYCLINE HYDROCHLORIDE 10% SP+COPPER OXYCHLORIDE 50%WP</b>	CIBRC/OUAT	1.5 gm + 30 gm /10litre	500	Soil drench in the nursery



CROP	Common name of the disease	Recommended Insecticides by CIBRC/OUAT/CHES		Dose per water	Dilution in water (L)/ha	Remarks
BANANA	Fruit Rot	COPPER OXYCHLORIDE 50% WP	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
		CARBENDAZIM 50% WP	CIBRC/OUAT	1.5 gm/litre	750	Foliar Spray
		THIOPHANATE METHYL 70% WP	CIBRC/OUAT	1.0 gm/litre	750	Foliar Spray
	Sigatoka Leaf Spot	MANCOZEB 75% WP	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
		COPPER OXYCHLORIDE 50% WP	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
		THIOPHANATE METHYL 70WP	CIBRC/OUAT	1.0 gm/litre	750	Foliar Spray
	Cigar end rot/Tip rot	MANCOZEB 75% WP	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
BER	Powdery mildew	SULPHUR 80% WP	CIBRC/OUAT	4.0 gm/litre	750	Foliar Spray
CITRUS	Brown rot	CAPTAN 75% WP	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
	Citrus canker	COPPER OXYCHLORIDE 50% WP	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
		STREPTOMYCINE SULPHATE 90% TETRACYCLIN HYDROCHLORIDE 10% SP	CIBRC/OUAT	1.5 g/10 litre	750	Spray repeatedly at an interval of 15 to 20 days after the appearance of new growth. Cover the foliage and young fruits fully.
	Gummosis	AUREOFUNGIN 46.15% W/V. SP	CIBRC/OUAT	10.0 g/litre	750	Soil drench
	Leaf Spot	COPPER OXYCHLORIDE 50% WP	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
	Powdery mildew	SULPHUR 80% WP	CIBRC/OUAT	4.0 gm/litre	750	Foliar Spray
	Scab	CAPTAN 75% WP	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
	Greasy spot	ZINEB 75% WP	CIBRC/OUAT	2.5 gm/litre	750	Foliar Spray
COCONUT	Bud Rot	COPPER OXYCHLORIDE 50% WP	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray

<b>CROP</b>	<b>Common name of the disease</b>	<b>Recommended Insecticides by CIBRC/OUAT/CHES</b>		<b>Dose per water</b>	<b>Dilution in water (L)/ha</b>	<b>Remarks</b>
<b>MANGO</b>	Anthracnose	<b>COPPER OXYCHLORIDE 50% WP</b>	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
		<b>AZOXYSTROBIN 23% SC</b>	CIBRC/OUAT	1.0 ml/litre	750	Foliar Spray
		<b>CARBENDAZIM 12% + MANCOZEB 63% WP</b>	CIBRC/OUAT	3.0 gm/litre	750	Foliar Spray
	Powdery mildew	<b>DINOCAP 48% EC</b>	CIBRC/OUAT	1.0 ml/litre	750	Foliar Spray
		<b>AZOXYSTROBIN 23% SC</b>	CIBRC/OUAT	1.0 ml/litre	750	Foliar Spray
		<b>HEXACONAZOLE 5% EC</b>	CIBRC/OUAT	1.0 ml/litre	750	Foliar Spray
		<b>PROPICONAZOLRE 25 % EC</b>	CIBRC/OUAT	2.0 ml/litre	750	Foliar Spray
		<b>SULPHUR 40% WP</b>	CIBRC/OUAT	5.00g/litre	750	Foliar Spray
		<b>SULPHUR 55.16 % SC</b>	CIBRC/OUAT	3.0 ml/ litre	750	Foliar Spray
		<b>SULPHUR 80% WP</b>	CIBRC/OUAT	4.0 g/litre	750	Foliar Spray
		<b>SULPHUR 80% WG</b>	CIBRC/OUAT	2.5 g/litre	750	Foliar Spray
		<b>PENCONAZOLE 10% EC</b>	CIBRC/OUAT	5.0 ml/10 litre	750	Foliar Spray
<b>POMEGRANATE</b>	Fruit rot	<b>DIFENOCONAZOLE 25% EC</b>	CIBRC/OUAT	1.0 ml/litre	750	Foliar Spray
	Fruit spot	<b>METIRAM 55% + PYRACLOSTROBIN 5% WG</b>	CIBRC/OUAT	3.0 -3.5g/ litre	750	Foliar Spray
	Leaf and fruit spots	<b>PROPINEB 70% WP</b>	CIBRC/OUAT	3.0 g/ litre	750	Foliar Spray
<b>GUAVA</b>	Stylar end rot	<b>CARBENDAZIM 50%WP</b>	CHES	1.5 g/litre	750	Foliar Spray
	Fruit canker	<b>CARBENDAZIM 50%WP</b>	CHES	1.5 g/litre	750	Foliar Spray
		<b>ZINEB 75% WP</b>	CHES	2.5 g/litre	750	Foliar Spray
		<b>MANCOZEB 75% WP</b>	CHES	3.0 g/litre	750	Foliar Spray
	Fruit rot	<b>MANCOZEB 75% WP</b>	CHES	3.0 g/litre	750	Foliar Spray
		<b>ZINEB 75% WP</b>	CHES	2.5 g/litre	750	Foliar Spray

<b>CROP</b>	<b>Common name of the disease</b>	<b>Recommended Insecticides by CIBRC/OUAT/CHES</b>		<b>Dose per water</b>	<b>Dilution in water (L)/ha</b>	<b>Remarks</b>
<b>LITCH</b>	Leaf blight	<b>COPPER OXYCHLORIDE 50% WP</b>	NRCL/OUAT	3.0 g/litre	750	Foliar Spray
		<b>CHLOROTHALONIL 75% WP</b>	NRCL/OUAT	2.0 g/litre	750	Foliar Spray
		<b>DIFENOCONAZOLE 25% EC</b>	NRCL/OUAT	1.0 ml/litre	750	Foliar Spray
		<b>THIOPHANATE METHYL 70%WP</b>	NRCL/OUAT	1.0 g/litre	750	Foliar Spray
	Twig blight	<b>CARBENDAZIM 50%WP</b>	NRCL/OUAT	1.5 g/litre	750	Foliar Spray
		<b>COPPER OXYCHLORIDE 50% WP</b>	NRCL/OUAT	3.0 g/litre	750	Foliar Spray
	Inflorescence blight	<b>THIOPHANATE METHYL 70% WP</b>	NRCL/OUAT	1.0 g/litre	750	Foliar Spray
		<b>DIFENOCONAZOLE 25% EC</b>	NRCL/OUAT	1.0 ml/litre	750	Foliar Spray
		<b>AZOXYSTROBIN 23% SC</b>	NRCL/OUAT	1.0 ml/litre	750	Foliar Spray
		<b>CARBENDAZIM 50%WP</b>	NRCL/OUAT	1.5 g/litre	750	Foliar Spray
	Anthracnose	<b>DIFENOCONAZOLE 25% EC</b>	NRCL/OUAT	1.0 ml/litre	750	Foliar Spray
		<b>CARBENDAZIM 50%WP</b>	NRCL/OUAT	1.5 g/litre	750	Foliar Spray
		<b>COPPER OXYCHLORIDE 50% WP</b>	NRCL/OUAT	3.0 g/litre	750	Foliar Spray
		<b>AZOXYSTROBIN 23% SC</b>	NRCL/OUAT	2.3ml/10litre	750	Foliar Spray
	Wilt	<b>CARBENDAZIM 50%WP</b>	NRCL/OUAT	1.5 g/litre	750	Foliar Spray
<b>ROSE</b>	Black spot	<b>CAPTAN 75% WP</b>	CIBRC/OUAT	3.0 g/litre	750	Foliar Spray
	Powdery mildew	<b>CARBENDAZIM 50% WP</b>	CIBRC/OUAT	1.5 g/litre	750	Foliar Spray
		<b>DINOCAP 48% EC</b>	CIBRC/OUAT	2 ml/10litre	750	Foliar Spray
		<b>SULPHUR 40% WP</b>	CIBRC/OUAT	4.0 g/litre	750	Foliar Spray
<b>ORNAMENTAL</b>	Damping off (Nursery)	<b>CAPTAN 75% WP</b>	CIBRC/OUAT	3.0 g/litre	750	Soil drench in the nursery

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## SECTION

# CROP WISE RECOMMENDATION OF HERBICIDES

CROPS	Recommendation of Herbicide by CIBRC/OUAT		Dosage / ha a.i. (gm/Kg)/ha	Formulation /ha	Dilution In Water (Litre/ha)	Remarks
ARHAR	PENDIMETHALIN 30% EC	OUAT	750g	2500 ml	500	Pre emergence (0-2 DAS)
BLACK & GREEN GRAM	QUIZALOFOP-ETHYL 5% EC	CIBRC/OUAT	37.5-50.0 g	750-1000 ml	500	Post emergence 20 DAS
	IMAZETHAPYR 10% SL	OUAT	75 g	750 ml	500	Controls Dicots , Post emergence 20-25 DAS
	PENDIMETHALIN 30% EC	CIBRC/OUAT	1 kg	3000 ml	500	Pre emergence (0-2 DAS)
	PROPAQUIZAPOP 10% EC	CIBRC/OUAT	75-100 g	750-1000 ml	500	Post emergence 20-25 DAS
COTTON	GLYPHOSATE 41% SL	OUAT	1 Kg	2500 ml	500	Spray using Hood (Directed spray)
	PARAQUAT DICHLORIDE 24% SL	CIBRC/OUAT	0.3-0.5 kg	1.25-2.0 ltr	500	(Post-emergence directed inter row application at 2-3 leaf stage of weeds using Hood
	PENDIMETHALIN 30% EC	CIBRC/OUAT	0.75-1.25kg	2.5-4.165 ltr	500	Pre emergence (0-3 DAS)
	PYRITHIOBAC SODIUM 10% EC	CIBRC/OUAT	62.5-75 g	625-750 ml	500	Post emergence 21-25 DAS
	QUIZALOFOP-ETHYL 5% EC	CIBRC/OUAT	50.5	1000 ml	500	Post emergence 15 DAS

<b>GROUND NUT</b>	IMAZETHAPYR 10% SL	CIBRC/OUAT	75 g	750 ml	500	Post emergence within 2 Week
	OXYFLOURFEN 23.5% EC	CIBRC/OUAT	50 g	200 ml	500	Pre emergence 0 - 3 DAS
	QUIZALOFOP-ETHYL 5% EC	OUAT	50 g	1000 ml	500	Post emergence 15 DAS
<b>MUSTARD</b>	ISOPROTURON 50% WP	OUAT	800 g	1600 g	500	Pre emergence 0 - 3 DAS
	QUIZALOFOP-ETHYL 5% EC	OUAT	50 g	1000 ml	500	Post emergence 15 DAS
<b>SUNFLOWER</b>	QUIZALOFOP-ETHYL 5% EC	OUAT	50 g	1000 ml	500	Post emergence 15 DAS
	PENDIMETHALIN 30% EC	OUAT	750 g	2250 ml	500	Pre emergence 0-3 DAS
<b>SESAMUM</b>	QUIZALOFOP-ETHYL 5% EC	OUAT	50 g	1000 ml	500	Post emergence 15 DAS
	PENDIMETHALIN 30% EC	OUAT	750 g	2250 ml	500	Pre emergence 0 - 3 DAS
<b>MAIZE</b>	2,4-D SODIUM SALT TECHNICAL (HAVING 2,4-D ACID 80 % W/W)	CIBRC/OUAT	1.00 Kg.	1.25 kg	500	Post emergence 25 DAS
	2,4-D ETHYL ESTER 38 % EC (HAVING 2,4-D ACID 34 % W/W)	CIBRC/OUAT	0.9 kg	2.65 ltr	500	Post emergence 25 DAS
	ATRAZINE 50% WP	CIBRC/OUAT	0.5-1.0 kg	1-2 kg	500	Pre emergence 0 - 3 DAS
	PARAQUAT DICHLORIDE 24% SL	CIBRC/OUAT	0.2-0.5 kg	0.8-2.0 ltrs	500	[pre-plant (minimum tillage) before sowing]
	TEMBOTRIONE 34.4% SC	CIBRC/OUAT	120g	286ml	500L	Post emergence 20-25 DAS
<b>SUGARCANE</b>	2,4-D ETHYL ESTER 38 % EC (HAVING 2,4-D ACID 34 % W/W)	CIBRC/OUAT	1.2 to 1.8 kg	3.53- 5.29 kg	500	Post emergence 25-30 DAS
	2,4-D SODIUM SALT TECHNICAL (HAVING 2,4-D ACID 80 % W/W)	CIBRC/OUAT	2.0-2.6kg	2.5-3.25 kg	500	Post emergence 25-30 DAS
	GLYPHOSATE 41% SL	CIBRC/OUAT	1 Kg	2500 ml	500	Spray using Hood (Directed spray)
	HALOSULFURON METHYL 75% WG	CIBRC/OUAT	60-67.5g	80-90 g	375	Post emergence 20-25 DAS
	PARAQUAT DICHLORIDE 24% SL	CIBRC/OUAT	500g	2 ltr	500	Spray using Hood (Directed spray)
<b>JUTE &amp; MESTA</b>	PENDIMETHALIN 30% EC	OUAT	750g	2250 ml	500	Pre emergence 0 - 3 DAS
	QUIZALOFOP-ETHYL 5% EC	OUAT	50g	1000 ml	500	Post emergence- drift hazardous to near by Rice field ( 15 DAS)

<b>PADDY (TRANSPLANTED)</b>	<b>OXADIARGYL 80% WP</b>	CIBRC/ OUAT	100g	0.125 kg.	500/ sand mix 50 kg	pre-emergence ( 3-5 DAT)
	<b>PRETILACHLOR 37%EW</b>	CIBRC/ OUAT	0.60-0.75 kg	1.5-1.875 ltrs.	500	pre-emergence ( 3-5 DAT)
	<b>2,4-D ETHYL ESTER 38 % EC (HAVING 2,4-D ACID 34 % W/W)</b>	CIBRC/ OUAT	0.76 kg	2 ltr	500	post-emergence (30 DAT)
	<b>AZIMSULFURON 50% DF</b>	CIBRC/ OUAT	35 g	70 g	500	post-emergence (20-25 DAT)
	<b>BENSULFURON METHYL 0.6%+PRETILACHLOR 6% GR</b>	CIBRC/ OUAT	60 + 600 g	10 kg	Sand mix 50 Kg	pre-emergence ( 3-5 DAT)
	<b>BISPYRIBAC SODIUM 10% SC</b>	CIBRC/ OUAT	20 gm	200 ml	500	post-emergence (21-25 DAT)
	<b>BUTACHLOR 50% EC</b>	CIBRC/ OUAT	1.25-2.00kg	2.5-4 ltrs	500/ sand mix 50 kg	pre-emergence ( 3-5 DAT)
	<b>PENOXSULAM 1.02% + CYHALOFOP-BUTYL 5.1% OD</b>	CIBRC/ OUAT	135 gm	2.2 Kg	500	post-emergence (21-25 DAT)
	<b>CLOMAZONE 20%+2,4-D EE 30% EC</b>	CIBRC/ OUAT	0.250-0.375 Kg	1.25 ltrs.	500	post-emergence (21-25 DAT)
	<b>CLOMAZONE 50%EC</b>	CIBRC/ OUAT	0.4 - 0.5kg	0.8-1.0 ltr	500	post-emergence (21-25 DAT)
	<b>ETHOXSULFURON 15% WDG</b>	CIBRC/ OUAT	12.5-15gm	83.3-100gm	500	post-emergence (21-25 DAT)
	<b>FENOXAPROP-P-ETHYL 9.3% W/W EC (9% W/V)</b>	CIBRC/ OUAT	56.25 gm	625 ml.(10- 15 DAT)	300- 375	post-emergence (21-25 DAT)
	<b>METSULFURON METHYL 10% + CHLORIMURON ETHYL 10% WP</b>	CIBRC/ OUAT	4g	20 g.	500	Early Post emergence application-15 DAT
	<b>PENOXSULAM 21.7 % SC</b>	CIBRC/ OUAT	22.5 to 25 g	93.7 to 104.2 ml	500	pre-emergence ( 0-5 DAT)
	<b>PRETILACHLOR 50% EC</b>	CIBRC/ OUAT	0.50-0.75 kg.	1.0-1.5 ltrs.	500- 700	pre-emergence ( 3-5 DAT)
<b>PADDY (Transplanted &amp; Direct Seeded)</b>	<b>PYRAZOSULFURON ETHYL 10% WP</b>	CIBRC/ OUAT	0.02 kg	200 g	500 / sand mix	post-emergence (10-15 DAT)or Pre-emergence 0-3 DAT
	<b>PYROZOSULFURON ETHYL 70% WDG</b>	CIBRC/ OUAT	21g	30g	500	post-emergence (10-15 DAT)or Pre-emergence 0-3 DAT
	<b>FENOXAPROP-P-ETHYL 6.7% W/W EC</b>	CIBRC/ OUAT	56.6-60.38g	812.5 - 875 ml	500	post-emergence (21-25 DAT)
	<b>PARAQUAT DICHLORIDE 24% SL</b>	CIBRC/ OUAT	0.3-0.8 kg	1.25-3.5 ltr	500	[pre-plant (minimum/ Zero tillage) before sowing/transplanting for controlling standing weeds]

<b>PADDY (DIRECT SEEDED)</b>	<b>AZIMSULFURON 50% DF</b>	CIBRC/ OUAT	35 g	70 g	500	post-emergence (20-25 DAS)
	<b>BISPYRIBAC SODIUM 10% SC</b>	CIBRC/ OUAT	20 g	200 ml	500	post-emergence (20-30 DAS)
	<b>CYHALOFOP BUTYL 10% EC</b>	CIBRC/ OUAT	75-80 g	0.75-0.80ltr	500	post-emergence (21-25 DAT)
	<b>OXYFLOURFEN 23.5% EC</b>	CIBRC/ OUAT	150-240 g	650-1000 ml	500	Pre emergence 3-5 DAT/ 24-48 hr after cessation of rain for direct sown Paddy
<b>PADDY (Transplanted &amp; Direct sown puddled)</b>	<b>PRETILACHLOR 30.7% EC</b>	CIBRC/ OUAT	0.45- 0.60kg.	1.5-2.0 ltr.	500	Pre emergence 3-5 DAT/ 24-48 hr after cessation of rain for direct sown Paddy
	<b>PENDIMETHALIN 30% EC</b>	CIBRC/ OUAT	Light to Heavy soil 1-1.5kg	3.3 –5 Ltrs.	500	Pre emergence 3-5 DAT/ 24-48 hr after cessation of rain for direct sown Paddy
	<b>OXYFLOURFEN 0.35% GR</b>	CIBRC/ OUAT	100-150 g	30-40 kg.	Sand mix 50 Kg	Pre emergence 3-5 DAT/ 24-48 hr after cessation of rain for direct sown Paddy
<b>POTATO</b>	<b>2,4-D DIMETHYL AMINE SALT 58% SL</b>	CIBRC	2.0 kg	3.44	400	
	<b>OXYFLOURFEN 23.5% EC</b>	CIBRC	100-200 gm	425-850	500- 750	
<b>CITRUS</b>	<b>2,4-D SODIUM SALT TECHNICAL (HAVING 2,4-D ACID 80 % W/W)</b>	CIBRC	1.00-2.5 kg	1.25-3.2 kg	600	>6 months
<b>BANANA</b>	<b>DIURON 80% WP</b>	CIBRC	1.60 kg	2 kg.	625	

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## SECTION

### CROP AND DISEASE WISE RECOMMENDATION OF NEMATOCIDES

Crop	Common name of the Nematode Disease	NEMATOCIDES RECD BY CIBRC/OUAT		Dosage per ha a.i. (g)	Formulation (g/ml)	Dilution in water (L)	Remarks
PADDY	White Tip Nematode ( <i>Aphelenchdis besseyi</i> )	QUINALPHOS 25% EC	CIBRC/OUAT	300	1500 ml	500	Spray
		MONOCROTOPHOS 36%SL	CIBRC/OUAT	540	1500 ml	500	Spray
		CARBOSULFAN 25% EC	CIBRC/OUAT		20ml in 1 litre of water		Seedling Root deep
		CARBOSULFAN 25% DS	CIBRC/OUAT		3 gm/ kg of Seed		Seed treatment
		CARBOFURAN 3% G	CIBRC/OUAT	1500			
	Root Knot Nematode ( <i>Meloidogyne graminicola</i> )	CARBOSULFAN 25% EC	CIBRC/OUAT	25	2.5 ml/Litre	500	Spray
		CARBOSULFAN 25% EC	CIBRC/OUAT	20ml in 1 litre of water			Seedling Root deep
		CARBOFURAN 3% G	CIBRC/OUAT	1000	33.300 kg		Soil application
		CARBOFURAN 3% G	CIBRC/OUAT	16.5g / sq. mt			Nursery Treatment
		CARTAP HYDROCHLORIDE 4% G	CIBRC/OUAT	1000	25 kg		Soil application



Crop	Common name of the Nematode Disease	NEMATOCIDES RECD BY CIBRC/OUAT		Dosage per ha a.i. (g)	Formulation (g/ml)	Dilution in water (L)	Remarks
TOMATO, BRINJAL & CHILLY	Root Knot Nematode ( <i>Meloidogyne incognita</i> )	CARBOFURAN 3% G	CIBRC/OUAT	0.3g/sq. mt	10 g/sqm		Nursery Treatment
		CARTAP HYDROCHLORIDE 4% G	CIBRC/OUAT	0.3g/sq. mt	7.5 g/ sqm		Nursery Treatment
		CARBOSULFAN 25% EC	CIBRC/OUAT	0.05% (500PPM)	2ml/ltr	500	Seedling Root deep
POINTED GOURD	Root Knot Nematode & Root galling ( <i>Meloidogyne incognita</i> )	CARBOSULFAN 25% EC	CIBRC/OUAT	0.05% ( 500 ppm)	2ml/ltr		Bare root dip of 10days old rooted seedling for 8 hrs.
BANANA	Root Knot Nematode ( <i>Meloidogyne incognita</i> )	CARBOFURAN 3% G	CIBRC/OUAT	0.5g ai/ pit	16.5g/pit		Pit application
		PRESSMUD	CIBRC/OUAT		15 ton/ha (5 kg/pit)		apply 2,4 & 6 months after planting through drip irrigation system
		NEEM OIL CAKE	CIBRC/OUAT		500 gm/pit		
CARNATION & GERBERA	Root-knot nematode ( <i>Meloidogyne incognita</i> )	DAZOMET TECHNICAL	CIBRC/OUAT	30-40	30-40	500	

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SECTION

# CROP AND PEST WISE RECOMMENDATION OF BIO-INSECTICIDES AND BIO-AGENTS

Name of Crop	Name of Insect	Name of the Bio-Insecticides	Dose / ha (Formulation)	Dilution in water (Litres)/ha	Remarks
ARHAR	Pod borer, Plume Moth & Pod Fly	Azadirachtin 0.03% (300 ppm)	CIBRC 2500-5000 ml	500-1000	Neem Oil Based WSP Containing
		<i>Bacillus thuriangiensis</i> var Kurstaki 5% WP	CIBRC 750 g	500-750	Sero Type (3A, 3B, 3C) & Serotype H-39, 3B, Strain Z-55
		NPV of <i>Helicoverpa armigera</i> 2.0% AS	CIBRC 250-500 ml	500-750	Strain no NBRI- 8821 ( 1x10 <sup>8</sup> POB/ml min)
BENGAL GRAM	Pod Borer (Heliothis)	Azadirachtin 0.03% (300 ppm)	CIBRC 2500-5000	500-1000	Neem Oil Based WSP Containing
		<i>Bacillus thuriangiensis</i> var Kurstaki 5% WP	CIBRC 750 g	500-750	Serotype H-3a, 3b, Strain Z-54
	Grampod borer (Helicoverpa armigera)	<i>Bacillus thuriangiensis</i> var Kurstaki 2.5% AS.	CIBRC 1000-1500g	500	(Spicbio-Btk AS)
		<i>Beauveria bassiana</i> 1% WP	CIBRC 3 kg.	500	Strain No: NBRI – 9947 (1x10 <sup>8</sup> CFU/gm min) & Strain No. SVBPU/CSP/Bb-10, Accession No. ITCC-7520
		NPV of <i>Helicoverpa armigera</i> 2.0% AS	CIBRC 250-500 ml	500-750	Strain No. IBH-17268 , & Strain No. BIL/HV-9 POB (1x10 <sup>9</sup> POB/ml)
SUNFLOWER	Capitulum Borer ( <i>Helicoverpa armigera</i> )	NPV of <i>Helicoverpa armigera</i> 2.0% AS	CIBRC 500 ml	500	Strain No. IBH-17268 , & Strain No. BIL/HV-9 POB(1x10 <sup>9</sup> POB/ml)
		<i>Bacillus thuriangiensis</i> var Kurstaki 5% WP	CIBRC 500-750g	500	SEROTYPE H-39, 3B, STRAIN Z-55
COTTON	White fly & Boll worm	Azadirachtin 0.15% W/W Min.	CIBRC 2500-5000 ml	500-1000	Neem Seed Kernel Based E.C.
	Bollworm ( <i>Helicoverpa Armigera</i> ), Aphids	Azadirachtin 0.3% (3000 PPM) Min.	CIBRC 4000 ml	1000	Neem Seed Kernel Based E.C.

Name of Crop	Name of Insect	Name of the Bio-Insecticides		Dose / ha (Formulation)	Dilution in water (Litre)/ha	Remarks
COTTON	Aphids, Jassids, White Flies, Bollworms,	Azadirachtin 0.03% (300 ppm)	CIBRC	2500-5000 ml	500-1000	Neem Oil Based WSP Containing
	White Fly, Leafhoppers, Heliothis, Aphids, Leaf roller	Azadirachtin 5% w/w Min. (50000 PPM)	CIBRC	375 ml	750	Neem Extract Concentrate Containing
	Boll worm Complex	<i>Bacillus thuringiensis</i> var Kurstaki 5% WP	CIBRC	500 - 1000g	500-1000	Serotype H-39, 3B, Strain Z-55
		<i>Beauveria bassiana</i> 1.15% W.P.	CIBRC	400 gm	750-1000	
		<i>Nuclear Polyhedrosis Virus</i> of <i>Helicoverpa armigera</i> 0.43% AS	CIBRC	2700 ml	400-600 L/Ha	(1x10 <sup>9</sup> POB/ml)
		<i>Trichogramma</i> sp	CIBRC	1.5 lakh / ha		Release thrice at weekly interval to facilitate egg parasitism at peak flowering stage.
JUTE	Semi looper, Bihar Hairy caterpillar	Azadirachtin 0.03% (300 ppm)	CIBRC	2500-5000 ml	500-1000	Neem Oil Based WSP Containing
MAIZE	American Cob borer	NPV of <i>Helicoverpa armigera</i> 2.0% AS	CIBRC	500 g	500-1000	
		<i>Bacillus thuringiensis</i> var Kurstaki 5% WP	CIBRC	500-750g	500-1000	Serotype H-39, 3b, Strain Z-55
	FALL ARMY WORM	<i>Beauveria bassiana</i> 1.15% W.P.	OUAT	1000 gm	500	Foliar spray
		Azadirachtin 0.15% W/W Min. (1500ppm)	CIBRC	2500 ml	500	Foliar spray at First Window stage ( seedling to early whorl stage)
		<i>Bacillus thuringiensis</i> var Kurstaki 5% WP	CIBRC	1000 gm	500	Foliar spray
		<i>Nomuraea rileyi</i> rice grain formulation( 1x 10 <sup>8</sup> cfu /g)	CIBRC	1500 gm	500	Whorl application at 15-25 days after sowing. 1-2 sprays may also be given at an interval of 10 days depending on pest damage
	FALL ARMY WORM	<i>Metarhizium anisopliae</i> 1.15% WP	CIBRC	2500 gm	500	Whorl application at 15-25 days after sowing. 1-2 sprays may also be given at an interval of 10 days depending on pest damage
		<i>Trichogramma pretiosum</i> or <i>Telenomus remus</i>	DOE DOC & FW	Augmentative release @ 50,000/ acre at weekly interval or based on trap catch of 3 moths/trap.		

Name of Crop	Name of Insect	Name of the Bio-Insecticides		Dose / ha (Formulation)	Dilution in water (Litre)/ha	Remarks
RAGI	Stem Borer	Azadirachtin 0.15% W/W Min.	CIBRC	1500 – 2500 ml	500	Neem seed kernel based E.C.
PADDY	Thrips, Stem borer, Brown Plant hopper, Leaf folder	Azadirachtin 0.15% W/W Min.	CIBRC	1500 to 2500 ml	500	Neem Seed Kernel Based E.C.
		Azadirachtin 0.03% Min.	CIBRC	2000	1000	Neem Oil Based E.C. Containing
		Azadirachtin 5% w/w Min.	CIBRC	200	400	Neem Extract Concentrate Containing
	Stem Borer	<i>Trichogramma japonicum</i> (Ttricho card)	DOE DOC & FW	Release of 1.5 lakh / ha when egg masses or moths are observed.		
	Leaf folder	<i>Trichogramma chilonis</i> (Ttricho card)	DOE DOC & FW	Release of 1.5 lakh / ha when egg masses or moths are observed.		
	Stem borer & Leaf folder	<i>Bacillus thuringiensis</i> var. Kurstaki, Serotype H-3a, 3b, Strain Z-53	CIBRC	1.50 kg.	500-750	
	Rice leaf folder ( <i>Cnaphalocrossis medinalis</i> )	<i>Beauveria bassiana</i> 1.15% W.P. (1x10 <sup>8</sup> /gm min)	CIBRC	2.5 kg/ha	750-850 L/Ha	StrainBCRL- BBPH-6892 & BB-ICAR-RJP assesession no MCC 1022
	Brown plant hopper (BPH) (Nilapavata lungens)	<i>Metarhizium anisopliae</i> 1.15% WP	CIBRC	2.5 kgs (Formulated)	500 Liters of water	Accession No. MTCC – 5173 (1x10 <sup>8</sup> CFU/gm min)
SUGARCANE	Pyrilla	<i>Metarhizium anisopliae</i> 1.15% WP	CIBRC	2500 gm	500	Foliar spray
		<i>Epiricania melanoleuce</i>	CIBRC	4000-5000 Cacoons / ha		Release during July- August
	Wooly aphid	<i>Micromus igorotus</i>	CIBRC	2000 larvae / ha		Release at 15 days interval from August to October
		<i>Dipha aphidivora</i>	CIBRC	1000 larvae / ha		Release at 15 days interval from August to October
	Early shoot borer	<i>Trichogramma chilonis</i> (Egg parasoid)	DOE DOC & FW	50,000/ha		Release & 10 days interval from July to October
	Stalk / Internode borer	<i>Trichogamma chilonis</i> (Egg parasoid)	DOE DOC & FW	50,000/ha		Release & 7 days interval

Name of Crop	Name of Insect	Name of the Bio-Insecticides		Dose / ha (Formulation)	Dilution in water(Litre)/ ha	Remarks
TOMATO	Aphids, Whitefly, Fruit borer	Azadirachtin 5% w/w Min. Neem Extract Concentrate Containing	CIBRC	200	400	
	Root Knot nematodes ( <i>Meloidogyne incognita</i> .)	Lecanicillium chlamydosporium 1% WP (2x10 <sup>6</sup> CFU/gm min)	CIBRC	20 gm/Kg of Seed	Seed Treatment	Strain – IIHR-VC-3 Accession No – ITCC-6898.
			CIBRC	50 gm/sq.m	Nursery Bed Treatment	
			CIBRC	5 Kg/Ha with enriched FYM 5 tn/Ha	Soil Treatment	
	Fruit borer ( <i>Helicoverpa armigera</i> )	Nuclear Polyhedrosis Virus of <i>Helicoverpa armigera</i> 0.43% AS (1x10 <sup>9</sup> POB/ml)	CIBRC	1500 ml	400-600	Strain No. BIL/HV-9 (1x10 <sup>9</sup> POB/ml)
		NPV of <i>Helicoverpa armigera</i> 2.0% AS Strain No. BIL/HV-9 POB(1x10 <sup>9</sup> POB/ml)	CIBRC	250-500 ml	500	Strain No. BIL/HV-9 (1x10 <sup>9</sup> POB/ml)
BRINJAL	Shoot & Fruit borer, Epilachna beetles	Azadirachtin 0.03% (300 ppm)	CIBRC	2500-5000	500-1000	Neem Oil Based WSP Containing
	Shoot & Fruit borer ( <i>Leucinodes orbonalis</i> )	<i>Metarhizium anisopliae</i> 1.0% WP (1x10 <sup>8</sup> CFU/gm min)	CIBRC	2.5-5.0	500-750	Strain No. IPL/KC/44 (Own R & D Isolate), Accession No. 6895.
	Root Knot nematodes ( <i>Meloidogyne incognita</i> .)	<i>Lecanicillium chlamydosporium</i> 1% WP (2x10 <sup>6</sup> CFU/gm min)	CIBRC	20 gm/Kg of Seed	Seed Treatment	Strain – IIHR-VC-3 Accession No – ITCC-6898.
			CIBRC	50 gm/sq.m	Nursery Bed Treatment	
			CIBRC	5 Kg/Ha with enriched FYM 5 tn/Ha	Soil Treatment	
		<i>Paecilomyces lilacinus</i> 1.15% WP	CIBRC	3kg/Ha with 500 kg organic manure	Soil Treatment	
CABBAGE & CAULIFLOWER	Aphids,DBM, Cabbage - worm, Cabbage - looper	Azadirachtin 0.03% (300 ppm)	CIBRC	2500-5000	500-1000	Neem Oil Based WSP Containing
	Diamond back moth ( <i>Plutella xylostella</i> )	<i>Bacillus thuringiensis</i> Serovar Kurstaki 5% WP	CIBRC	25.00-50.00	500-1000	(3a, 3b, 3c) Potency 55000 su(spodoptra unit based) (5x10 <sup>7</sup> spore/mg)

Name of Crop	Name of Insect	Name of the Bio-Insecticides		Dose / ha (Formulation)	Dilution in water(Litre)/ ha	Remarks
Cabbage & Cauliflower	Diamond back moth ( <i>Plutella xylostella</i> )	<i>Beauveria bassiana</i> 1.15% W.P.	CIBRC	1.1.5 litre/ ha formulation	500-750 litre/ha of water	Strain BCRL, Accession No – BCRL Bbpx-6892(1x10 <sup>8</sup> / spores/ml)
CARROT	Root Knot nematodes ( <i>Meloidogyne incongita.</i> )	<i>Lecanicillium chlamydosporium</i> 1% WP (2x10 <sup>6</sup> CFU/gm min)	CIBRC	20 gm/Kg of Seed	Seed Treatment	(2x10 <sup>6</sup> CFU/gm min) Strain – IIHR-VC-3 Accession No – ITCC-6898.
			CIBRC	50 gm/sq.m	Nursery Bed Treatment	
			CIBRC	5 Kg/Ha with enriched FYM 5 tn/Ha	Soil Treatment	
CAULIFLOWER	Spodoptera, Diamond back moth, Aphids	Azadirachtin 5% w/w Min.	CIBRC	200 ml	400	Neem Extract Concentrate Containing
CITRUS	Mealybugs ( <i>Planococcus citri</i> )	<i>Lecanicillium lecanii</i> 1.15%WP (1x10 <sup>8</sup> CFU/gm min)	CIBRC	2.5 kg	550 litres of water	Strain – AS MEGH- VL Accession No – MCC-1028
OKRA	Fruit borer, White flies, Leaf Hopper	Azadirachtin 0.03% (300 ppm)	CIBRC	2500-5000	500-1000	Neem Oil Based WSP Containing
	Root Knot nematodes ( <i>Meloidogyne incongita.</i> )	<i>Lecanicillium chlamydosporium</i> 1% WP (2x10 <sup>6</sup> CFU/gm min)	CIBRC	20 gm/Kg of Seed	Seed Treatment	(2x10 <sup>6</sup> CFU/gm min) Strain – IIHR-VC-3 Accession No – ITCC-6898.
			CIBRC	50 gm/sq.m	Nursery Bed Treatment	
			CIBRC	5 Kg/Ha with enriched FYM 5 tn/Ha	Soil Treatment	
	Powdery mildew ( <i>Erysiphe cichora- cearum</i> )	<i>Ampelomyces quisqualis</i> 2.0% WP,	CIBRC	2.5 kg	500 liters	Strain No. MTCC- 5683) (CFU Count: 2 x 10 <sup>6</sup> g/min.)
	Leafhopper, whitefly, Aphid, Pod Borer	Azadirachtin 5% w/w Min.	CIBRC	200 ml	400	Neem Extract Concentrate Containing

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## SECTION

# CROP AND PEST WISE RECOMMENDATION OF BIO-FUNGICIDES AND BIO-NEMATICIDES

CROP	Common name of the disease	Recommendation of Bio- Fungicides by CIBRC/ OUAT	Type of Treatment	Dosage as per type of treatment	Remarks
ARHAR	Wilt, Root Rot	<i>Trichoderma viride</i> 1% WP	Seed treatment	10 gm/ kg seed	
BENGAL GRAM	Seedling wilt <i>Fusarium oxysporum</i>	<i>Trichoderma viride</i> 1% WP	Seed treatment	10 gm/ kg seed	
PULSES (COWPEA, BLACK GRAM & GREEN GRAM)	Root rot	<i>Trichoderma viride</i> 1% WP	Seed treatment	10 gm/ kg seed	
GROUND NUT	Stem rot ( <i>Sclerotium rolfsii</i> )	<i>Trichoderma viride</i> 1% WP	Seed treatment	10 gm/ kg seed	
	Late leaf spot	<i>Pseudomonas fluorescens</i> 0.5% WP	Seed treatment	10 gm/ kg seed	(TNAU Strain Accession No. ITCC BE 0005)
	Stem rot ( <i>Sclerotium rolfsii</i> )	<i>Trichoderma viride</i> 1% WP	Seed treatment)	10 gm/ kg seed	
MAIZE	Root rot Fusarium wilt ( <i>Fusarium moniliforme</i> )	<i>Trichoderma harzianum</i> 2.0% WP	Seed treatment:	10 gm/ kg seed	



CROP	Common name of the disease	Recommendation of Bio- Fungicides by CIBRC/ OUAT	Type of Treatment	Dosage as per type of treatment	Remarks
PADDY	Leaf and neck blast ( <i>Pyricularia oryzae</i> )	<i>Pseudomonas fluorescens</i> 0.5% WP	Seed treatment:	10 gm / kg seed	(TNAU Strain Accession No. ITCC BE 0005)
			Foliar spray:	1 kg/ha with 500 ltr water	
	Sheath blight ( <i>Rhizoctonia solani</i> )	<i>Trichoderma viride</i> 1% WP	Foliar spray:	5 gm/litre of water	(Strain T-14 in house isolate of M/s Indore Biotech Inputs & Research (P) Ltd., Indore)
	Bacterial Leaf blight ( <i>Xanthomonas oryzae</i> )	<i>Pseudomonas fluorescens</i> 1.5% WP	Seed treatment	10 gm/kg of seed	(BIL-331 Accession No. MTCC5866)
	White Tip Nematode ( <i>Aphelenchdis besseyi</i> )	<i>Pseudomonas fluorescence</i> 1% WP	Seed treatment	10gm/ kg of seed	
		<i>Trichoderma viride</i> 1% WP	Seed treatment	10gm/ kg of seed	
	Root Knot Nematode ( <i>Meloidogyne graminicola</i> )	<i>Pseudomonas fluorescence</i> 1%WP	Seed treatment	10gm/ kg of seed	
SUNFLOWER	Seed rot <i>Sclerotium rolfsii</i>	<i>Trichoderma viride</i> 1% WP	Seed treatment	6 g/kg seed	
	Powdery mildew	<i>Pseudomonas fluorescens</i> 1.5% WP	Seed treatment	10 gm/kg of seed	
		<i>Pseudomonas fluorescens</i> 1.5% WP	Foliar spray at 60 DAS	10 gm/ litre water	
TOMATO	Wilt ( <i>Fusarium oxysporum</i> F.sp)	<i>Pseudomonas fluorescens</i> 0.5% WP	Seed treatment	10 gm/kg of seeds	(TNAU Strain Accession No. ITCC BE 0005)
	Wilt ( <i>Fusarium oxysporum</i> ), Damping Off ( <i>Pythium aphanid-ermatum</i> ), Root rot ( <i>Rhizoctonia spp.</i> )	<i>Pseudomonas fluorescens</i> 1.0% WP	Seed treatment	5gm/kg of seed	(IPL/PS-01 Accession No. MTCC5727) & (Strain No. IHR-PF-2 Accession No. ITCCB0034)
			Seedling Root Dip Treatment	10gm/litres of water	
			Nursery Bed Treatment	50gm/Sq m	



CROP	Common name of the disease	Recommendation of Bio- Fungicides by CIBRC/ OUAT	Type of Treatment	Dosage as per type of treatment	Remarks
TOMATO	Wilt ( <i>Fusarium Oxysporum</i> )	<i>Trichoderma harzianum</i> 1.0% WP	Seed Treatment & Nursery Bed Treatment	10 gm/ Kg of Seed & 25 gm/Sq m	(Strain No. IIHR-TH-2 Accessions No. ITCC6888)
		<i>Trichoderma viride</i> 1.5% WP	Seed Treatment & Nursery Bed Treatment	10 gm/ Kg of Seed & 25 gm/Sq m	(Strain No. IIHR-TV-5, Accession No. ITCC 6889)
BRINJAL	Wilt ( <i>Fusarium solani</i> )	<i>Pseudomonas fluorescens</i> 1.0% WP	Seed Treatment & Nursery Bed Treatment	10 gm/ Kg of Seed & 25 gm/Sq m	(Strain No. IIHR-PF-2 Accession No. ITCCB0034)
		<i>Trichoderma harzianum</i> 1.0% WP	Seed Treatment & Nursery Bed Treatment	10 gm/ Kg of Seed & 25 gm/Sq m	(Strain No. IIHR-TH-2 Accessions No. ITCC6888)
		<i>Trichoderma viride</i> 1.5% WP	Seed Treatment & Nursery Bed Treatment	10 gm/ Kg of Seed & 25 gm/Sq m	(Strain No. IIHR-TV-5, Accession No. ITCC 6889)
	Root Rot/ Wilt/ Damping off, <i>Rhizoctonia bataticola</i> , <i>Sclerotium rolfsii</i> , <i>Fusarium oxysporum</i> , <i>Rhizoctonia solani</i>	<i>Trichoderma viride</i> 1% WP	Seed treatment:	10 gm/kg seeds	
			Nursery Treatment:	250 gm/50 litre of water/ 400 sq. mt.	
CABBAGE	Root rot/ Collar rot <i>Rhizoctonia solani</i>	<i>Trichoderma viride</i> 1% WP	Seedling Root dip treatment:	10 gm/ litre water	
CARROT	Root rot ( <i>Sclerotium rolfsii</i> )	<i>Pseudomonas fluorescens</i> 1.0% WP	Seed Treatment	10 gm/ kg seed	(Strain No. IIHR-PF-2 Accession No. ITCCB0034)
		<i>Trichoderma harzianum</i> 1.0% WP	Seed Treatment	10 gm/ kg seed	(Strain No. IIHR-TH-2 Accessions No. ITCC6888)

CROP	Common name of the disease	Reccommendation of Bio- Fungicides by CIBRC/ OUAT	Type of Treatment	Dosage as per type of treatment	Remarks
CARROT	Root rot ( <i>Sclerotium rolfsi</i> )	<i>Trichoderma viride</i> 1.5% WP	Seed Treatment	10 gm/kg seed	(Strain No. IIHR-TV-5, Accession No. ITCC 6889)
CAULI-FLOWER	Stalk rot ( <i>Sclerotina sclerotiorum</i> )	<i>Trichoderma viride</i> 1% WP	Seed treatment:	10 gm/kg seed	
CHILLI	Damping off ( <i>Pythium aphanidermatum</i> )	<i>Pseudomonas fluorescens</i> 0.5% WP	Seed treatment	10 gm/kg seed	(TNAU Strain Accession No. ITCC BE 0005)
	Damping off ( <i>Pythium aphanidermatum</i> )	<i>Trichoderma viride</i> 1% WP	Seed treatment	10 gm/kg seed	(TNAU Strain Accession No. ITCC 6914)
COWPEA	Root Rot & Wilt ( <i>Fusarium oxysporum</i> )	<i>Trichoderma viride</i> 1% WP	Seed treatment:	10 gm/kg seed	(TNAU Strain Accession No. ITCC 6914)
OKRA	Wilt ( <i>Fusarium Oxysporum</i> )	<i>Pseudomonas fluorescens</i> 1.0% WP	Seed treatment:	10 gm/kg seed	(Strain No. IIHR-PF-2 Accession No. ITCCB0034)
		<i>Trichoderma harzianum</i> 1.0% WP	Seed Treatment	10 gm/kg seed	(Strain No. IIHR-TH-2 Accessions No. ITCC6888)
		<i>Trichoderma viride</i> 1.5% WP	Seed Treatment	10 gm/kg seed	(Strain No. IIHR-TV-5, Accession No. ITCC 6889)
BANANA	Root knot Nematode ( <i>Meloidogyne incognita</i> )	<i>Pseudomonas fluorescens</i> 1% WP		4 liter/ha	Apply 2,4 & 6 month after planting through drip irrigation system

sd/-

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# CROP WISE RECOMMENDATION OF PLANT GROWTH REGULATORS (PGR)

CROPS	Recommendation of PGR by CIBRC/OUAT		a.i. (ppm/gm/%) / Ha	Formulation (ml/gm/Ltr/kg/%) per Ha	Dilution In Water (Litres) / Preparation of solution	Time of application / purpose	Remarks
COTTON	ALPHA NAPHTHYL ACETIC ACID 4.5% SL (Na SALT)	CIBRC/OUAT	10-20 ppm.	222-444 ml	1000 ltr.	To prevent shedding of flower squares & bolls 3 sprays at 15 days interval from square formation stage	
	GIBBERELIC ACID 0.001%L	CIBRC/OUAT	0.018 gm	180 ml	450-500	a) First spray 40-45 DAS b) Second spray: At the time of ball formation	
	GIBBERELIC ACID 0.186% SP	CIBRC/OUAT	142 ppm.	71 gm	450-500	to improve fibre quality one spray at square formation or early flowering stage	
	MEPIQUAT CHLORIDE 5% AS	CIBRC/OUAT	50-62.5 gm	1.0-1.25 ltr	500-600	single spray at flowering stage to Control of excessive vegetative growth and to increase crop yield in cotton	
	SODIUM PARA-NITROPHENOLATE 0.3% SL	CIBRC/OUAT	0.50%	5ml	800	Flower bud initiated stage and fruit set stage	
	TRIACONTANOL 0.05% EC	CIBRC/OUAT	0.125 gm	0.25ltr	400-500	To increase the yield, Three sprays at 45, 65 and 85 days after planting	
	TRIACONTANOL 0.05%W/W MIN. GR	CIBRC/OUAT	12.5 gm	25 kg.	-	To increase the yield, Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	
	TRIACONTANOL 0.1% EW	CIBRC/OUAT	0.25 gm	0.25 ltr.	400-500	To increase the yield, Three sprays at 45, 65 and 85 days after planting	

CROPS	Reccommendation of PGR by CIBRC/OUAT		a.i. (ppm/gm/ %) / Ha	Formu-lation (ml/ gm/Ltr/kg/%)per Ha	Dilution In Water (Litres) / Preparation of solution	Time of application / purpose	Remarks
COTTON	CHLORMEQUAT CHLORIDE 50% SL	CIBRC/ OUAT	20-40 gm		125-600	Square formation to early flowering – single spray	375- 600(high volume) 125-187 (low volume)
	CHLORMEQUAT CHLORIDE 50% SL	CIBRC/ OUAT	75gm	-	375-600 ltrs .	Square formation to early flowering – single spray	
GROUNDNUT	GIBBERELIC ACID 0.001%L	CIBRC/ OUAT	0.018 gm	180 ml	450-500	a) First spray at flowering (30-35 AS) b) Second spray at the time of flowering	
	TRIACONTANOL 0.05% EC	CIBRC/ OUAT	0.125 gm	0.25 ltr	400-500	Three sprays at 25, 45 and 65 days after planting	
GROUNDNUT	TRIACONTANOL 0.05%W/W MIN. GR	CIBRC/ OUAT	12.5 gm	25 kg.	-	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	
	TRIACONTANOL 0.1% EW	CIBRC/ OUAT	0.25gm	0.25 ltr.	400-500	Three sprays at 25, 45 and 65 days after planting	
PADDY	GIBBERELIC ACID 40% WSG	CIBRC/ OUAT	20-25	50-62.5	500	20-25 days after transplanting Panicle Emergence	
	GIBBERELIC ACID 0.001%L	CIBRC/ OUAT	0.018 gm	180 ml	450-500	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	
	TRIACONTANOL 0.05% EC	CIBRC/ OUAT	0.125 gm	0.25ltr	400-500	Three sprays at 25, 45 and 65 days after transplanting	
	TRIACONTANOL 0.05%W/W MIN. GR	CIBRC/ OUAT	12.5 gm	25 kg.	-	Broadcast & mix the desired quantity of granules in soil 2-3 days before transplanting.	
	TRIACONTANOL 0.1% EW	CIBRC/ OUAT	0.25 gm	0.25 ltr.	400-500	Three sprays at 25, 45 and 65 days after transplanting	

CROPS	Reccommendation of PGR by CIBRC/OUAT		a.i. (ppm/gm/ %) / Ha	Formulation (ml/ gm/Ltr/kg/%) per Ha	Dilution In Water (Litres) / Preparation of solution	Time of application / purpose	Remarks
SUGARCANE	HYDROGEN CYANAMIDE 49% AS (IMPORT)	CIBRC/ OUAT	0.5	1.00%		Dipping of setts	Mix 1000 ml of the product per 100 litres of water
	GIBBERELIC ACID 0.001%L	CIBRC/ OUAT	0.018 gm	180 ml	450-500	a)First spray 40-45 DAP, b)Second spray 70-80 DAS	
TOMATO	ALPHA NAPHTHYL ACETIC ACID 4.5% SL (NA SALT)	CIBRC	45ppm	-	-	At the time of flowering two spray.	
	ETHEPHON 39% SL	CIBRC	2500 ppm	-	-	For uniform ripening post harvest dip treatment on fruits	
	TRIACONTANOL 0.05% EC	CIBRC	0.125 gm	0.25 ltr	400-500	Three sprays at 25, 45 and 65 days after planting	
	TRIACONTANOL 0.05%W/W MIN. GR	CIBRC	12.5 gm	25 kg.	-	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	
	TRIACONTANOL 0.1% EW	CIBRC	0.25 gm	0.25 ltr.	400-500	Three sprays at 25, 45 and 65 days after planting	
CHILLY	ALPHA NAPHTHYL ACETIC ACID 4.5% SL (NA SALT)	CIBRC	10 ppm	-	-	Ist spray during flowering & 2nd spray 20 -30 days later.	
	TRIACONTANOL 0.05% EC	CIBRC	0.125 gm	0.25ltr	400-500	Three sprays at 25, 45 and 65 days after planting	
	TRIACONTANOL 0.05%W/W MIN. GR	CIBRC	12.5 gm	25 kg.	-	Broadcast & mix the desired quantity of granules in soil 2-3 days before sowing.	
	TRIACONTANOL 0.1% EW	CIBRC	0.25 gm	0.25 Ltr.	400-500	Three sprays at 25, 45 and 65 days after planting	
BRINJAL	CHLORMEQUAT CHLORIDE 50% SL	CIBRC	50 ppm		400-500	Before sowing, seed soaking for 24 hours.	

CROPS	Reccommendation of PGR by CIBRC/OUAT		a.i. (ppm/gm/ %) / Ha	Formu-lation (ml/ gm/Ltr/kg/%)per Ha	Dilution In Water (Litres) / Preparation of solution	Time of application / purpose	Remarks
TOMATO / POTATO / CABBAGE / CAULIFLOWER	GIBBERELLIC ACID 0.001%L	CIBRC	0.018 gm	180 ml.	450-500	a) First spray 45 DAS b) Second spray 65 DAS	
BRINJAL/ BHINDI	GIBBERELLIC ACID 0.001%L	CIBRC	0.045 gm	450 ml.	450-500	a)First spray 34 DAP b)Second spray 70 DAP	
POTATO	CHLORMEQUAT CHLORIDE 50% SL	CIBRC	100 ppm.			Dipping of cut pieces for 10 minutes	
	CHLORPROPHAM 50% HN	CIBRC	18-20 gm/mt	36-40 ml/mt		Antisprouting agent for stocked potatoes under cold storage condition Temp= 10+2oC, R.H.= 90+5%	Formu- lation is to be applied as such with fogging applicator
	TRIACONTANOL 0.05% EC	CIBRC	0.250 gm	0.50 ltr	500-600	Two sprays at 30 and 45 days after planting	
	MEPIQUAT CHLORIDE 5% AS	CIBRC	62.5- 75gm	1.25- 1.5Ltr	Mix 200 -300 ml of products in 10 ltrs of water.	One spray 45 DAP To restrict the excessive vegetative growth of potato and increasing its yield	
MANGO	ALPHA NAPHTHYL ACETIC ACID 4.5% SL (NA SALT)	CIBRC	20 ppm	2 ml in 4.5litre.	500-1000	Ist spray when tender fruits one of pea size. 2 <sup>nd</sup> spray when fruits one of marble size( about 2 cm diameter)	
	ALPHA NAPHTHYL ACETIC ACID 4.5% SL (NA SALT)	CIBRC	200ppm	20 ml in 4.5 ltrs.	500-1000	To control Mango malformation- Before fruit bud differentiations approx.3 months before flowering	

CROPS	Reccommendation of PGR by CIBRC/OUAT		a.i. (ppm/gm/%) / Ha	Formulation (ml/gm/Ltr/kg/%) per Ha	Dilution In Water (Litres) / Preparation of solution	Time of application / purpose	Remarks
MANGO	ETHEPHON 39% SL	CIBRC	200ppm			a) for breaking alternate bearing and to increase yield Total 5 sprays, 1st spray in mid October or early November & Subsequent sprays at fortnightly interval	
		CIBRC	1000 ppm			b) for flower induction in juvenile mango Total 5 sprays at weekly interval commencing from early November.	
		CIBRC	500ppm			(c) Post harvest treatment for uniform ripening Single dip treatment or spraying on physiologically matured fruits.	
PINEAPPLE	ALPHA NAPHTHYL ACETIC ACID 4.5% SL (NA SALT)	CIBRC	10ppm (In dry weather half strength solution i.e. 5 ppm may be used)	1 ml in 4.5 ltrs (pour 30-50 ml of solution in to the head of each plant)		(a) To induce flowering and uniform growth	
				10 ml in 4.5 ltrs. (spray to wet the whole plant)			
			199 ppm	10 ml in 4.5 ltrs. (Wet the whole fruit 2 weeks before harvest.)		(b) To increase fruit size.	
			100ppm			To delay maturity - Two weeks before harvest.	
	ETHEPHON 39% SL	CIBRC	100ppm			For flower induction	
POME-GRANATE	ETHEPHON 39% SL	CIBRC	390-487.5 gm	1000-1250 ml	500 ltr	Defoliation for better flowering and fruit yield (One spray around 1 month before Mrig bahar (Jun-July)/ Hast bahar (Oct.-Nov) / Ambe bahar (Dec-Jan)	
BANANA	GIBBERELIC ACID 0.001%L	CIBRC	0.027 gm	270 ml.	450-500	a) First spray 3 <sup>rd</sup> month, b) Second spray 5 <sup>th</sup> month, c) Third spray at the time of fruit formation	

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SECTION

# CROP WISE RECOMMENDATION OF MICRONUTRIENTS

Name of the Crop	Name of Micronutrients	Dose of application	Formulation (in Ha)	Time & Method of application
<b>RICE</b>	<b>SULPHUR(95 % S)</b>	20 kg S/ha	21 kg/ha	Soil application as basal
	<b>GYPSUM(15 % S)</b>		133 Kg / ha	Soil application as basal
	<b>ZINC SULPHATE (21% Zn)</b>	5kg Zn/ha	24kg/ha	Soil application as basal
	<b>BORAX (10.5% B)</b>	1 kg B/ha	10 kg / ha	Soil application as basal
<b>MAIZE</b>	<b>GYPSUM (15% S)</b>	30kg S/ha	200 kg/ha	Soil application as basal
<b>BLACKGRAM/ GREEN GRAM / BENGAL GRAM</b>	<b>ZINC SULPHATE (21% Zn)</b>	2.5 kg Zn/ha	12 kg / ha	Soil application as basal
	<b>BORAX (10.5% B)</b>	1 kg B/ha	10 kg / ha	Soil application as basal
		0.03%B	3gm/ Litre	two spraying at 20 & 40 days after sowing.
	<b>SODIUM MOLYBDATE (39%MO)</b>	10 gm sod. molybdate / 25kg seed		Seed treatment with slurry of Rhizobium culture
	<b>GYPSUM (15% S)</b>	30 kg S/ha	200 kg/ha	Soil application as basal
<b>GROUNDNUT</b>	<b>GYPSUM (15% S)</b>	45 kg S/ha	300 kg/ha	Soil application as basal
	<b>PHOSPHOGYPSUM(17% S)</b>	45 kg S/ha	265 kg/ha	Soil application as basal
	<b>ZINC SULPHATE (21% Zn)</b>	2.5-5.0 kg Zn/ha	12 - 24 kg / ha	Soil application of Zn @ 5kg /ha as basal or soil application of 2.5 kg Zn/ha as basal+2 sprays @ 0.1% Zn at 20 & 40 DAS



Name of the Crop	Name of Micronutrients	Dose of application	Formulation (in Ha)	Time & Method of application
<b>GROUNDNUT</b>	<b>BORAX(10.5 %B)</b>	0.50 to 1.0 kg B/ha	5 - 10 Kg / Ha	Soil application as basal
	<b>SODIUM MOLYBDATE (39%MO)</b>	10 gm sod. molybdate / 25kg seed		Seed treatment with slurry of Rhizobium culture
<b>OTHER PULSES</b>	<b>GYPSUM(15 % S)</b>	30 kg S/ha	200 kg/ha	Soil application as basal
	<b>SODIUM MOLYBDATE (39%MO)</b>	10 gm sod. molybdate / 25kg seed		Seed treatment with slurry of Rhizobium culture
	<b>BORAX (10.5% B)</b>	1 kg B/ha	10 kg / ha	Soil application as basal
		0.03%B	3gm/ Litre	two spraying at 20 & 40 days after sowing.
<b>MUSTARD &amp; TORIA</b>	<b>GYPSUM(15 % S)</b>	45 kg S/ha	300 kg/ha	Soil application as basal
	<b>ZINC SULPHATE (21% Zn)</b>	2.5 kg Zn/ha	12 kg / ha	Soil application as basal for mustard
		5 kg Zn/ha	24 kg / ha,	Soil application as basal for Toria
	<b>BORAX(10.5 %B)</b>	1kg B/ha	10 kg/ha,	Soil application as basal
<b>SESAMUM</b>	<b>ZINC SULPHATE (21% Zn)</b>	2.5 kg Zn / ha	12 kg / ha	Soil application as basal
<b>SUGARCANE</b>	<b>ZINC SULPHATE (21% Zn)</b>	5 kg Zn/ha	24 kg / ha,	Soil application as basal
	<b>BORAX (10.5%B)</b>	1kg B/ha	10 kg/ha,	Soil application as basal
<b>ONION</b>	<b>ZINC SULPHATE (21 % Zn)</b>	2.5 kg Zn/ha	12 Kg /ha	Soil application as basal
	<b>GYPSUM (15 % S)</b>	45 kg S/ha	300 Kg/ ha	Soil application as basal
<b>COLE CROPS (CABBAGE, CAULIFLOWER, KNOLKHOL, BROCOLI ETC.)</b>	<b>BORAX(10.5 %B)</b>	1kg B/ha	10 kg/ha,	Soil application as basal
		0.03 % B	3gm/ Litre	Foliar spray at 30 DAT for short duration and at 30 & 50 DAT for long duration crops
	<b>ZINC SULPHATE (21% Zn)</b>	2.5-5.0 kg Zn/ha	12 - 24 Kg /ha	Soil application of Zn @ 5kg /ha as basal or soil application of 2.5 kg Zn/ha as basal+2 sprays @ 0.1% Zn at 20 & 40 DAS
	<b>GYPSUM (15%S)</b>	30 kg S/ha	200 Kg/ ha	Soil application as basal
<b>FIELD PEA</b>	<b>ZINC SULPHATE (21% Zn)</b>	2.5 kg Zn/ha	12 Kg /ha	Soil application along with 200 kg FYM/ha

Name of the Crop	Name of Micronutrients	Dose of application	Formulation (in Ha)	Time & Method of application
<b>FIELD PEA</b>	<b>BORAX (10.5%B)</b>	1kg B/ha	10 kg/ha,	Soil application as basal
	<b>SODIUM MOLYBDATE (39%MO)</b>	10g sod. molybdate/ 25kg seed		Seed treatment with slurry of Rhizobium culture
<b>POTATO</b>	<b>ZINC SULPHATE (21 % Zn)</b>	5 kg Zn/ha	24 Kg /ha	Soil application as basal
	<b>GYPSUM (15 % S)</b>	45-60 kg S/ ha	300 - 400 Kg/ ha	Soil application as basal
<b>TOMATO</b>	<b>ZINC SULPHATE (21% Zn)</b>	2.5-5.0 kg Zn/ha	12 - 24 Kg /ha	Soil and at 30 & 50 DAT for long duration
	<b>BORAX(10.5 %B)</b>	0.5-1.0 kg B/ha	5- 10 kg/ ha,	Soil application of B @ 1kg B/ha as basal or 0.5 kg B/ha
		0.03%B	3gm/ Litre	Two foliar sprays @ 0.03% B at 20 days interval starting from 30 days after sowing.
<b>VEGETABLES (Others)</b>	<b>GYPSUM(15 % S)</b>	30 kg S/ha	200 Kg /ha	Soil application as basal
<b>COCONUT</b>	<b>BORAX(10.5 %B)</b>	5 gm B/plant	50 gm / Plant	Soil application 1 year to 5 years old or less coconut plant
		10 gm B/ plant	100 gm/ plant	Soil application above 5 years old coconut plant

Secondary Nutrients & Micronutrients should be applied to the deficient soil on the basis of soil test Report avoiding multi micronutrient sources.

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# CROP WISE RECOMMENDATION OF BIO-FERTILIZERS & ORGANIC FERTILIZERS

Crop	Name of Bio-Fertilizers	Dosage per ha (kg/ml)	Time & Method of application		Remarks
			Seed	Soil	
PADDY (UPLAND)	CONSORTIA OF AZOSPIRILLIUM + PSB (CARRIER BASED)	12 kg	Coating of 200 gm for 10-12 kg of seeds for nursery	Inoculation of microbes to limed (5%) vermicompost/ FYM in 1: 25 ratio, incubate it for 7 days at 30% moisture. Apply to upland and direct sown crop.	Soil application
	CONSORTIA OF AZOSPIRILLIUM + PSB (LIQUID)	10 L	Soaking with 100 ml mixed with 2 lit of water for 10-12 kg of seeds for nursery		Soil application
LOW LAND or MEDIUM LAND PADDY	BLUE GREEN ALGAE	10 kg/ha	Dry BGA to broadcast 5-7 DAT at 3-5 cm standing water		
	AZOLLA	One ton fresh azolla/ha	As green manure 15 days prior to transplanting @ 1 ton fresh azolla/ ha as main crop or as intercrop with rice.		
MAIZE	CONSORTIA OF AZOTOBACTER + PSB (CARRIER BASED)	12kg	200g for 10-12 kg seed	Inoculation of microbes to limed (5%) vermicompost/ FYM in 1: 25 ratio, incubate it for 7 days at 30% moisture.	
	CONSORTIA OF AZOTOBACTER + PSB (LIQUID)	10 L	Soaking with 100 ml mixed with 2 lit of water for 10-12 kg of seeds		

Crop	Name of Bio-Fertilizers	Dosage per ha (kg/ml)	Time & Method of application		Remarks
			Seed	Soil	
RAGI	CONSORTIA OF AZOTOBACTER + PSB (CARRIER BASED)	12kg	-	Inoculation of microbes to limed (5%) vermicompost/ FYM in 1: 25 ratio, incubate it for 7 days at 30% moisture.	
	CONSORTIA OF AZOTOBACTER + PSB (LIQUID)	10 L			
ARHAR, BIRI, MUNG, BENGAL GRAM, GROUNDNUT	RHIZOBIUM (POWDER)	500g/25kg of seed	Coating of 500g/25kg Rhizobium and drying under shade	Inoculation of 4kg/3.5 L PSB with 100 kg FYM/ vermicompost incubating at room temperature for 7 days at 30% moisture and applying at the time of sowing.	1. At the time of sowing. 2. Seed Inoculation & Sowing in cool hour (afternoon hours)
	RHIZOBIUM( LIQUID)	250ml/ 25kg of seed			
	PSB (POWDER)	4kg			
	PSB( LIQUID)	3.5L			
OILSEEDS (Mustard, Sunflower, Sesamum)	CONSORTIA OF AZOTOBACTER + PSB (CARRIER BASED)	12kg		Inoculation of microbes to limed (5 %)vermicompost/ FYM in 1: 25 ratio, incubate it for 7 days at 30 % moisture	Rhizosperic application at the time planting/ Sowing
	CONSORTIA OF AZOTOBACTER + PSB (LIQUID)	10 L			
COTTON	CONSORTIA OF AZOTOBACTER + PSB (CARRIER BASED)	12kg		Inoculation of microbes to limed (5 %)vermicompost/ FYM in 1: 25 ratio, incubate it for 7 days at 30 % moisture	Rhizosperic application at the time planting / sowing
	CONSORTIA OF AZOTOBACTER + PSB (LIQUID)	10 L			
SUGARCANE	CONSORTIA OF AZOTOBACTER + PSB (CARRIER BASED)	12kg	2kg for setts dipping treatment	10 kg for main field treatment with FYM/ Compost at 30% moisture	for Adsali crop (18 months) another dose may be top dressed with organic manure
	CONSORTIA OF AZOTOBACTER + PSB (LIQUID)	10 L	2.0 L foe setts dipping treatment	8L for main field treatments with FYM/Compost at 30% moisture	
JUTE	CONSORTIA OF AZOTOBACTER + PSB (CARRIER BASED)	12kg	-	Inoculation of microbes to limed (5%) vermicompost/ FYM in 1: 25 ratio, incubate it for 7 days at 30% moisture.	

Crop	Name of Bio-Fertilizers	Dosage per ha (kg/ml)	Time & Method of application		Remarks
			Seed	Soil	
JUTE	CONSORTIA OF AZOTOBACTER + PSB (LIQUID)	10 L		Inoculation of microbes to limed (5%) vermicompost/ FYM in 1: 25 ratio, incubate it for 7 days at 30% moisture.	
	MICROBIAL CONSORTIUM (Talc based retting consortium made up of pectinolytic bacteria having xylanase activity without any cellulase activity which facilitates the jute retting process)	20-25 Kg	Apply talc based retting formulation to the bundles of jute bundles of jute plants before immersing in to the water for retting After application of the formulation on the Jute plants, Sand bags should be used as jak for immersing the bundles.		
VEGETABLES	CONSORTIA OF AZOTOBACTER + PSB (CARRIER BASED)	12kg	2 kg Rhizospheric application at the time nursery sowing	10kg/8L for main field. Inoculation of microbes to limed (5%) vermicompost/ FYM in 1: 25 ratio, incubate it for 7 days at 30% moisture.	Seedling root dip may also be done.
	CONSORTIA OF AZOTOBACTER + PSB (LIQUID)	10L	2L for nursery sowing		
	VERMICOMPOST/ CITY COMPOST/ PRESS MUD/ ORGANIC MANURE	2.5 ton/ha	-	Rhizospheric application at the time of planting.	Soil application
	MYCORRHIZA	12.5 kg/ha	-	Mixed with 500 kg compost	Soil application
FLOWERS	CONSORTIA OF AZOTOBACTER + PSB (CARRIER BASED)	12kg		100-200g per pot. Inoculation of microbes to limed (5%) vermicompost /FYM in 1: 25 ratio, incubate it for 7 days at 30% moisture.	
	CONSORTIA OF AZOTOBACTER + PSB (LIQUID)	10 L			

Crop	Name of Bio-Fertilizers	Dosage per ha (kg/ml)	Time & Method of application		Remarks
			Seed	Soil	
<b>FRUIT CROPS/ PLANTATION CROP</b>	<b>CONSORTIA OF AZOTOBACTER + PSB (CARRIER BASED)</b>	12 kg	Rhizospheric application at the time of planting/sowing	Inoculation of microbes (1:1:1) to limed (5%) vermicompost/ FYM in 1: 25 ratio, incubate it for 7 days at 30% moisture.	Soil application
			200-500g per plant or pit		
	<b>MYCORRHIZA (VAM)</b>	50-100 g of mycorrhizal inoculums per plant or pit			
	<b>VERMICOMPOST/ CITY COMPOST/ PRESS MUD / ORGANIC MANURE</b>	2-5 kg/ plant/year			Soil application

**Sd/-**  
 PROFESSOR AND HEAD  
 Department of Soil Science  
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Sl no	Item	Specification	Quantity
1	Sweep net	Steel ring 5 mm thickness 37.5 cm diameter with 37.5 cm flap & 60 cm long conical bag made of markin cloth and a sturdy 1m. Long handle of 2.5 cm diameter. Ring cover flap made of jeans cloth	1
2	Hand Lens -(10 X)	Steel framed Box ( Folded)	1
3	Brush	Camel Hair No. 3	1
4	Watch glass	7.5cm diameter	1
5	Plastic vials	7.5 cm x 2.5cm with lid	5
6	Dissecting needle	with plastic handle	1
7	Poly Bag	30 X 20 cm	10
8	Rubber Band	( 2.5 cm diameter)	20
9	Note pad/ Writing pad	20 X 13 cm & 40 pages	1
10	Ball pen	15 cm with cap	1
11	Cello tap	1.5 X 9 mtr	1
12	Drawing/ Sketch pen	Blue and Red	2
13	IPM Cap	Front cover 7.5 cm length , 16.5 cm diameter, 17.5 cm elastic trap and tight & loose system with National IPM emblem embrassing.	1
14	IPM Kit Bag	Made of Jean cloth 35 cm X 30 cm having 5 cm depth and with 90cm shoulder sling with National IPM emblem embrassing	1
15	Drawing Sheet / Art paper	Full size (75 cm X 55 cm)	2
16	Gum Boot	-	01 pair
17	Apron	-	1
18	Hand Gloves	-	01 pair
19	Goggle	-	1

Sd/-

PLANT PROTECTION OFFICER  
Central Integrated Pest Management Centre  
Odisha, Bhubaneswar

# CROP WISE RECOMMENDATION OF TRAPS & LURES

Crop	Target Pest	Name of Traps & Lures	Nos. Per Ha	Time of Application/ Installation
PADDY	YSB-Scirpophaga incertulas	PHEROMONE TRAP	20	20 DAT/30 DAS (replace lure after 3 weeks)
		SCIRPO LURE		
		LIGHT TRAP	1	Vegetative stage, 6PM to 9PM
	Leaf Folder, <i>Cnaphalocrosis medinalis</i>	PHEROMONE TRAP	20	20 DAT/30 DAS ( replace lure after 3 weeks)
		CNAPHALO LURE		
		LIGHT TRAP	1	Vegetative stage, 6PM to 9PM
	Rice Ear cutting caterpillar, <i>Mythimna separata</i>	PHEROMONE TRAP	20	20 DAT/30 DAS ( replace lure after 3 weeks)
		MYTHIMNA LURE		
		LIGHT TRAP	1	Vegetative stage, 6PM to 9PM
MAIZE	Pink stem borer, <i>Sesamia inferens</i>	PHEROMONE TRAP	20	20 DAT/30 DAS (replace lure after 3 weeks)
		SESAMIA INFERENS LURE		
	Army worm, <i>Mythimna separata</i>	PHEROMONE TRAP	20	20 DAT/30 DAS (replace lure after 3 weeks)
		MYTHIMNA LURE		
	Fall Army Worm, <i>Spodoptera frugiperda</i>	PHEROMONE TRAP	20	20 DAT/30 DAS (replace lure after 3 weeks)
		SPODO LURE		
	Hairy caterpillar, <i>Amsacta albistriga</i>	LIGHT TRAP	2-3	Vegetative stage, 6PM to 9PM
ARHAR/ RED GRAM	Gram Pod borer, <i>Helicoverpa armigera</i>	PHEROMONE TRAP	20	Just before flowering (replace lure after 3 weeks)
		HELI LURE		
	Spotted pod borer, <i>Maruca vitrata</i>	PHEROMONE TRAP	20	Just before flowering (replace lure after 3 weeks)
		MARUCA LURE		
	Bihar hairy caterpillar, <i>Spilosoma obliqua</i>	LIGHT TRAP	2-3	Vegetative stage, 6PM to 9PM
	Red hairy caterpillar, <i>Amsacta moori</i> / <i>A. albistriga</i>	LIGHT TRAP	2-3	Vegetative stage, 6PM to 9PM
	Aphids/ White fly	YELLOW STICKY TRAP	20	Vegetative stage
	Thrips	BLUE STICKY TRAP	20	Vegetative stage



Crop	Target Pest	Name of Traps & Lures	Nos. Per Ha	Time of Application/ Installation
<b>BLACK GRAM/ GREEN GRAM</b>	Gram Podborer ( <i>Helicoverpa armigera</i> )	PHEROMONE TRAP	20	Vegetative stage (replace lure after 3 weeks)
		HELI LURE		
	Spotted podborer, ( <i>Maruca vitrata</i> )	PHEROMONE TRAP	20	Vegetative stage (replace lure after 3 weeks)
		MARUCA LURE		
	Bihar hairy caterpillar, ( <i>Spilosoma obliqua</i> )	LIGHT TRAP	2-3	Vegetative stage, 6PM to 9PM
	Aphids/ Jassids/ White fly	YELLOW STICKY TRAP	20	Vegetative stage
	Thrips	BLUE STICKY TRAP	20	Vegetative stage
<b>BENGAL GRAM</b>	Gram Podborer ( <i>Helicoverpa armigera</i> )	PHEROMONE TRAP	20	Vegetative stage ( replace lure after 3 weeks)
		HELI LURE		
	Tobacco caterpillar ( <i>Spodoptera litura</i> )	PHEROMONE TRAP	20	Vegetative stage ( replace lure after 3 weeks)
		SPODO LURE		
	Aphids	YELLOW STICKY TRAP	20	Vegetative stage
<b>GROUND NUT</b>	Gram Podborer ( <i>Helicoverpa armigera</i> )	PHEROMONE TRAP	20	Vegetative stage (replace lure after 3 weeks)
		HELI LURE		
	Tobacco caterpillar ( <i>Spodoptera litura</i> )	PHEROMONE TRAP	20	Vegetative stage (replace lure after 3 weeks)
		SPODO LURE		
	Leaf miner ( <i>Aproaema modicella</i> )	PHEROMONE TRAP/DELTA	20	Vegetative stage (replace lure after 3 weeks)
		APROAREMA LURE		
	Bihar hairy caterpillar ( <i>Spilosoma obliqua</i> ), Red hairy caterpillar ( <i>Amsacta moori</i> / <i>A. albistriga</i> )	LIGHT TRAP	2-3	Vegetative stage, 6PM to 9PM
	Aphids, Jassids	YELLOW STICKY TRAP	20	Vegetative stage
	Thrips	BLUE STICKY TRAP	20	Vegetative stage
<b>MUSTARD</b>	Mustard aphid ( <i>Lipaphis erysimi</i> )	YELLOW STICKY TRAP	20	Vegetative/Flowering stage
	Bihar hairy caterpillar ( <i>Spilosoma obliqua</i> )	LIGHT TRAP	2-3	Vegetative stage, 6PM to 9PM

Crop	Target Pest	Name of Traps & Lures	Nos. Per Ha	Time of Application/ Installation
COTTON	Pink boll worm ( <i>Pectinophora gossypiella</i> )	PHEROMONE TRAP	20	Vegetative-flowering stage (replace lure after 3 weeks)
		PECTINO LURE		
	American boll worm ( <i>Helicoverpa armigera</i> )	PHEROMONE TRAP	20	Vegetative-flowering stage (replace lure after 3 weeks)
		HELI LURE		
	Tobacco caterpillar ( <i>Spodoptera litura</i> )	PHEROMONE TRAP	20	Vegetative-flowering stage (replace lure after 3 weeks)
		SPODO LURE		
	Spiny boll worm ( <i>Earias insulana</i> )	PHEROMONE TRAP	20	Vegetative-flowering stage (replace lure after 3 weeks)
		INSULANA LURE		
SUGARCANE	Early Shoot borer ( <i>Chilo infuscatellus</i> )	PHEROMONE TRAP	20	Vegetative stage ( replace lure after 3 weeks)
		INFUSCATELLUS LURE		
	Internode borer ( <i>Chilo sacchariphagus indicus</i> )	PHEROMONE TRAP	20	Grand growth stage ( replace lure after 3 weeks)
		INDICUS LURE		
	Top shoot borer ( <i>Scirpophaga novella/excerptalis</i> )	PHEROMONE TRAP	20	Cane formation stage ( replace lure after 3 weeks))
		NOVELLA/ EXCERPTALIS LURE		
	Pink stem borer ( <i>Sesamia inferens</i> )	PHEROMONE TRAP	20	Grand growth stage ( replace lure after 3 weeks)
		SESAMIA INFERENS LURE		
	Stalk borer ( <i>Chilo auricilius</i> )	PHEROMONE TRAP	20	Grand growth stage ( replace lure after 3 weeks)
		AURICILIUS LURE		
BRINJAL	Brinjal fruit and shoot borer ( <i>Leucinodes orbonalis</i> )	PHEROMONE TRAP/ WATA TRAP	20	Vegetative stage, Replace lure after 3weeks
		LEUCI LURE		
	Aphids,Jassids, White fly	YELLOW STICKY TRAP	20	Vegetative stage

Crop	Target Pest	Name of Traps & Lures	Nos. Per Ha	Time of Application/ Installation
TOMATO	Fruit borer ( <i>Helicoverpa armigera</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		HELI LURE		
	Tobacco caterpillar ( <i>Spodoptera litura</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		SPODO LURE		
	Tomato leaf miner ( <i>Tuta absoluta</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		ABSOLUTA LURE		
OKRA	Shoot and fruit borer( <i>Earias vitelia</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		VITTELLA LURE		
	Shoot and fruit borer ( <i>Earias insulana</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		INSULANA LURE		
	Fruit borer ( <i>Helicoverpa armigera</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		HELI LURE		
CHILLI	Fruit borer ( <i>Helicoverpa armigera</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		HELI LURE		
	Tobacco caterpillar ( <i>Spodoptera litura</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		SPODO LURE		
	Thrips	BLUE STICKY TRAP	20	Vegetative stage
COLE CROPS	Diamond back moth ( <i>Plutella xylostella</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		PLUTELLA LURE		
	Tobacco caterpillar ( <i>Spodoptera litura</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		SPODO LURE		
	Aphids,Jassids	YELLOW STICKY TRAP	20	Vegetative stage
CUCURBITS	Cucurbit fruit fly ( <i>Bactrocera cucurbitae</i> )	FRUIT FLY TRAP	8	Vegetative stage (Replace lure after 3weeks)
		CUCURBITAE LURE		
	Pumpkin leaf caterpillar ( <i>Diaphania indica</i> )	PHEROMONE TRAP	20	Vegetative stage (Replace lure after 3weeks)
		DIAPHANIA LURE		
	Serpentine leaf miner ( <i>Liriomyza trifolii</i> )	YELLOW STICKY TRAP	20	Vegetative stage

Crop	Target Pest	Name of Traps & Lures	Nos. Per Ha	Time of Application/ Installation
FRUITS	Oriental fruit fly ( <i>Bactrocera dorsalis</i> )	FRUIT FLY TRAP	8-10	Just before flowering, Replace lure every 3 months
		DORSALIS LURE		
COCONUT	Rhinoceros Beetle ( <i>Oryctes rhinoceros</i> )	COCO TRAP	2	Any stage of tree & Replace lure every 3 months
		ORYCTES RHINOCEROS LURE		
		LIGHT TRAP	2-3	Set up light traps following the first rains in summer and monsoon period to attract and kill the adult beetles
	Red Palm weevil ( <i>Rhynchophorus ferrugineus</i> )	COCO TRAP	2	Any stage of tree & Replace lure every 3 months
		RHYNCHOPHORUS FERRUGINEUS LURE		
	Black headed caterpillar ( <i>Opisina arenosella</i> )	PHEROMONE TRAP	20	Any stage of tree & Replace lure every 3 months
		OPISINA LURE		

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# ABBREVIATIONS

CG	Encapsulated Granule
CHES	Central Horticulture Experiment Station
CIBRC	Central Insecticide Board and Registration Committee
CS	Capsule Suspension
D	Dust
DOE, DAC & DW	Directorate of Extension, Director of Agriculture & Farmer Welfare, Govt. of India
DP	Dustable Powder
DS	Powder for Dry Seed
EC	Emulsifiable Concentrate
ES	Emulsion for Seed Treatment
EW	Emulsion Oil in Water
FS	Flowable Concentrate for Seed Treatment
GB	Granular Bait
GR	Granule
NRCL	National Regional Center for Litchi
OD	Oil Dispersion
OUAT	Orissa University of Agriculture and Technology
SC	Suspension Concentrate
SE	Suspension Emulsion
SG	Suspension Granules
SL	Soluble Concentrate
SP	Water soluble Powder
WDG	Water Dispersible Granules
WG	Water Dispersible Granules
WP	Wettable Powder
WS	Water Dispersible Solution
WT	Water Dispersible Tablets
ZC	Mix formulation of CS & SC
ZE	Mix formulation of CS & SE
ZW	Mix formulation of CS & EW



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