



# Plant Protection Booklet



**IFFCO-MC Crop Science**



## IFFCO-MC Crop Science Private Ltd.

Incorporated on 28<sup>th</sup> August 2015, IFFCO-MC Crop Science Pvt. Ltd (IFFCO-MC) is a joint venture between Indian Farmers Fertiliser Cooperative Limited (IFFCO) and Mitsubishi Corporation, Japan.

Crop protection being a significant component of crop productivity management, educating farmers on use of right type of pesticide, right dosage, right method and right time of application has always been at the forefront of IFFCO-MC's endeavour. IFFCO-MC provides quality agrochemicals at a reasonable price to the farmers even in remote and far flung areas of the country.

IFFCO-MC products are sold at the price printed on the pack. This practice is transparent, farmer centric and unique in the Agro-chemical industry which ensures availability of Agro-chemicals to farmers at fixed and right price.

IFFCO-MC products are available in Societies, Farmer Service Centers & IFFCO Bazar Outlets. These are also available online through IFFCO Bazar Portal at [www.iffcobazar.in](http://www.iffcobazar.in) where one can order products without any delivery charges.

For the benefit of farmers, IFFCO-MC has a novel accidental insurance scheme named "Kisan Suraksha Bima Yojana". This scheme is unique in the agrochemical industry and provides free accidental insurance coverage to farmers in the event of loss of life or disability.

IFFCO-MC Crop Science



## Our Vision & Mission

### **Vision:**

"To enhance farmer income by providing good quality crop protection products at reasonable prices."

### **Mission:**

- To develop a channel for farmers to access genuine products and knowledge with focus on safety, health and environment.
- To identify and provide new generation crop protection products for farmers.
- To enrich knowledge base of employees and provide open and congenial work environment for their development.



**IFFCO-MC Crop Science**

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CROP SCIENCE

(A Joint Venture of  &  Mitsubishi Corporation)



**IFFCO-MC Crop Science**



# INSECTICIDES



**IFFCO-MC Crop Science**



## EGAO™

(EMAMECTIN BENZOATE 5% SG)

### STOMACH & CONTACT INSECTICIDE

- EGAO belongs to avermectin group of insecticides.
- EGAO is recommended on various crops for control of Caterpillars and Thrips.
- EGAO is primarily a stomach insecticide also having trans-laminar movement. After ingestion and contact on insects stops feeding within 2 hours and dies after 2 to 4 days.
- EGAO enters nervous system and paralyze the insect body by muscles contractions. Insect dies due to paralysis and starvation
- EGAO is most effective as stomach poison hence proper spray coverage is must.
- EGAO is highly effective for controlling all stages of larva and on resistant pest species.



1

Packing: 10g, 50g, 100g, 250g, 500g, 1kg

## EGAO™

- ✓ EGAO is a water soluble granular insecticide formulation used at very low dose.
- ✓ EGAO is also compatible to all other insecticides.
- ✓ EGAO is very safe product for environment and beneficial insects.
- ✓ EGAO also having ovicidal action and best for the IPM practices.
- ✓ EGAO has strong translaminar action and has ability to kills hidden pest under surface of the leaves.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage /Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (liters)	
Grapes	Thrips	88	200-400	5
Red gram	Pod borer	88	200-300	14
Cotton	Bollworms	76-88	200	10
Chickpea	Pod borer	88	200	14
Tea	Tea looper	80	200	1
Cabbage	Diamond back moth	60-80	200	3
Brinjal	Fruit & Shoot Borer	80	200	3
Okra	Fruit & Shoot Borer	54-68	200	5
Chilli	Fruit borer, Thrips & Mites	80	200	3



Diamond Back Moth



Pink Bollworms



Helicoverpa Spp.



Spodoptera Spp.



Thrips

## HAMADA™

(BIFENTHRIN 10% EC)

### CONTACT AND STOMACH INSECTICIDE

- **HAMADA** is belonging to new generation of Pyrethroid chemistry. It is a Type-1 pyrethroid.
- **HAMADA** recommended on Bollworm, Sucking pest and White fly in Cotton, Leaf folder, Green leaf hopper & Stem borer in Rice and Termite in Sugarcane.
- **HAMADA** has strong contact and stomach action.
- **HAMADA** act on nervous system of Insects inhibiting the choline esterase enzymes resulting in immediate death of target pest.
- **HAMADA** provides longer persistence period of control against target insect pest.
- **HAMADA** has Good compatibility with other insecticides and fungicides.



3

Packing: 250ml , 500ml , 1ltr.

## HAMADA™

- ✓ **HAMADA** has quick knock-down action.
- ✓ **HAMADA** is highly effective against a wide range of caterpillars and sucking insects.
- ✓ **HAMADA** is new generation of pyrethroid and possess better toxicological profile than conventional pyrethroid.
- ✓ **HAMADA** is moderate persistence with residual activity lasting 10-15 days after spraying.
- ✓ **HAMADA** is compatible with most of the insecticide and fungicide.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage /Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
COTTON	Bollworm, White Fly	320	200	15
SUGARCANE	Termite	400	200	10 (Months)
RICE	Stem borer, Leaf folder, Green leaf hopper	200	200	21



Stem Borer



Leaf Folder



Bollworms



Termites



White Fly

## HIBIKI™

(CHLORPYRIFOS 50% EC)

### CONTACT AND STOMACH ACTION INSECTICIDE

- **HIBIKI** belongs to organophosphorus chemical group.
- **HIBIKI** is recommended on wide range of crops for control of various pest.
- **HIBIKI** affects the nervous system by inhibiting the acetyl choline esterase (Ach) enzymes, causing immediate death of insects .
- **HIBIKI** has quick knockdown action having longer persistence on leaves and specifically effective on most of the larva and Termites.
- **HIBIKI** has good compatibility with most commonly used pesticides.



5

Packing: 250ml, 500ml, 1ltr

## HIBIKI™

- ✓ **HIBIKI** is broad spectrum insecticide with contact and stomach action.
- ✓ **HIBIKI** technical chlorpyrifos is used from last several decades but no resistance is reported.
- ✓ **HIBIKI** is highly cost effective insecticide with broad spectrum activity.
- ✓ **HIBIKI** can be used with other mode of action pesticides under IPM strategy.
- ✓ **HIBIKI** controls sucking, chewing, biting and boring insects in various crops.
- ✓ **HIBIKI** is also used for the management of soil insects because of longer residual action.

Application and Dosage Recommendations :				
Crop	Common Name of the Pest	Dosage /Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
COTTON	Bollworm	400 - 480	200 - 400	30



Stem Borer



Leaf Folder



Bollworms



Termites

## HIMAWARI™

(PROFENOFOS 40% + CYPERMETHRIN 4% E.C)

### A CONTACT AND STOMACH INSECTICIDE

- **HIMAWARI** is a Synergistic combination of Organophosphorus and Synthetic pyrethroid group of Insecticide.
- **HIMAWARI** is recommended on Cotton Bollworm complex.
- **HIMAWARI** is a strong contact and stomach Insecticide having quick knockdown effect. It is also having acaricide action.
- **HIMAWARI** act on Insect nervous system, inhibiting Acetyl Choline esterase enzymes.
- **HIMAWARI** is applied at early stage of Insect, It can also control grown up larvae, if resistance is not an issue.
- **HIMAWARI** is economical to use and having long lasting control on insects.



## HIMAWARI™

- ✓ **HIMAWARI** has longer residual action and kills pest under continuous attack.
- ✓ **HIMAWARI** is a good tool for hard to kill bollworm pests.
- ✓ **HIMAWARI** is not effective if caterpillar enters into cotton bolls hence should be sprayed at early Instar stage but for external feeder it can be applied at any crop stage.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage /Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
COTTON	BOLLWORM	400-600	200-400	14

### Cotton Bollworms





## ISOGASHI™

(IMIDACLOPRID 17.8% SL)

### SYSTEMIC INSECTICIDE FOR SUCKING PEST

- **ISOGASHI** belongs to Neonicotinoid (ANI) group of insecticide.
- **ISOGASHI** is recommended on wide variety of crops and insects as per the details given in table.
- **ISOGASHI** is highly systemic insecticide quickly absorbed by plants with good xylem mobility.
- **ISOGASHI** inhibits the growth of insects and acts on nicotinic receptor site off nervous system.
- **ISOGASHI** is used at lower dosage, hence safer to environment.
- **ISOGASHI** can be applied at any crop stage but the leaves should be green and succulent for better efficacy.



## ISOGASHI™

- ✓ **ISOGASHI** is selective and have quick knock-down action.
- ✓ **ISOGASHI** can be used as a foliar spray and soil application.
- ✓ **ISOGASHI** has good compatibility with commonly used agro-chemicals.
- ✓ **ISOGASHI** is used at lower dosage, hence safer to the environment.
- ✓ **ISOGASHI** is still a highly effective insecticide and till date no resistance is developed against it.
- ✓ **ISOGASHI** has a longer residual action and control repeated pest attacks.

### Application and Dosage Recommendations :

Crop	Names of Pests	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (litres)	
Grapes	Flea beetle	120 - 160	400	32
Mango	Hopper	2 - 4 ml / tree	10	45
Cotton	Aphid, White fly, Jassid & Thrips	40 - 50	200 - 280	40
Sugarcane	Termite	140	750	45
Tomato	White fly	60 - 70	200	3
Paddy	BPH, WBPH & GLH	40 - 50	200 - 280	40
Citrus	Leaf Miner & Psylla	2 - 4 ml / tree	-	15
Okra	Aphid, Jassid & Thrips	20	200	3
Chilli	Aphid, Jassid & Thrips	50 - 100	200 - 280	40
Groundnut	Aphid & Jassid	40 - 100	200	40
Sunflower	Jassid, Thrips & White fly	40	200	30



Aphids



Jassids



Thrips



BPH

## KAITAKU™

(ACETAMIPRID 20% SP)

### SYSTEMIC AND TRANSLAMINAR INSECTICIDE

- **KAITAKU** belong to Neonicotinoide group of insecticide.
- **KAITAKU** Is recommended on Chilli, Okra, Cotton and Cabbage for sucking pests and specifically on White fly.
- **KAITAKU** Blocks insect nervous system on nicotine receptor site and inhibits the acetylcholine transmission results in insect paralysis and eventual death.
- **KAITAKU** is a novel insecticide with triple action-ovicidal, nymphicidal & adulticide activity. It provides protection for longer duration.
- **KAITAKU** has quick-knock down action, there by prevents the further damage immediately.
- **KAITAKU** Provides efficient protection on both sides of leaves due to systemic and translaminar action.



## KAITAKU™

- ✓ **KAITAKU** is specifically effective on adult insects feeding on top leaves of plant it should be sprayed when leaves are green and succulent in nature.
- ✓ **KAITAKU** also control pyrethroid resistant pests by attacking on different site of nervous system.
- ✓ **KAITAKU** has good compatibility with most commonly used pesticides.
- ✓ **KAITAKU** requires better coverage both upper and under side of the leaves.
- ✓ **KAITAKU** can be used alternatively with insect growth regulator (Nymphicide) and other chitin inhibitors to break the resistance of white fly.

### Application and Dosage Recommendations :

Crop	Names of Pests	Dosage/Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (litres)	
Cotton	White fly	40	200 -240	15
	Jassids & Aphids	20	200 -240	15
Paddy	Brown Plant Hopper	20-40	200 -240	7
Chilli	Thrips	20-40	200 -240	3
Cabbage	Aphids	30	200-240	7
Okra	Aphids	30	200-240	3

Aphids



Thrips



Jassids



White fly



## **KATSU™**

(CARTAP HYDROCHLORIDE 4% GR)

### **SYSTEMIC INSECTICIDE WITH STOMACH AND CONTACT ACTION**

- **KATSU** belongs to Nereistoxin analogue chemical group.
- **KATSU** is recommended on Paddy on Leaf folder, Stem borer & Whorl maggot.
- **KATSU** controls sucking and biting insects by stomach and contact action. It controls the hidden caterpillars like Stem borer and leaf folder due to its strong systemic action.
- **KATSU** act on nervous system of the Insects.
- **KATSU** is applied at early stages of the crop.
- **KATSU** has longer persistent efficacy.



## KATSU™

- ✓ KATSU is highly cost effective for Paddy pest and so far no resistance is reported against it.
- ✓ KATSU is having long persistence in irrigated paddy field.
- ✓ KATSU causes paralysis of central nervous system, affected insects discontinue feeding and die of starvation.
- ✓ KATSU is non toxic to mammals and predators.

### Application and Dosage Recommendations :

Crop	Names of Pests	Dosage/Acre	Waiting Periods (in days)	Remarks
		Formulation (Kg)		
Paddy	Stem borer	7.5	-	3 applications at 15 days interval from 10 days after transplanting
	Leaf folder	7.5 - 10	-	
	Whorl maggot	7.5 - 10	-	



Stem borer



Leaf folder



Whorl maggot

**KOMUGI™**

(PYRIPROXYFEN 10% EC)

**SYSTEMIC INSECT GROWTH REGULATOR  
A JUVENILE HORMONE ANALOGUE**

- **KOMUGI** is IGR belongs to Pyridine group of insecticide.
- **KOMUGI** is recommended for control of sucking pest like White Fly, Aphids on Cotton and Chilli crops.
- **KOMUGI** is selective Insect growth regulator having Stomach, Contact and Translaminar action.
- **KOMUGI** acts on multipoint of Insect life cycle, preventing Whitefly emergence from egg or interfere the Whitefly development and reproduction. It also make female sterile.
- **KOMUGI** requires thorough coverage of foliage. It should be applied at the start of Whitefly incidence.
- **KOMUGI** is effective tool in resistance management strategy.
- **KOMUGI** is a slow acting insecticide but if sprayed correctly, its effect is dramatic and long lasting. It is not having a knockdown effect on insects but is a population disruptor, reduces adult / nymph's number drastically in the field.



## KOMUGI™

- ✓ **KOMUGI**'s active ingredient "Pyriproxifen" is most popular molecule used worldwide for management of Whitefly.
- ✓ **KOMUGI** is affected nymph inhabit to develop normally and does not moult properly.
- ✓ **KOMUGI** is highly selective insecticide it doesn't kill beneficial and predatory insects.
- ✓ **KOMUGI** is having low toxicity and does not possess any threat to environment pollution.
- ✓ **KOMUGI** is ideal for Integrated Pest Management.
- ✓ **KOMUGI** application should be done with fine spray and should cover both inside and upside of the leaf as well as lower, middle and upper portion of plant.

### Application and Dosage Recommendations :

Crop	Pest Name	Dosage / Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Cotton	Whitefly	200	200	50
Chilli	Whitefly, Aphids	200	200	7



White fly

Aphids





**KUSA KING™**

(PROFENOPHOS 50% EC)

**BROAD SPECTRUM  
CONTACT AND STOMACH INSECTICIDE**

- **KUSA KING** belongs to Organophosphorus group of insecticide.
- **KUSA KING** is recommended on Cotton and Soybean crops for the control of Caterpillars and Sucking pests.
- **KUSA KING** has a contact action and remains on leaf surface for long time. It has quick knock-down action.
- **KUSA KING** is a nerve poison and inhibits the acetyl choline esterase enzymes.
- **KUSA KING** is applied at early instars for control of bollworms.
- **KUSA KING** is also having ovicidal action. It is also moderately effective on mites.

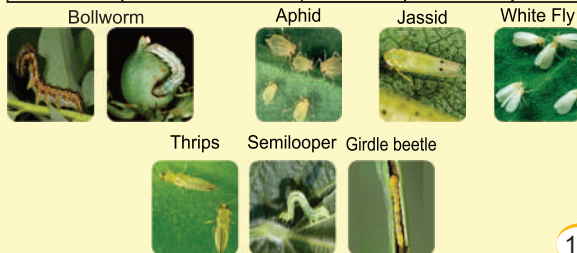


## KUSA KING™

- ✓ **KUSA KING** has one of the most trusted molecule giving successful management of Insect pests for the last two decades.
- ✓ **KUSA KING** is used when you have pest complex having different pest attacking at same time.
- ✓ **KUSA KING** can be mixed with other pesticides to have enhanced pest efficacy.
- ✓ **KUSA KING** is also effective on all stages of pests and it can penetrate top layers of eggs too.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage / Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
COTTON	Bollworms	600-800	200-400	15
	Aphids, Jassids, White flies, Thrips	400	200-400	
SOYBEAN	Semilooper, Girdle beetle	400	200	40



**MAINICHI™**

(PROPARGITE 57% EC)

**ACARICIDE / MITICIDE  
WITH CONTACT AND FUMIGANT ACTION**

- **MAINICHI** belongs to Sulfite Ester group Chemistry.
- **MAINICHI** is very effective on crop damaging mites, such as red spider mite, two spotted mites, Europhid mite and yellow mite.
- **MAINICHI** acts primarily by contact, residual contact and fumigant action.
- **MAINICHI** controls all the stages of mite including motile stage.
- **MAINICHI** gives long duration of control and remains effective even at higher temperatures.



## MAINICHI™

- ✓ **MAINICHI** interferes with the key mite enzyme systems, which causes interruption of normal metabolism, respiration and electron transport functions in the nervous system of mites.
- ✓ **MAINICHI** kills the even the newly hatched nymphs from eggs, due to its residual action.
- ✓ Female mites stop laying eggs upon coming in contact with **MAINICHI** applied area.

### Application and Dosage Recommendations :

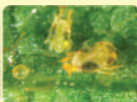
Crop	Common Name of the Pesticide	Dosage / Acre		Waiting Period (in days)
		Formulation (ml)	Dilution of water (liters)	
Chilli	Mite	600	200-250	7
Tea	Red Spider mite	300-500	160	7
Apple	European Red Mite Two Spotted Mite	5-10 ml/tree	10 lit/tree	9
Brinjal	Two Spotted spider mite (Tetranychusurticae)	400	160	6



Yellow Mite



Red Mite



Two Spotted Mite



Purple Mite

## SENPAI™

(DINOTEFURAN 20 % SG)

### SYSTEMIC AND CONTACT INSECTICIDE

- **SENPAI** belongs to third generation neonicotinoid chemistry.
- **SENPAI** is a systemic and translaminar insecticide, quickly absorbed by the plants, effectively kills the targeted pests impacting the insect nerve system.
- **SENPAI** is having quick knock down effect and persistent action, resulting in longer and effective control on insects.



## SEMPI™

- ✓ **SEMPI** is very effective on sucking pest and suitable for Insect Resistance Management (IRM).
- ✓ **SEMPI** does not exhibit any kind of phytotoxicity and low toxic to mammals, birds and aquatic organism due to its low dosage of application.
- ✓ **SEMPI** improves quality and quantity of the produce.
- ✓ **SEMPI** is compatible with commonly used pesticide.
- ✓ **SEMPI** is ideal for rainy season also it is quickly absorbed by the plants and rain fastness is only 3 hours.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage / Acre		Waiting Periods (in days)
		Formulation (g)	Dilution in water (liters)	
COTTON	Aphids, Jassids, Thrips and White Fly	50 - 60	200	15
RICE	Brown Plant Hopper	60 - 80	200	21



WBPH



Jassid



Aphid



Brown Plant Hopper



Thrips



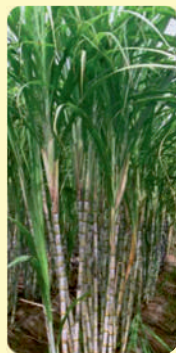
White fly

## SHINZEN™

(FIPRONIL 0.3% GR)

### SYSTEMIC AND CONTACT INSECTICIDE

- SHINZEN belongs to phenylpyrazole group of insecticide.
- SHINZEN is recommended on Paddy, Wheat, and Sugarcane on stem borer, leaf folder, termites and borers.
- SHINZEN disrupts the nervous system of insect by blocking GABA-gated chloride channel and causes hyper excitation of insect nerves and muscles.
- SHINZEN is highly systemic and can be taken up by roots as well as leaves. It moves acropetally through xylem and kills the hidden borers inside the stem.
- SHINZEN is applied after transplanting of paddy or on other crops at early stages as root application.
- 



## SHINZEN™

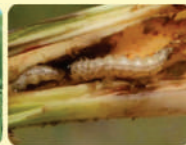
- ✓ **SHINZEN** has longer and persistent in irrigated condition and a good replacement of phorate carbofuron.
- ✓ **SHINZEN** is effective for the insects resistant or tolerant to pyrethroid and other insecticides.
- ✓ **SHINZEN** has phytotoxic effect impacting crop health.
- ✓ **SHINZEN** is effective for the insects which are resistant to other insecticides.
- ✓ **SHINZEN** has good soil and water mobility leading to longer persistent efficacy.

### Application and Dosage Recommendations :

Crop	Names of Pests	Dosage/Acre	Waiting Periods (in days)
		Formulation (Kg)	
Sugarcane	Root borer, Early shoot borer	10 - 13	9 months
Paddy	Green leaf hopper, Brown plant hopper, Stem borer, Rice leaf folder, Rice Gall Midge, White backed plant hopper, Whorl maggot	6.67 - 10	32
Wheat	Termites	8	91



Stem borer in paddy



Stem borer in Sugarcane



Termites



## SHINZEN PLUS™

(FIPRONIL 5% SC)

### A SYSTEMIC INSECTICIDE WITH CONTACT AND STOMACH ACTION

- **SHINZEN PLUS** belongs to phenylpyrazole group of insecticides.
- **SHINZEN PLUS** is recommended on paddy, cotton, chilli, Cabbage and Sugarcane crop on sucking and chewing pests as per recommendation in leaflets.
- **SHINZEN PLUS** act on insect nerve system at GABA chloride channel.
- **SHINZEN PLUS** is highly systemic insecticide quickly absorb through roots and foliage of the crop. It is highly effective at low dosages.
- **SHINZEN PLUS** is highly systemic in nature, It controls paddy stem borer & leaf folder which are hidden inside the plant.
- **SHINZEN PLUS** has good phyto-tonic effect on plant, it helps in keeping plant green, increase height and better growth of flower and fruits.



## SHINZEN PLUS™

- ✓ **SHINZEN PLUS** is ideal insecticide under Integrated Pest Management program.
- ✓ **SHINZEN PLUS** does not have rapid knock down effect but insects stop feeding immediately after application and die within 2-3 days.
- ✓ **SHINZEN PLUS** improves the yield and quality of farm produce due to its PGR effect.
- ✓ **SHINZEN PLUS** as spray has excellent residual control on continuous pest attack.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage / Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
CABBAGE	Diamond Back Moth	320-400	200	7
CHILLI	Thrips, Aphid, Fruit borer	320-400	200	7
RICE	Stem borer, leaf folder, Rice gall midge, Whorl maggot, White backed plant hopper, Brown plant hopper, Green leaf hopper	400-600	200	32
SUGARCANE	Root borer, Early shoot borer	600-800	200	9 Months
COTTON	Aphids, Jassids, Thrips, Whitefly	600-800	200	6
COTTON	Ball Worm	800	200	6

Thrips



Leaf folder



Sugarcane Root Borer



Early Shoot Borer



Bollworm



BPH



Diamond Back Moth



## SHIRASAGI™

(FIPRONIL 40% + IMIDACLOPRID 40% WG)

### SYSTEMIC AND CONTACT INSECTICIDE FOR SOIL INSECTS

- **SHIRASAGI** is a combination product of two chemical group Phenylpyrazole (Fipronil) and Neonicotinoid (Imidacloprid).
- **SHIRASAGI**'s dual mode of action against pests ensures effective control of the pest.
- **SHIRASAGI** acts on Nerve System of the insect. by blocking GABA-gated chloride channel and at nicotine receptor site cause hyper excitation of insect nerves and muscles.
- **SHIRASAGI** is recommended on soil insects of sugarcane, white grub. It can be applied at any stage as soil drench



## SHIRASAGI™

- ✓ **SHIRASAGI** has better Phytotonic effect leads to better root and shoot growth, results in better yield in terms of quantity and quality.
- ✓ **SHIRASAGI** provides longer and persistent control of insects. It can control repeated attack of white grub due to its strong affinity with soil particles.
- ✓ **SHIRASAGI** is good on all types of soil like sandy to clayey and even in all type of climatic conditions.
- ✓ **SHIRASAGI** is effectively used in Insect Resistance Management.
- ✓ **SHIRASAGI** has a strong toxicological profile and should be used with proper safety measures while mixing and spraying.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage / Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (liters)	
Sugarcane	White grubs (Holotrichia consanguinea)	175-200	400-500	296



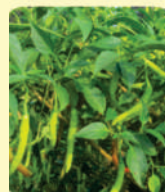
White Grubs

## SHOKU™

(DIAFENTHIUNRON 50% WP)

### SYSTEMIC AND CONTACT INSECTICIDE

- **SHOKU** belongs to thiourea group of insecticide.
- **SHOKU** is recommended on several crops like Cotton, Chilli, Brinjal, Cardamom and Cabbage crops for control of White fly, Aphids, DBM, Mites etc.
- **SHOKU** degrades into a urea derivative resulting in a phytotonic effect, enabling the plant to overcome the damage caused due to insect pest infestation.
- **SHOKU** is an unique insecticide to control both adult and nymphal stages of wide range of insect pests.



## SHOKU™

- ✓ **SHOKU** belongs to a Thioureas unique chemical group allowing control of insects and mites resistant to major chemical classes such as Organophosphates or Pyrethroids.
- ✓ **SHOKU** has strong translaminar action efficiently controls the pest which is even underside of the leaf and hidden sucking pest.
- ✓ **SHOKU** paralyze insects immediately after coming in contact. Insects stops feeding but dies after 3-4 days.
- ✓ **SHOKU** is safer for beneficial insects & most suitable for integrated pest management.

### Application and Dosage Recommendations :

Crop	Names of Pests	Dosage/Acre		Waiting Periods (in days)
		Formulation (g)	Dilution in water (litres)	
Cotton	Whiteflies, Aphids, Thrips, Jassids	240	200-400	21
Cabbage	Diamond Back Moth	240	200-300	7
Chilli	Mites	240	200-300	3
Brinjal	Whitefly	240	200-300	3
Cardamom	Thrips, Capsule borer	320	400	7
Citrus	Mites	2 g/ltr.	2 - 3 ltr/tree	30



Aphids



Mites



White fly



DBM

## TAIYO®

(THIAMETHOXAM 25% WG)

### SYSTEMIC INSECTICIDE FOR SUCKING PEST

- TAIYO belongs to Neonicotinoide group of insecticide.
- TAIYO is recommended on several crops on wide variety of insect pests listed on table.
- TAIYO blocks insect nervous system on nicotine receptor site and inhibits the acetylcholine transmission results in insect paralysis and eventual death.
- TAIYO provides excellent, fast acting and long lasting control for sucking pest.
- TAIYO is flexible to be used as foliar spray, soil application and drenching.



## TAIYO®

- ✓ TAIYO is rapidly taken up by the plants.
- ✓ TAIYO is very effective against the sucking insect pests in many crops.
- ✓ TAIYO has good compatibility with commonly used insecticides and fungicides.

### Application and Dosage Recommendations :

Crop	Names of Pests	Dosage/Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (litres)	
Rice	Stem borer, Gall midge, Leaf folder, BPH, WBPH, GLH & Thrips	40	200 - 300	14
Rice (Nursery)	Whorl Maggot	800	100 ml/g	86
Mango	Hoppers	40	400	30
Potato	Aphids	40 (foliar spray)	200	77
		80 (soil drenching)	200	
Cotton	Jassids & Aphids	40	200 - 300	21
	White fly	80	200 - 300	21
Wheat	Aphids	20	200	21
Cumin	Aphids	40	200	15
Tomato	White fly	80 (foliar spray) 160 (soil drenching)	200	5
Citrus	Psylla	40	400	20
Brinjal	White fly & Jassids	80	200	3
Okra	Jassids, Aphids, White fly	40	200 - 400	5
Mustard	Aphids	20 - 40	200 - 400	21



Jassid



Hopper



Aphids



Thrips



## TOMODACHI™

(ACEPHATE 75% SP)

### SYSTEMIC INSECTICIDE WITH CONTACT AND STOMACH ACTION

- **TOMODACHI** belongs to organophosphorus group of insecticide.
- **TOMODACHI** is recommended on several crops like Cotton, Saflower and Paddy.
- **TOMODACHI** affects the insect nervous system by blocking the acetylcholinestrase enzymes thus immediately killing of insects.
- **TOMODACHI** controls sucking and biting insects by contact and systemic action.
- **TOMODACHI** fast action on target insects due to it's rapid absorption.
- **TOMODACHI** good compatibility with commonly used insecticides and fungicides.

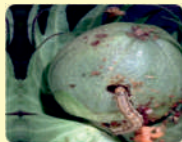


## TOMODACHI™

- ✓ **TOMODACHI** is highly effective systemic insecticide with contact action.
- ✓ **TOMODACHI** moves rapidly through xylem vessels and reach entire plant with the water movement.
- ✓ **TOMODACHI** Moderate persistence with residual activity lasting 10-15 days after spraying.
- ✓ **TOMODACHI** is having a good compatibility with synthetic and other organophosphorus group of insecticide giving wide range of insect pest coverage. It ultimately break down to phosphorus compound and gives lush green appearance on leaves.

### Application and Dosage Recommendations :

Crop	Names of Pests	Dosage/Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (litres)	
Cotton	Bollworms	312	200 - 400	15
	Jassids	156	200 - 400	15
Safflower	Aphids	312	200 - 400	15
Paddy	Stem borer, Leaf folder, BPH & GLH	265 - 400	120 - 200	15



Bollworm



Aphids



Jassid



BPH

**YUJO™**

(CHLORPYRIFOS 50%+CYPERMETHRIN 5% EC)

**SYSTEMIC AND CONTACT INSECTICIDE**

- **YUJO** belongs to combination of organophosphorus and synthetic pyrethroid group of insecticide.
- **YUJO** is recommended on several crops and controls specifically grown up voracious feeding larvae need immediate control.
- **YUJO** has strong effect on insect nervous system and has ability to penetrate the thick wall of larva made up of waxes and lipids etc. the quick penetrability makes it most popular insecticide against grown up larvae.
- **YUJO** due to higher persistence on leaf surface, effective for longer duration.



## YUJO™

- ✓ **YUJO** has a very long persistence on leaf but care should be taken that crop should not be under water stress and should have good succulent leaves.
- ✓ **YUJO** also gives effective control of sucking pest in various crops hence can be used under multiple pest attack situation.
- ✓ **YUJO** is an economical combination product.

### Application and Dosage Recommendations :

Crop	Names of Pests	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (litres)	
Cotton	Aphids, Jassids, Thrips, Whitefly, Spotted bollworm, Pink Bollworm, American bollworm, Spodoptera litura	400	200 - 400	15
Rice	Stem borer & Leaf folder	250 - 300	200 - 280	15



Stem borer



Spodoptera



Leaf folder



Bollworm

## YUKATA™

(BUPROFEZIN 25% SC)

### CONTACT AND STOMACH INSECTICIDE

- **YUKATA** belongs to thiadiazine group of insecticide.
- **YUKATA** is recommended on Cotton, Chilli, Mango and Rice on Hoppers, White fly and other Sucking pests.
- **YUKATA** is an insect growth regulator which inhibits chitin synthesis. It lethally inhibits larval moulting suppresses oviposition and reduces egg viability
- **YUKATA** controls nymphal stages of sucking pests it being a contact Insecticide, proper coverage is a essential for best control.



## YUKATA™

- ✓ **YUKATA** kills nymph within 3-5 days of application as they cannot feed in treated areas.
- ✓ **YUKATA** has no resurgence effect and should be applied in alternatively with other group of insecticide.
- ✓ **YUKATA** has good compatibility with commonly used insecticides and fungicides.
- ✓ **YUKATA** affects the chitin synthesis which is essential part of skin formation in insect however it is safe for human being but care should be taken to avoid spraying near the aquatic animal rearing sites.

### Application and Dosage Recommendations :

Crop	Names of Pests	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (litres)	
Cotton	White Fly, Aphids, Jassids, Thrips	400	200 - 300	20
Chillies	Yellow Mite	120 - 240	200 - 300	5
Mango	Hoppers	1-2 ml/litre of water	5-15 litre per tree	20
Grapes	Mealy bugs	400 - 600	200 - 400	7
Rice	BPH, GLH, WBPH	320	160 - 200	20



Aphid



Mango Hopper



White fly



Mealy bug



Yellow mites



BPH

**YURI™**

(LAMBDA CYHALOTHRIN 4.9% CS)

**CONTACT & STOMACH INSECTICIDE**

- **YURI** belongs to Synthetic Pyrethroid group of Insecticide.
- **YURI** is recommended on several crops like, Paddy, Cotton, Vegetables and Grapes for control of Lepidopteran pests and Thrips.
- **YURI** has a quick knock-down and repellency effect through contact, residual and stomach activity and therefore stopping pest damage to crops immediately.
- **YURI** is third generation synthetic pyrethroid insecticide act on Insect Nervous system and inhibit acetyl choline esterase enzymes.
- **YURI** can be applied as a foliar spray using most types of spraying equipment. Application should be made when pests first appear and repeat after 7 days depending upon infestation.
- **YURI** is best formulation having micro capsule technology, ideally suited for long lasting pest management strategy.



## YURI™

- ✓ **YURI** is latest discovery of third category of synthetic pyrethroid made up of single powerful isomer.
- ✓ **YURI** has capacity to remain effective on leaf surface for longer time than other synthetic pyrethroids. It has capacity to remain on even hard surface like stem and petiole.
- ✓ **YURI** also repel the insect to feeding site. It should be used on same day when the spray solution is made. Keeping it longer for more than a day will disintegrate capsule.
- ✓ **YURI** can be tank mixed with commonly known pesticides.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage / Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Cotton	Boll Worm	200	200	21
Paddy	Stem borer & Leaf Folder	100	200	15
Brinjal	Shoot & Fruit borer	120	200	5
Okra	Fruit Borer	120	200	5
Tomato	Fruit Borer	120	200	5
Grapes	Thrips & Flea Beetle	100	200-400	7
Chilli	Thrips & Pod Borer	200	200	5
Soybean	Stemfly & Semilooper	120	200	31

Paddy Stem Borer and Paddy Leaf Folder



Brinjal Fruit and Shoot borer



Okra Fruit borer



Soybean Stem fly



Chilli Fruit borer



Cotton Bollworm



Thrips



Tomato Fruit borer





## IRUKA™

(THIAMETHOXAM (12.6%)+ LAMBDAHALOTHHRIN (9.5%ZC))



## IRUKA™

### DESCRIPTION

**IRUKA** belongs to neonicotinoid & pyrethroid group insecticides. Offered Thiamethoxam 12.6% + Lambda Cyhalothrin 9.5% ZC exhibits good crop outlook and better greening with more branches and flower initiation.

### MODE OF ACTION:

**IRUKA** has irreversible blockage of postsynaptic nicotinic acetylcholine receptors leads to the hyper excitation of the nerves. Hyperexcitation followed by convulsions and eventual paralysis of the insects. This results in the death of insects.

### KEY FEATURES:

- **IRUKA** having quick stomach and contact activity.
- **IRUKA** evident results in treated crops with more greenness & branching.
- **IRUKA** has excellent rain fastness.
- **IRUKA** absorbed rapidly by the roots and foliage and translocated acropetally in the Xylem.
- **IRUKA** gives quick knockdown and long residual control.
- **IRUKA** protect crop from viral disease by controlling insects which act as a vector.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage / Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Cotton	Aphids, Thrips, Jassids, Bollworms	80	200	26
Maize	Aphids, Shootfly, Stem borer	50	200	01
Groundnut	Leaf hopper, Leaf eating caterpillar	50	200	05
Soyabean	Stem fly, Semilooper, Girdle beetle	50	200	42
Chilli	Thrips, Fruit borer	60	200	03
Tea	Thrips, Semilooper, Tea mosquito bug	60	200	28
Tomato	Thrips, Whitefly, Fruit borer	50	200	48



## KONATSU™

(SPINETORAM 11.7% SC)

**“The enemy of insects, crops are subheshu,  
remember the name is konatsu”**

**Konatsu** : It is a green level insecticide. Meaning there is no harm to the environment and friendly insects by using it.

**Konatsu** : It is a versatile insecticide that provides long-term control of pests in a variety of crops.

**Konatsu** : It gives protection from all types of caterpillars and thrips.

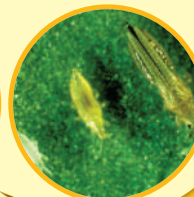
**Konatsu** : Blocks the nervous system of the insect, which leads to the death of the insect.



## KONATSU™

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage / Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Cotton	Thrips	168	200-400	30
	Spotted bollworm & Tobacco caterpillar	168-188	200-400	30
	Pink bollworm	180	200	30
Soyabean	Tobacco caterpillar	180	200-500	30
Chilli	Thrips, Fruit borer & Tobacco caterpillar	180-200	160-200	7
Okra	Fruit borer & Shoot and fruit borer	150-180	200-400	3
Brinjal	Shoot and fruit borer	150-180	200-400	3
Chickpea	Pod borer	150-180	200	20
Redgram	Pod borer	150-180	200	23
Grapes	Thrips	120	200-400	5
Rice	Yellow stem borer & Leaf folder	140-150	200	20
Tomato	Fruit borer, Tobacco caterpillar, Leaf miner, Tomato Pinworm	150-180	200	3





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**SURUGA™**

(PYMETROZINE 50% WG)



प्रयोग मात्रा  
120  
ग्राम / एकड़

Packing: 120g , 250g , 500g , 1kg

# SURUGA™

- **SURUGA** A highly effective insecticide, which is helpful in the control of WBPH BPH (Brown lichen) in Paddy
- **SURUGA** Immediately after spraying the WBPH BPH (Brown tallow) stops eating.
- **SURUGA** kits stop laying eggs in which the next generation is not able to form.
- **SURUGA** With less quantity it gives complete control over the kit.

**Application and Dosage Recommendations :**

Crop	Common Name of the Pest	Dosage / Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (liters)	
Paddy	Brown plant hopper	120	200	19



## TAKIBI®

### (Flubendiamide 20% WG)

- **Takibi-** Flubendiamide 20% is a water soluble granular insecticide
- **Takibi-** is used to control stem borer and leaf roller caterpillar in paddy crop, american bollworm in cotton, pod borer in pulses, diamond back moth in cabbage, fruit borer in tomato
- **Takibi-** is a new generation Di-amide compound which is safe for humans and the environment



## TAKIBI®

- ✓ Broad Spectrum-Controls different types of caterpillars.
- ✓ Fast and effective control of loss inflicting stages of larvae and caterpillars,
- ✓ The insect stops damaging the crop just after the product application.
- ✓ Provides prolonged control of target insectence it is cost-economical.
- ✓ safe for plants,applicators and environment.
- ✓ Effective in IPM and IRM Programmes.

Crop	Name of Insect	Quantity per acre	Water Ltr.	Waiting Periods (in days)
		Structure (gram)		
Cotton	American Caterpillar	100	200	30
Tomato	Fruit Borer	100	200	5
Lentils	Pod Borer	100	200	30
Paddy	Stem Borer, Leaf Roller	50	200	30
Cabbage	Diamond Back Moth	25	200	7





## **TAIYO PLUS<sup>®</sup>**

(Thiamethoxam 30% FS)

- **Taiyo Plus** : Thiamethoxam 30 % FS is broad- spectrum systemic insecticide.
- **Taiyo Plus** : Is well suited for seed treatment used to control early season sucking pests.
- **Taiyo Plus** : Recommended as seed treatment to control Jassids, aphids and Whitefly in cotton, shoot fly on sorghum and Maize, termites in wheat, jassid in okra, Thrips, GLH and Whorl Maggot in rice, jassid and thrips in sunflower, stem fly in soybean and thrips in chilli crop.
- **Taiyo Plus** : Due to its fast action on sucking pest, it limits the transmission of leaf curl virus.



## TAIYO PLUS®

### Proceed as follows:

1. Put 1/2 of the required water top the mix tank
2. Add the required quantity of Thiamethoxam 30 % FS while stirring continuously.
3. Allow the product to disperse.
4. Switch the agitation system or stir manually.
5. Top up with the remaining volume of water.
6. Maintain agitation of the slurry during the whole time of use.
7. The slurry has to be used within 24 hours after preparation.

### Application and Dosage Recommendations :

Crop	Common Name of the Pest	Dosage / Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Cotton	Jassids, Aphids, Whiteflies	10ml/kg seeds	-	
Wheat	Termites	3.3ml/kg seeds	-	
Sorghum	Shoot Fly	10ml/kg seeds	-	
Rice	Thrips, GLH, Whorl Maggot	3 ml/kg seeds	-	
Okra	Jassid	5.7ml/kg seeds	-	
Maize	Shoot Fly	8 ml/kg seeds	-	
Chilli	Thrips	7 ml/kg seeds	-	
Sun flower	Jassid, Thrips	10ml/kg seeds	-	
Soybean	Stem fly	10ml/kg seeds	-	



## KASHIMA™

(Chlorantraniliprole 0.4% GR)

- **KASHIMA** : Control of Yellow Stem Borer and Leaf Folder insects in paddy. It is used in Paddy 15-35 days after Transplanting.
- **KASHIMA** : Controls Early Shoot Borer and Top Borer pests in Sugarcane crop. When used from sowing to first irrigation in sugarcane field, it protects against stem borer. To avoid top borer, apply as soon as the top borer eggs are visible.



## KASHIMA™

**Duration of effect:** Long duration protection

**Mode of Action:** KASHIMA causes contraction and paralysis of the muscles of insects. kashima when insect If applied early in the life cycle, it will prevent the increase in the pest population. increases the yield potential of the crop.

**Specification:** Due to excellent control of Stem borer in Rice, it ensures greater crop health and high yield potential Excellent control against Early shoot borer and Top borer in Sugarcane crop protects growers from incurring losses due to low crop yield and thereby maximizing output

### Application and Dosage Recommendations :

Crops	Common Name of Pests	Dosage/Acre		Waiting Periods (in days)
		Formulation (gm/m.L)	Dilution in water (liters)	
Rice	Yellow Stem Borer, Leaf Folder	4 kg	Broadcast	53
Sugarcane	Early Shoot Borer, Top Borer	7.5 kg	Broadcast	147





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CROP SCIENCE

(A Joint Venture of IFFCO & Mitsubishi Corporation)



**IFFCO-MC Crop Science**



# HERBICIDE



**IFFCO-MC Crop Science**

# ATARI®

(ATRAZINE 50% WP)

## SELECTIVE BROAD SPECTRUM HERBICIDE FOR CONTROLLING GRASSY AND BROAD LEAVED WEEDS

- **ATARI** is a herbicide of Triazine group for pre and targeted post emergence application.
- **ATARI** is recommended on Maize & Sugarcane as a pre emergence on weed free soil and it can also be applied immediately after transplanting on maize crop.
- **ATARI** is systemic herbicide absorbed through roots and foliage.



## ATARI®

- ✓ ATARI effectively controls grassy broad leaved weeds.
- ✓ ATARI provides longer period of protection of crop against weeds.
- ✓ ATARI has good compatibility with other herbicides.
- ✓ ATARI is safe for environment and care should be taken to avoid drift in water way.
- ✓ ATARI is highly cost effective and plays an important role managing the resistant weeds.

### Time of application :

- Maize : Pre-emergence application within 2 days of sowing.
- Sugarcane : Pre-emergence application within 2-3 days after planting.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage/Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (litres)	
Maize	Trianthama monogyna, Digera arvensis, Echinochloa sp., Eleusine sp., Xanthium strumarium, Xanthium strumarium, Brachiaria sp., Digitaria sp., Amaranthus viridis, Clemome viscosa, Polygonum sp.	400 - 800	200 - 280	-
Sugarcane	Portulaca oleracea, Digitaria sp., Boerhaavia diffusa, Euphorbia sp., Tribulus terrestris	400 - 1600	200 - 280	-



Trianthema portulacastrum



Amaranthus viridis



Digitaria sanguinalis



Echinochloa spp.



Portulaca oleracea



## FURUSATO™

(OXYFLUROFEN 23.5% EC)

### A SELECTIVE CONTACT PRE-EMERGENT HERBICIDE

- **FURUSATO** belongs to Diphenyl ether group of Herbicide.
- **FURUSATO** is recommended on Onion, Tea, Groundnut, Direct Seeded Rice and Mint. It is highly effective on broad leaves weeds and some grasses. It also acts as a suppressant on perennial weeds.
- **FURUSATO** forms a chemical barrier on soil surface and does not allow weeds to emerge. The new cells are highly susceptible to it. However, the recommended crops are not affected by it.
- **FURUSATO** acts on protoporphyrinogen oxidase, thus producing some phyto-toxic substances which in the presence of sunlight disrupts the cell membrane.
- **FURUSATO** needs sunlight to be effective.
- **FURUSATO** should be applied after 0-3 days of sowing or as an early post-emergence application can be made up to 2-3 leaf stage of weeds.
- **FURUSATO** can be mixed with other chemicals too.



## FURUSATO™

- ✓ **FURUSATO** has safe environmental profile but should not be used near fish tanks.
- ✓ **FURUSATO** is also used for resistance management program in rotation with other mode of action herbicides.
- ✓ **FURUSATO** can be mixed with non-selective herbicides like Glyphosate and Paraquat to enhance its activity and for longer persistence in non-cropped areas.

### Application and Dosage Recommendations :

Crop	Name of Weeds	Dosage / Acre		Waiting Period (in days)
		Formulation (ml)	Dilution in water (liters)	
Rice (Direct shown) or pre-emergence	Echinochloa spp., Cyperus iria, Eclipta alba	260-400	200	
Tea	Digitaria, Imperata, Paspalum, Borreria hispida	260-400	200-300	15
Groundnut	Echinochloa colonum, Digitaria arginata	170-340	200-300	-
Potato	Chenopodium, Coronopus, Haliotropium, Trianthema, Cyprus	170-340	200-300	-
Onion	Chenopodium album, Amaranthus viridis	170-340	200-300	-
Mentha	Echinochloa colona, Cyperus spp., Solanum nigrum, Amaranthus spp., Sphenochlea spp., Anagallis arvensis, Chenopodium album, Commelina benghalensis, Digitaria sanguinalis, Eclipta alba, Euphorbia spp., Ludwigia parviflora, Portulaca spp.	361.72	200	10



Amaranthus viridis



Eclipta alba



Chenopodium album



Digitaria sanguinalis



Echinochloa colona



Anagallis arvensis



Cyperus iria



Solanum nigrum

## GENKI™

(GLYPHOSATE 41% SL)

### NON SELECTIVE SYSTEMIC POST EMERGENCE WEEDICIDE

- **GENKI** belongs to most popular organophosphorus group of herbicide.
- **GENKI** is very effective against grassy and broad leaved weeds in non cropped area as well as in vacant space of cropped area.
- **GENKI** Mode of action : EPSP synthase and inhibit amino acid synthesis.
- **GENKI** is absorbed by the foliage and translocated with rapid systemic action throughout the plant.



## GENKI™

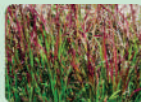
- ✓ **GENKI** is effective on annual and perennial weeds.
- ✓ **GENKI** can be used in orchards, forest lands and non cropped area.
- ✓ **GENKI** is safe for environment and soil microbes. It rapidly disintegrate in contact with soil and convert to phosphorus compound
- ✓ **GENKI** is applied at full expanded green leaves of weeds at any stage of the crop, care should be taken that weeds are dust free. Preferably it should be applied after rains.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (litres)	
Tea	<b>Broad leaved weeds &amp; Annual grasses</b> <i>Axonopus compressus</i> <i>Cynodon dactylon</i> <i>Imperata cylindrica</i> <i>Polygonum perfoliatum</i> <i>Paspalum scrobiculatum</i> <i>Arundinella bengalensis</i> <i>Kalm grass</i>	800 - 1200	180	21
Non Cropped Areas	<i>Sorghum halepense</i> and other Monocot & Dicot weeds, General weed control	800 - 1200	200	



Polygonum perfoliatum



Imperata cylindrica



Sorghum halepense



Kalm grass



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## GENKI PLUS™

(GLYPHOSATE 71% SG)

### A NON SELECTIVE BROAD SPECTRUM SYSTEMIC WEEDICIDE

- **GENKI PLUS** belongs to Organophorus group.
- **GENKI PLUS** is recommended in tea plantation for control of annual and perennial weeds. It also kills aquatic weed if applied on clean foliage.
- **GENKI PLUS** translocated into the root and foliage of weeds and start killing within 7-12 days of application.
- **GENKI PLUS** is quickly absorbed by foliage and inhibits EPPS synthesis in weed.
- **GENKI PLUS** can be applied at any stage of weeds, preferably use at maximum green stage with sufficient succulent leaves and without any soil dust on it.
- **GENKI PLUS** is not having residual effect on soil thus it does not inhibit main crop seed germination and emergence.
- **GENKI PLUS** is better to use during rainy season as dust particle on weeds are washed away.



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Packing: 100g , 500g

## GENKI PLUS™

- ✓ **GENKI PLUS** also contains ammonium salt. It binds with glyphosate molecule and has capacity to move to the root of the weeds. This way has the capacity to kill root rhizomes, bulbs and corn of weeds,
- ✓ **GENKI PLUS** use hood while spraying to avoid drift to main crop.
- ✓ **GENKI PLUS** is also used in Non-cropped area to kill weeds in Canal, Airport, Railway tracks, Roadside etc.
- ✓ **GENKI PLUS** is safe for soil micro organisms and earth worms. It rapidly breakdown coming in contact with soil particles.
- ✓ **GENKI PLUS** is compatible with most of other herbicides and sometimes added to enhance the power in resistance weed management in non cropped area.

### Application and Dosage Recommendations :

Crop	Name of Weeds	Dosage / Acre		Waiting Period (In days)
		Formulation (gm)	Dilution in water (liters)	
Tea and non crop area	Acalypha indica, Sidaacu lata, Ipomea digitata, Chicorium entibus, Digera arvensis, Digitarias angustialis, Paspalum conjugatum, Ageratum conyzoides, Cynodon dactylon, Cyperus rotundus, Eragrostis spp	1200	200	7



Acalypha indica



Ipomea digitata



Cyperus rotundus



Chicorium intybus



Digitaria sanguinalis



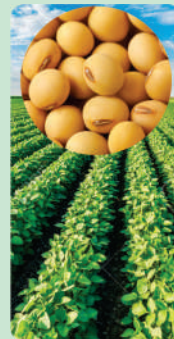
Ageratum conyzoides

## ICHIGO™

(IMAZETHAPYR 10% SL)

### EARLY POST EMERGENCY SELECTIVE HERBICIDE

- **ICHIGO** belongs to Imidazolinone chemical group.
- **ICHIGO** is recommended for the control of Grasses, Sedges and broad leaved in Soybean and Groundnut crop.
- **ICHIGO** is a systemic herbicide quickly absorbed by foliage and roots of the weeds. It is also having longer residual action in soil which keeps controlling new emerging weeds.
- **ICHIGO** acts by inhibiting the Acetolactate Synthase (ALS) which leads to disruption of DNA synthesis and cell growth of the targeted weeds.
- **ICHIGO** is applied as a early post emergent between 10 to 14 days after sowing. It should be tank mix with ammonium sulphate and surfactant provided alongwith ICHIGO bottle resulting better efficacy.



## ICHIGO™

- ✓ ICHIGO provides longer duration control on weeds.
- ✓ ICHIGO provides early protection of weeds there by minimises the losses.
- ✓ ICHIGO application: At 2-3 leaves stage of broad leaf weeds or 2-3 inch height of grassy weeds.
- ✓ ICHIGO can be mixed with other weedicide also.
- ✓ ICHIGO should be applied uniformly without overlapping of spray.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage / Acre		Waiting Period (in days)
		Formulation (ml)	Dilution in water (litres)	
Soybean	<i>Umbrella sedge, Jungle rice, Barnyard grass, Dudhi, Kuli seeds, False amaranth, Commelina (Day flower) etc.</i>	300-400 ml ICHIGO + 300-400 g ICHIGO-BOOST + 225-300 ml ICHIGO -SPREAD	200-240	72
Groundnut	<i>Umbrella sedge, Carpet weed, Love grass, Commelina (Day flower) etc.</i>	400-600 ml ICHIGO + 400-600 g ICHIGO-BOOST + 300-450 ml ICHIGO -SPREAD	200-280	102



Echinochloa spp.



Commelina benghalensis



Euphorbia hirta



Amaranthus viridis

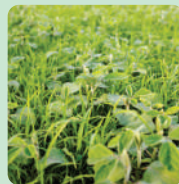
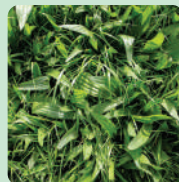


## KABUTO™

(PARAQUAT DICHLORIDE 24% SL)

### NON SELECTIVE CONTACT HERBICIDE

- **KABUTO** belongs to bypyridyl group of herbicide.
- **KABUTO** is a control a wide range of annual grasses and broad-leaved weeds. It successfully control established perennial weeds.
- **KABUTO** disrupt photosynthesis and ruptur cell membrane of weeds and kill rapid desiccation of water.
- **KABUTO** is used to control many agricultural and non cropped area.
- **KABUTO** act very fast when ever it is in contact with the foliage and other plant parts and get inactive upon contact with soil.
- **KABUTO** can be applied at any stage of the weeds but should not come in contact with crop foliage. It can be used on glyphosate resistant weeds also.



## KABUTO™

- ✓ **KABUTO** is also used as a defoliant in cotton to improve fibre quality as well as to take second crop in central india.
- ✓ **KABUTO** is used in forest lands, railway tracks, airport, defence area and water canals to remove weeds.
- ✓ **KABUTO** is a strong contact herbicide hence coverage is important and the weed foliage should not have sand or dust deposit it is better to apply after rains.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage/Acre		Waiting Period (in days)
		Formulation (ml)	Dilution in water (litres)	
<b>Potato</b> (Post-emergence overall / inter-row application at 5-10 % emergence)	<i>Lambsquarter (Bathus), Blue pimpernel, Carpet weed, Nut sedge, Common fumitory etc.</i>	425 -850	200	100
<b>Cotton</b> (Post-emergence directed inter row application at 2-3 leaf stage of weeds)	<i>False amaranth, Rice flat sedge, Carpet weed, Wild jute, Leucas, Dudhi etc.</i>	500-850	200	150-180
<b>Rice</b> [pre-plant (minimum tillage) before sowing/ transplanting for controlling standing weeds]	<i>Barnyard grass, Rice flat sedge, Goat weed, Commelina (Day flower), Water clover, Buffalo grass, Mollugo etc.</i>	500-1600	100	-
<b>Wheat</b> [pre-plant ( minimum tillage) before sowing]	<i>Grassy &amp; Broad leaf weeds</i>	1700	200	120-150
<b>Tea</b> (Post-emergence directed inter row application at 2-3 leaf stage of weeds)	<i>Cogon grass, Wild foxtail millet, Commelina (Day flower), Button weed, Hilo grass, Hill glory shower etc.</i>	330-1700	80-160	-
<b>Grapes</b> (Post-emergence directed inter row application at 2-3 leaf stage of weeds)	<i>Nut sedge, Bermuda grass, Field bind weed, Common purslane, Tridax daisy etc.</i>	1000	200	90



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## KOKORO™

(CLODINOFOP PROPAGYL 15% WP)

### POST EMERGENCE HERBICIDE

- **KOKORO** belongs to aryloxy phenoxy propionate group.
- **KOKORO** is recommended on wheat crop as a post emergent for the control of *Phalaris minor*.
- **KOKORO** is Acetyl CoA Carboxylase (ACCase) Inhibitor.
- **KOKORO** is rapidly absorbed by leaves and trans located to growing points it interact with the production of fatty acids killing the weeds from growing points.
- **KOKORO** can be used at 30 to 35 days after sowing. It can be used along with other herbicides for controlling broad leaf weeds.
- **KOKORO** can be applied proceeding to Sulfosulfuron application.



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Packing: 160g

## KOKORO™

- ✓ **KOKORO** can be applied under different environmental conditions.
- ✓ **KOKORO** has a longer residual action and continue to kill newly emerged weeds. It is successfully used in all wheat varieties of India.
- ✓ **KOKORO** does not have long persistence hence does not affect succeeding crops.
- ✓ **KOKORO** should be used at recommended 150 to 160 liter water per acre the lower water dilution can cause resistance build up in weeds.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage/Acre		Waiting Period (in days)
		Formulation (gm)	Dilution in water (litres)	
Wheat	<i>Phalaris minor</i>	160	150 - 160	110



Phalaris minor



Avena fatua

## MAKOTO™

(METSULFURON METHYL 20% WP)

### POST EMERGENT HERBICIDE FOR BROAD LEAVED WEEDS

- **MAKOTO** belongs to sulfonylurea group.
- **MAKOTO** is recommended on Wheat, Rice and Sugarcane crops.
- **MAKOTO** is a selective systemic weedicide for controlling several Broad Leaf Weeds.
- **MAKOTO** absorbed and translocated rapidly inside the weeds and stop acetolactate formation resulting in killing of top cells.
- **MAKOTO** can be used at 25 to 35 days of sowing in Wheat crop and 5 to 10 days of transplanting in Paddy.



## MAKOTO™

- ✓ **MAKOTO** is safe for wheat crop and it gives the quality yield.
- ✓ **MAKOTO** is also safe for environment, animals and human beings.
- ✓ **MAKOTO** is a selective post emergence herbicide.
- ✓ **MAKOTO** is rapidly absorbed through foliage and plant's roots. It requires clear sky at time of application.
- ✓ **MAKOTO** is an excellent partner as combination with other weedicides.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage/Acre		Waiting Period (in days)
		Formulation (gm)	Dilution in water (litres)	
Wheat	<i>Chenopodium album</i> , <i>Melilotus indica</i> , <i>Lathyrus aphaca</i> , <i>Anagallis arvensis</i> , <i>Vicia sativa</i> , <i>Cirsium arvense</i>	8	200 - 240	80
Rice (transplanted)	<i>Cyperus rotundus</i> , <i>Sphenoclelea sp.</i> , <i>Fimbristylis sp.</i> , <i>Ludwigia parviflora</i> , <i>Marsilea quadrifoliata</i>	8	200 - 240	60
Sugarcane	<i>Cyperus esculentus</i> , <i>Amaranthus viridis</i> , <i>Portulaca oleracea</i> , <i>Parthenium hysterophorus</i> , <i>Tranthera sp.</i> , <i>Cleome viscosa</i> , <i>Solanum sp.</i> , <i>Commelina benghalensis</i> , <i>Euphorbia sp.</i> , <i>Digeria sp.</i>	12	200 - 240	346



Amaranthus viridis



Portulaca oleracea



Parthenium hysterophorus



Anagallis arvensis



Vicia sativa



Chenopodium album

## NOBIRU™

(2,4 - D AMINE SALT 58% SL)

### POST EMERGENCE HERBICIDE FOR BROAD LEAF WEEDS

- **NOBIRU** belongs to Phenoxy acetic group.
- **NOBIRU** is a selective, systemic, post emergence herbicide effective against broad leaved weeds in cropped area of Sorghum, Maize, Wheat, Potato and Sugarcane as well as in Non cropped areas, it is not effective on grassy weeds.
- **NOBIRU** absorbed by the leaves, roots and translocated in to the weeds. It acts by mimicking the action of the plant growth hormone auxin, which result in uncontrolled growth of weeds and eventually kills it.
- **NOBIRU** is applied when most of the weeds are germinated and crop is 4 to 5 leaf stage.



## NOBIRU™

- ✓ **NOBIRU** is highly soluble in water. It is absorbed by weeds faster than other herbicide.
- ✓ **NOBIRU** is also compatible with other herbicide. It is a cost effective herbicide.
- ✓ **NOBIRU** is still effective in india and it has not develop resistance in weeds however care should be taken it should not be used or stored near the broad leaf crops like cotton.

### Application and Dosage Recommendations :

Crop	Name of Weeds	Dosage / Acre	
		Formulation (ml)	Dilution in water (liters)
Potato	<i>Convolvulus arvensis, Portulaca oleracea, Asphodelus tenuifolius, Chenopodium album, Anagallis arvensis, Cyperus iria</i>	1400	160
Sugarcane	<i>Cyperus iria, Digitaria Spp., Digera arvensis, Dactyloctenium aegyptium, Commelina benghalensis, Convolvulus arvensis</i>	2500	200
Wheat	<i>Convolvulus arvensis, Melilotus albus, Fumaria Spp., Asphodelus tenuifolius, Chenopodium album, Vicia sativa</i>	340-520	200-240
Aquatic Weed	<i>Eichhornia crassipe</i>	340-680	240-280
Sorghum	<i>Phyllanthus niruri, Convolvulus arvensis, Euphorbia hirta, Tridax procumbens, Digera arvensis, Trianthema Spp., Striga Spp., Cyperus iria</i>	1200	200-240
Non cropped Area	<i>Parthenium hysterophorus, Cyperus rotundus</i>	1800	120-160
Maize	<i>Amaranthus Spp., Tribulus terrestris, Boerhavia diffusa, Portulaca oleracea, Euphorbia hirta, Cyperus Spp., Trianthema monogyna</i>	344	160-200



Euphorbia hirta



Portulaca oleracea



Cyperus iria



Convolvulus arvensis



Vicia sativa



Commelina benghalensis



## RYUSEI™

(QUIZALOFOP ETHYL 5% EC)

### POST EMERGENCE HERBICIDE FOR GRASSY WEEDS

- **RYUSEI** a systemic herbicide of aryloxy phenoxy propionate group.
- **RYUSEI** is recommended on Soyabean, Groundnut, Onion and Black gram for control of grassy weeds.
- **RYUSEI** is rapidly absorbed & translocated in weeds after its application. It is an acetyl CoA carboxylase Inhibitor (ACCCase).
- **RYUSEI** Quickly trans locate and moves both xylem and phloem and accumulate in meristematic tissue and kills weeds. The affected weeds are unable to regenerate.
- **RYUSEI** is applied at 20 to 25 days after sowing and remain effective for longer period of killing all new germinated weeds.



## RYUSEI™

- ✓ **RYUSEI** after application show the toxic symptoms in weeds within 5-8 days and then completely killed it in 10 to 15 days.
- ✓ **RYUSEI** is quickly absorbed by leaves within 1 to 4 hours hence the rain comes after above period does not affect its efficacy.
- ✓ **RYUSEI** is the best technical as a post emergent in soybean crop and no resistance is reported against it.
- ✓ **RYUSEI** should be used as per the recommended spray volume of 150 to 160 litres per acre the low water volume can develop resistance of weeds.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage/Acre		Waiting Period (in days)
		Formulation (ml)	Dilution in water (litres)	
Soybean	Barnyard grass, Jungle rice, Love grass, Crab grass etc.	300-400	200-240	95
Cotton	Barnyard grass, Jungle rice, Viper grass, Crab grass etc.	400	200	94
Groundnut	Barnyard grass, Viper grass, Crowfoot grass etc.	300-400	200	89
Black gram	Goose grass, Crowfoot grass, Crab grass, Love grass, Barnyard grass, Viper grass etc.	300-400	200	52
Onion	Crab grass, Goose grass, Crowfoot grass, Love grass etc.	300-400	150-180	7



Barnyard grass



Crowfoot grass



Viper grass



Jungle rice

**SOKUSAI™**

(PRETILACHLOR 50% EC)

**SELECTIVE SYSTEMIC RICE HERBICIDE**

- **SOKUSAI** belongs to chloroacetamide group of weedicides.
- **SOKUSAI** is a pre-emergence Rice herbicide to control grassy, broad leaved and some sedges.
- **SOKUSAI** stops the growth of weeds by controlling the cell division of weeds at the emergence stage itself.
- **SOKUSAI** can be applied within 5 days of Rice transplanting, to get better result spray uniformly in standing water & hold water for 2-3 days after the application.



## SOKUSAI™

- ✓ SOKUSAI inhibits the affected weeds growth by reducing the cell division.
- ✓ SOKUSAI is highly selective to Rice crop and it safe for the rice crop. It provides early and longer duration control of weeds in Rice.
- ✓ SOKUSAI is preferred in transplanted paddy crop and has longer residual action.
- ✓ SOKUSAI can be used under IPM management strategy, it is used in all agro climatic conditions and has no adverse effect on any recommended varieties of Paddy.

### Application and Dosage Recommendations :

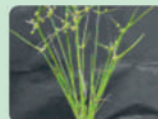
Crop	Names of Weeds	Dosage/Acre		Waiting Period (in days)
		Formulation (ml)	Dilution in water (litres)	
Transplanted Rice	Barnyard grass, Jungle rice, Umbrella sedge, Rice flat sedge, Fimbristylis, Eclipta (Bhangra), Paddy clove, Pond weed, Red sprangletop, Torpedo grass etc.	400-600	200-280	75-90



Barnyard grass



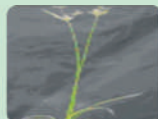
Crab grass



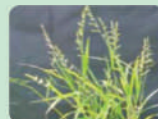
Rice flat Stage



Pond weed



Nut Stage



Jungle Rice

# TANOSHI™

(METRIBUZIN 70% WP)

## SYSTEMIC HERBICIDE FOR GRASSY AND BROAD LEAVED WEEDS

- **TANOSHI** belongs to triazines group of herbicides.
- **TANOSHI** is used for pre/post emergence control of annual grasses and some broad leaved weeds of Potato, Sugarcane, Wheat, Soybean and Tomato.
- **TANOSHI** selective systemic herbicide, absorbed mainly by the roots and also by the leaves. It act on photosynthesis II and inhibit electron transfer the weed dies due to starvation.
- **TANOSHI** can be applied foliar broadcast, band application, soil incorporation method. It is also tested in combination with clodinafop propargyl for wheat weed management.



## TANOSHI™

- ✓ **TANOSHI** is primarily root absorbent translocated upward in xylem and moves to the top of plant.
- ✓ **TANOSHI** is a post emergent application it moves systematically from the base of leaves and kill weeds inhibiting the photosynthesis.
- ✓ **Time of application :**
  - Sugarcane : Pre-emergence or post emergence application 25-30 days after planting.
  - Potato : pre-emergence application at 3-4 days after planting or at potato plant height of 5cm.
  - Tomato : Pre-plant application a week before transplanting or post emergence at 15 days after transplanting.
  - Wheat : Post emergence application at 35 days after sowing.
  - Soyabean : Pre-emergence application 1-2 days after sowing.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage/Acre		Waiting Period (in days)
		Formulation (gm)	Dilution in water (litres)	
Sugarcane	<i>Cyperus rotundus</i> , <i>Cynodon dactylon</i> , <i>Asfodelus tenuifolius</i> , <i>Chenopodium album</i> , <i>Convolvulus arvensis</i> , <i>Portulaca oleracea</i> , <i>Anagallis arvensis</i> , <i>Cichorium intybus</i> , <i>Echinochloa colonum</i> , <i>Dactyloctenium aegyptium</i> , <i>Parthenium hysterophorous</i> , <i>Commellina sp.</i>	Pre Emergency 600 - 1200	300-400	60
		Post Emergency 600-800		
Potato	<i>Chenopodium album</i> , <i>Trianthema monogyna</i> , <i>Parthenium hysterophorous</i> , <i>Fumaria parviflora</i> , <i>Mallotus sp.</i> , <i>Phalaris minor</i>	300	300-400	30
Tomato	<i>Chenopodium album</i> , <i>Trianthema monogyna</i> , <i>Parthenium hysterophorous</i> , <i>Fumaria parviflora</i> , <i>Mallotus sp.</i> , <i>Phalaris minor</i>	300	300-400	30
Soybean	<i>Digitaria sp.</i> , <i>Cyperus esculentus</i> , <i>Cyperus campestris</i> , <i>Borreria sp.</i>	200 - 300	300 - 400	30
Wheat	<i>Phalaris minor</i> , <i>Chenopodium album</i> , <i>Mellilotus sp.</i>	100 - 120	200 - 300	120



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# YUGATA™

(BISPYRIBAC SODIUM 10% SC)

## SYSTEMIC HERBICIDE

**YUGATA** : is a broad spectrum post emergent herbicide effectively controls major grasses, sedges and broad leaf weeds in Rice crop.

**YUGATA** : is ideal herbicide to manage all major weeds in Rice at various stages like Nurseries, Transplanted Rice and Direct Seeded Rice (DSR).



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Packing: 10ml, 50ml. , 100ml. , 200ml. , 500ml. , 1ltr

## YUGATA™

**YUGATA :** dose is 80-100 ml/acre in 120 litre water (depending on the field conditions weeds, their growth stage, population, time of application).

**YUGATA :** should be applied after draining out irrigated water from field. Re-irrigated after 2-3 days of application and maintain water for next 7 days for best results.

**YUGATA :** should be used only as a spray and apply uniformly on weed leaves It should not be mixed with sand or fertilizer or any other method.

**YUGATA :** spray for uniform coverage of weeds. Use flood jet or flat fan nozzle.

### Application and Dosage Recommendations :

Crop	Name of Weeds	Dosage / Acre		Waiting period (in Days)
		Formulation (ml)	Dilution in water (liters)	
Rice Nursery & Transplanted	Echinochloa crusgalli, Echinochloa colonum, Ischaemum rugosum, Cyperus difformis, Cyperus iria	80	120	78
Rice (Directly seeded)	Fimbristylis miliacea, Eclipta alba, Ludwigia parviflora, Monochoria vaginalis, Alternanthera philoxeroides, Sphenoclea zeylenica	80-100	120	78

### PRECAUTIONS

- 1) Rain fastness is at least 6 hours, do not spray **YUGATA** while drizzling in the field.
- 2) Do not tank mix any non-compatible pesticide along with **YUGATA**
- 3) It should not be applied in fish cultivated area



## YOKOZUNA ROLE IN RICE WEED MANAGEMENT



**YUGATA** : is a broad spectrum post emergent herbicide effectively controls major grasses, sedges and broad leaf weeds. It belongs to Pyrimidinyl Carboxy group.

**YUGATA** : is ideal herbicide to manage all major weeds in Rice at various stages like Nurseries, Transplanted Rice and Direct Seeded Rice (DSR).

**YUGATA** : inhibits amino synthesis-actohydroxyacid synthase (AHAS) in weeds, which is building block of cell. It is safe to paddy crop and does not affect the known varieties of rice plants grown in India.

**YUGATA** : is better than other weedicide. It can be applied upto 2-5 leaf stage of weeds. This gives flexibility to farmer of 10-15 days window of application.

**YUGATA** : is high systemic in nature and quickly gets absorbed by weed's foliage. Weeds cease to compete with rice crop followed by their death in about weeks time.

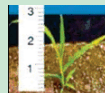
**YUGATA** : is a non persistent weedicide and can be applied in combination with or in close succession with other generally used plant protection chemicals.

### Time and method of Application

#### Weed stage for application

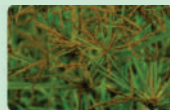


5 Leaf Stage Plant  
(Broad Leaf Weeds)



2-3 Inch Height  
(Grasses)

**YUGATA** : should be sprayed when most of the weeds have emerged and are between 2-5 leaved stage. It is not effective on submerged weeds.

**YUGATA™****GRASSES***Echinochloa crusgalli**Echinochloa colona**Ischaemum rugosum***SEDGES***Cyperus difformis**Cyperus iria**Fimbristylis miliacea***BROAD LEAFED***Monochoria vaginalis**Ludwigia parviflora**Sphenoclea zeylanica**Eclipta spp.*

# ZAKIYAMA™

(PENDIMETHALIN 30% EC)

## PRE EMERGENT HERBICIDE FOR GRASSY AND BROAD LEAF WEEDS

- **ZAKIYAMA** belongs to dinitroaniline chemical group.
- **ZAKIYAMA** is effective against the wide range of grassy and certain broad leaved weeds as it inhibits growth of both root and shoot recommended on wheat, paddy and cotton crops.
- **ZAKIYAMA** inhibits cell division and elongation thus inhibiting root as well as shoot growth and finally prevent weed emergence.
- **ZAKIYAMA** is a selective pre-emergence herbicide having effective control of weeds at a very economical cost of application.
- **ZAKIYAMA** provides effective control of the affected weeds for longer duration because of residual control.

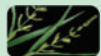


## ZAKIYAMA™

- ✓ **ZAKIYAMA** is well acceptable for its efficacy for long control, crop yield, treatment costs and environmental impact.
- ✓ **ZAKIYAMA** it is widely used in various vegetable and leguminous crop By farmers of india.
- ✓ **ZAKIYAMA** inhibits the microtubule synthesis resulting check of seedling root & shoot growth in affected weeds.
- ✓ **ZAKIYAMA** is safe for environment and soil microclimate.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage / Acre		Waiting period (in Days)
		Formulation (ml)	Dilution in water (litres)	
Wheat	Phalaris minor, Chenopodium album, Melilotus alba, Portulaca oleracea, Anaglis arvensis, Fumaria parviflora, Poa annua	1320 to 2000 (Light to Heavy Soil)	200-280	-
Rice (Transplanted & DSR)	Echinochloa colona, Echinochloa crusgalli, Fimbristylis milaeceae, Marselia quadrifoliata, Altamantnera sessilis, Ammania baccifera, Eclipta alba, Ludwigia parviflora, Cyperus difformis,	1320 to 2000 (Light to Heavy Soil)	200-280	-
Cotton	Echinochloa spp, Euphorbia hirta, Amaranthus viridis, Portulaca oleracea, Trianthema spp., Eleusine indica	1000 to 1670	200-280	150
Soybean	Echinochloa spp., Euphorbia spp., Amaranthus viridis, Portulaca oleracea, Trianthema spp., Eleusine indica	1000-1320	200-280	110
Pigeon Pea	Digitaria sanguinalis, Digeria arvensis, Amaranthus spp., Trianthema spp., Euphorbia hirta, Cyperus spp., Eragrostis spp.,	1000-1320	200	133
Chilli	Echinochloa spp., Eleusine indica,	1000 to 1670	200-280	15
Onion	Chenopodium album, Melilotus spp., Digitaria Sanguinalis, Anagalis arvensis, Eleusine indica, Echinochloa spp., portulaca oleracea	1000-1320	200-280	15



Echinochloa colonum



Amaranthus viridis



Dactyloctenium aegyptium



Euphorbia hirta



Cleome viscosa



Digitaria sanguinalis



Portulaca oleracea



Eragrostis minor

## ZAKIYAMA PLUS™

(PENDIMETHALIN 38.7% CS)

### BROAD SPECTRUM SELECTIVE PRE-EMERGENT HERBICIDE

- **ZAKIYAMA PLUS** belongs to dinitroaniline chemical group.
- **ZAKIYAMA PLUS** is a broad spectrum, selective pre-emergent and pre-plant incorporation herbicide recommended in Soybean, Onion, Chilli and Cotton crops for effective control of annual grasses, sedges and broad leaved weeds.
- **ZAKIYAMA PLUS** inhibits cell division and elongation thus inhibiting root as well as shoot growth and finally prevent weed emergence.
- **ZAKIYAMA PLUS** is based on advance capsule technology in which active ingredient is packed in capsule form. Because of this technology the molecule is released slowly on soil surface and give prolonged control of newly emerged weeds.

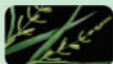


## ZAKIYAMA PLUS™

- ✓ **ZAKIYAMA PLUS** absorbs through both the leaves and roots of weed plants.
- ✓ **ZAKIYAMA PLUS** inhibits the cell division at the time of weed seed germination.
- ✓ **ZAKIYAMA PLUS** is safe for environment and soil microclimate.
- ✓ **ZAKIYAMA PLUS** is cost effective herbicide due to one-shot solution and provides longer duration control on weeds.
- ✓ **ZAKIYAMA PLUS** has no residual effects due to which it doesn't affect adversely on subsequent crops.

### Application and Dosage Recommendations :

Crop	Name of Weeds	Dosage / Acre		Waiting Period ( In days)
		Formulation (ml)	Dilution in water (liters)	
Soybean	Echinochloa colonum, Dinebra arabica, Digitaria sanguinalis, Brachiaria mutica, Dactyloctenium aegyptium, Portulaca oleracea, Amaranthus viridis, Euphorbia geniculata, Cleome viscosa	600-700	200	40
Onion	Dactyloctenium aegyptium, Dinebra arabica, Digitaria sanguinalis, Echinochloa spp., Portulaca oleracea, Commelina spp., Digera arvensis, Amaranthus viridis, Trianthema portulacastrum	600-700	200	104
Chilli	Echinochloa colonum, Dinebra arabica, Brachiaria mutica, Portulaca oleracea, Amaranthus spp., Commelina spp., Parthenium hysterophorus, Digera arvensis, Physalis minima	600-700	200	98
Cotton	Digitaria sanguinalis, Echinochloa colonum, Dinebra arabica, Eragrostis minor, Lantana camara, Brachiaria mutica, Portulaca oleracea, Amaranthus spp., Commelina communis, Parthenium hysterophorus	600-700	200	101



Echinochloa colonum



Amaranthus viridis



Dactyloctenium aegyptium



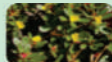
Euphorbia hirta



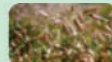
Cleome viscosa



Digitaria sanguinalis



Portulaca oleracea



Eragrostis minor

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CROP SCIENCE

**OJIKA™**

(PYRAZOSULFURON ETHYL 10% WP)



85

Packing: 20g , 80g

# OJIKA™

OJIKA is a broad spectrum herbicide containing Pyrazosulfuron Ethyl 10% WP, a sulfonyleurea class of herbicide. It is a pre-emergent systemic herbicide. The herbicidal activity is derived by inhibition of Acetolactate synthase (ALS) which is essential for synthesis of amino acids.

## FEATURES OF OJIKA

- **Low dose:** Ojika herbicide hence favorable for environmental and toxicological profile.
- **Spectrum of weed Control:** Broad spectrum activity, excellent control of Sedges and Broad Leaf weed & fairly good control of grasses.
- **Application flexibility** Ojika can be used as spray as well as broadcast.
- **OJIKA** is safe for growth of Rice crop in nursery and main field.
- **OJIKA** has no adverse effect on physico chemical properties and microbial activities in the soil.
- **OJIKA** is one of the most economical rice Herbicide.

## RECOMMENDATIONS:

Crop	Weeds	Dosage (g / Acre)	Dilution in water (liters)	Waiting Period (In days)
Paddy	Cyperus iria, Cyperus difformis, Fimbristylis miliacea, Ludwigia parviflora, Monochoria vaginalis,	40-60	200-240	95





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CROP SCIENCE

**TOKACHI™**

(PENOXsulAM 2.67%OD)



87

Packing: 100ml, 200ml, 400ml. , 1ltr

## TOKACHI™

**Tokachi:** The active ingredient in penoxsulam 2.67% OD.

**Tokachi:** A systemic weedicide used after weeding.

**Tokachi:** Control Grasses, Sedges and Broad leaved weeds in Paddy Crop.

**Tokachi:** Has a unique OD formulation which results in good effect even in rainy season.

**Tokachi:** It is completely safe for rice crop as well as subsequent crop at right dosage.

**Tokachi:** Control Grasses, Sedges and Broad leaved weeds in Paddy Crop.

### Application and Dosage Recommendations :

Crop	Names of Weeds	Dosage / Acre		Waiting period (in Days)
		Formulation (ml)	Dilution in water (litres)	
Paddy	Grasses: Barnyardgrass Watergrass (Echinochloa crus-galli) Junglerice (Echinochloa colona)	360-400	120-200	60
	Sedges: Smallflower Umbrella (Cyperus difformis)	360-400	120-200	60
	Broad Leaved: Caesulia axillaris	360-400	120-200	60
	Weeds: Pink node flower	360-400	120-200	60



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CROP SCIENCE

**REKISHI™**

(Sulfosulfuron 75% WG)

**SYSTEMIC, SELECTIVE POST-EMERGENT  
HERBICIDE FOR NARROW LEAF WEEDS IN WHEAT**

**REKISHI** is a systemic, selective post-emergent herbicide of sulfonylurea group.

**REKISHI** effectively controls the narrow leaf weeds like Phalaris minor (Mandusi/ Guli danda) and broad leaf weeds like Chenopodium (Bathu), Malilotus (Sainji).

**REKISHI** inhibits the synthesis of amino acids and stops the metabolic process, with the result weeds dry up and ultimately dies.



89

**Packing: 13.50g**

# REKISHI™

## Method of Application:

1. Dissolve the total quantity of Rekishi (13.5 g kept in Pouch) in 8 litre of water.
2. Add to the total quantity (500ml) of Rekishi kept in other packet and mix them well.
3. Use one litre of this stock solution / pump (15 litre) and spray on the crop.
4. For better results use atleast 8 pump / acre and use only Flat Fan/Food Jet nozzle

## Application and Method of Use

Crop	Weeds	Dose (g/acre)	Time of Application
Wheat	Phalaris minor, Wildoat, Chenopodium, Melilotus, Lathyrus, Medicago, etc.	13.5 g Rekishi + 500 ml Surfactant	30-35 days after sowing of wheat when weeds are in 2-4 leaf stage

## Precaution:

Never use Rekishi if Mustard, Sunflower, Pea or any other broad leaf crop is intercropped with wheat.



**SOKUSAI PLUS™**

( Pretilachlor 37% E.W. )

**Mode of Action:**

1. Broad-spectrum selective pre-emergence to early post-emergence rice herbicide
2. It controls grass, broadleaf, and sedge weeds.
3. It is a cell division inhibitor. It is reported that chloroacetamide inhibit the synthesis of very long-chain fatty acids
4. It is taken up readily by the hypocotyls, mesocotyls, and coleoptiles, and to a lesser extent, by the roots of germinating weeds.



## SOKUSAI PLUS™

### Benefits:

1. It dissolves quickly and spreads fast and has an effective action.
2. It is safe for the crop and environment
3. It is suggested to use between 0-5 days after transplanting of paddy.
4. It is also suggested to avoid flooding the field up to 24 hours after application.
5. It exhibits highly efficient control of a variety of weeds like annual grasses, sedges and broad-leaved weeds.
6. It controls weeds by inhibiting their growth and reducing cell division.
7. No adverse effect like stunting or yellowing of crop rather gives greening effect to the crop.

### Application and Method of Use

Crop	Weeds	Dosage Per Acre		Waiting period (days)
		Formulation (ml)	Dilution in water (Liters)	
Paddy (Rice)	Echinochloa crusgalli, Echinochloa colonum, Cyperus difformis, Cyperus iria, Digitaria sanguinalis, Fimbristylis miliacea, Eclipta alba, Ludwigia parviflora, Monochoria vaginalis	600-750	200	90



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CROP SCIENCE

**YUTORI™**

(TEMBOTRIONE 34.4% w/w SC)

**A TRUE FRIEND OF MAIZE**

**YUTORI:** is a weedicide used for the control of broad and grassy weeds in the standing crop of maize.

**YUTORI:** is not phytotoxic when used as per field recommendation.

**YUTORI:** apply the herbicide, when broadleaf and grassy weeds in maize is observed and repeat application as necessary.

**YUTORI:** The signs of action are visible rapidly and the complete weed control effect is visible within a few days of spraying.



93

Packing: 115ml

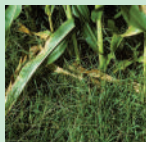
# YUTORI™

## **Method of Application:**

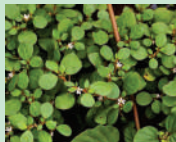
1. Apply during clear sky do not apply during wind condition.
2. Application timing: preferably in the morning or evening hours.
3. All type of soil and water.
4. Not to be applied during crop maturity and just before crop harvest.

## **Application and Method of Use**

Crop	Weeds	Dosage Per Acre		Waiting period (days)
		Formulation (ml)	Dilution in water (Liters)	
Maize	Enchinochloa sp., Trianthema portulacastrum, Bracharia sp.	114.4	200	55



Enchinochloa sp.



Trianthema portulacastrum



Bracharia grass





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(A Joint Venture of IFFCO & Mitsubishi Corporation)



**IFFCO-MC Crop Science**



# FUNGICIDE



**IFFCO-MC Crop Science**

**ANIKI™**

(PROPINEB 70% WP)

### BROAD SPECTRUM CONTACT FUNGICIDE WITH PREVENTIVE ACTION

- ANIKI belongs to Dithiocarbamate fungicide with proven action.
- ANIKI is recommended on Grape and Tomato crops for control of important diseases.
- ANIKI is a contact fungicide, act on fungal spore germination and penetration stage.
- ANIKI act on multiple site of fungus like respiration, protein metabolism and many other sites. Due to this multiple action, chances of resistance development is minimal.
- ANIKI should be applied at the initial stage of infection as preventive spray. It is not effective when fungus has spread inside and started producing spores.
- ANIKI is ideal fungicide for IPM management practices.



## ANIKI™

- ✓ ANIKI also contains zinc in easily available form which contributes to improvement in yield and quality of the crops.
- ✓ ANIKI is made up of fine suspension particle, quickly mix in spray solution and does not cause spots on fruits.
- ✓ ANIKI has low toxicity to human beings and safe for environment.
- ✓ ANIKI has better rain fastening ability hence better efficacy under adverse environment conditions.
- ✓ ANIKI is best for resistance management strategy.

### Application and Dosage Recommendations

Crop	Disease	Dosage / Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Apple	Scab	3gm/liter of water	as per crop requirement	30
Pomegranate	Leaf And Fruit Spots	3gm/liter of water	as per crop requirement	10
Potato	Early & Late Blight	3gm/liter of water	as per crop requirement	15
Chilli	Dieback	5gm/liter of water	as per crop requirement	10
Grapes	Downy Mildew	3gm/liter of water	as per crop requirement	40
Tomato	Buck eye rot	3gm/liter of water	as per crop requirement	10
Rice	Brown leaf spot (Helminthosporium oryzae)	600-800	200	-



Fruit spot



Scab



Dieback



Late blight



Buck eye rot

## GOZARU™

(COPPER OXYCHLORIDE 50% WP)

### BROAD SPECTRUM CONTACT FUNGICIDE

- GOZARU belongs to inorganic chemistry of Copper.
- GOZARU is registered on many crops and wide range of diseases spectrum.
- GOZARU has a strong contact action at multiple sites of fungus and act as protectant fungicides.
- GOZARU acts at pre penetration stage of fungus.
- GOZARU is a protectant fungicide which has to apply before the fungus invade the leaf surface.
- GOZARU is having blue colored copper and is most economical fungicide.



## GOZARU™

- ✓ GOZARU is a pH neutral product and is made of ultra-fine particle ingredients.
- ✓ GOZARU is easily mixed in water and have free flowing formulation.
- ✓ GOZARU can be tank mixed with other chemicals but avoid using alkaline products.
- ✓ GOZARU has rain fastening ability and have long residual action.
- ✓ GOZARU also stops the saprophytic fungus growing on honey substance released by many sucking pests like Aphids and Whitefly.

### Application and Dosage Recommendations

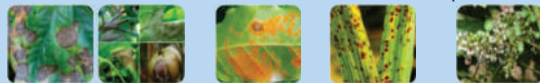
Crop	Disease	Dosage / Acre		Waiting Period (In Days)
		Formulation (gm)	Dilution in water (liters)	
Citrus	Leaf spot, Canker	1000	300-400	-
Chilies	Leaf spot, Fruit rot	1000	300-400	-
Banana	Fruit rot, Leaf spot	1000	300-400	-
Potato	Early blight, Late blight	1000	300-400	-
Tobacco	Downy mildew, Black sank, Frog eye leaf	1000	300-400	-
Tomato	Early blight, Late blight, Leaf spot	1000	300-400	-
Grapes	Downy mildew	1000	300-400	-
Coconut	Bud rot	1000	300-400	-
Coffee	Black Rot, Rust	1500-3000	300-400	-
Betel	Foot Rot, Leaf Spot	1000	300-400	-



Potato : Early ana Late Blight

Citrus Canker

Chilli: Leaf Spot and Fruit Rot



Tomato : Early and Late Blight

Coffee Rust

Rice Brown Leaf Spot

Grapes Downy mildew

## KAGUYA™

(CARBENDAZIM 12% + MANCOZEB 63% WP)

### BROAD SPECTRUM SYSTEMIC AND CONTACT COMBINATION FUNGICIDE

- **KAGUYA** is combination chemistry where as Carbendazim is from Benzimidazole and Mancozeb is from Dithiocarbamates.
- **KAGUYA** is recommended on various crop for control of many diseases.
- **KAGUYA** is preventive & curative fungicide with multi-site action on fungus.
- **KAGUYA** ensures double protection from systemic & contact action.



## KAGUYA™

### Features :

- ✓ KAGUYA due to its multiple mode of action does not develop the resistance in fungus till date.
- ✓ KAGUYA is used in various way such as seed treatment, soil drenching, rhizome / tuber dipping and foliar sprays.
- ✓ KAGUYA acts by inhibiting the development of fungal germ tube, formation of appressoria and growth of mycelia, also cause disturbance in fungal enzyme functioning.
- ✓ KAGUYA is effective against a wide range of fungal diseases in various crops.

### Application and Dosage Recommendations :

Crop	Names of Diseases	Dosage/Acre		Waiting Period (In Days)
		Formulation (gm)	Dilution in water (litres)	
Potato	Early blight, Late blight, Black Scurf	700	200	47
Paddy	Blast	300	300	57
Groundnut	Leaf spot, Blast	200	200	72
	Tikka Leaf spot, Collar rot & Dry Root rot	2.5g/kg seeds	-	Seed dresses
Chilli	Leaf spot, Fruit rot & Powdery mildew	300	200	3
Mango	Powdery mildew, Anthracnose	1.5g/ltr water	As required depending on crop canopy	7
Grapes	Downey mildew, Powdery mildew, Anthracnose	1.5g/ltr water	As required depending on crop canopy	7
Tea	Blister blight, Grey blight, Red rust Dieback, Black rot	500	100-200	7



Powdery mildew



Leaf spot



Early blight



Anthracnose



**KINKI™**

(HEXACONAZOLE 5% SC)

### SYSTEMIC AND CONTACT FUNGICIDE

- **KINKI** belongs to triazole group of fungicide. It is highly systemic fungicide having protective and curative action.
- **KINKI** is useful for controlling Powdery mildews, Rusts and Leaf spots in cereals, Oil seeds, horticultural and plantation crops and also for the effective control of Rice Sheath blight.
- **KINKI** is an ergosterol biosynthesis inhibitor there by controlling growth and reproduction of fungal pathogens by inhibiting the cell wall formation process the fungus loose its ability to penetrate and form hyphae.
- **KINKI** has low toxicity to mammals, fish, birds, and beneficial insects.
- **KINKI** is to be applied at early infestation stages when only 2 to 3 % of leaf area is covered with fungal infestation.



## KINKI™

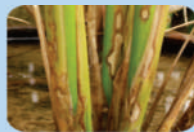
- ✓ **KINKI** is aqua based formulation provides good leaf surface coverage there by provides control against the pathogens for a longer duration.
- ✓ **KINKI** is compatible with commonly used pesticides except with lime, sulphur, bordeaux mixture or a alkaline solutions.
- ✓ **KINKI** is highly cost effective fungicide for leaf spot diseases and can be applied near root zone.
- ✓ **KINKI** is a trizole fungicide which has very good compatibility with strobilin fungicide and gives longer protection under continuous fungal attack.
- ✓ **KINKI** molecule is effective till date and no resistance is reported against it.

### Application and Dosage Recommendations :

Crop	Disease	Dosage/Acre		Waiting Period (In Days)
		Formulation (ml)	Dilution in water (litres)	
Mango	Powdery Mildew	2ml/ltr	as required	27
Rice	Sheath Blight	200	100ltr	40
Grapes	Powdery mildew	200-400/200ltr	200ltr	14



Powdery mildew of Mango



Sheath Blight



Powdery mildew of Grapes

# MASANORI™

(TRICYCLAZOLE 18%+MANCOZEB 62% WP)

## CONTACT AND SYSTEMIC FUNGICIDE

- **MASANORI** is a combination of triazole and dithiocarbamate group of fungicide.
- **MASANORI** controls of Rice blast, Brown leaf spot and Grain discoloration .
- **MASANORI** is a combination fungicide with systemic and contact action.
- **MASANORI** Mancozeb present in the **MASANORI** is a protectant fungicide that prevents the fungus from penetrating into plant cells, where as Tricyclozole being systemic in nature, rapidly absorbed by the plants and translocated acropetally to protect internally.
- **MASANORI** is best applied at leaf blast and neck blast stage.



## MASANORI™

- ✓ **MASANORI** is developed to have multiple mode of action targeting several sites of fungus thus it is not easy to develop resistance in fungi as well as it gives longer residual effect under continuous fungal attack even in adverse climatic conditions.
- ✓ **MASANORI** is a systemic and contact fungicide with Prophylactic and Curative action. It is to be used as a preventive application.
- ✓ **MASANORI** is safe for environment, mammals, beneficial insects and soil microbes.

### Application and Dosage Recommendations

Crop	Disease	Dosage / Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (liters)	
Rice	<b>Brown Spot</b> (Helminthosporium Oryzae) <b>Blast</b> (Pyricularia Oryzae) <b>Grain Discoloration</b> (Helminthosporium, Rhizoctonia, Pyricularia, Alternaria)	400-500	200-250	25



Leaf blast



Neck blast



Brown Leaf spot



Grain discoloration

## MOYASHI™

(THIOPHENATE METHYL 70%WP)

### SYSTEMIC FUNGICIDE HAVING PREVENTIVE AND CURATIVE ACTION

- **MOYASHI** is broad spectrum systemic fungicide belongs to Benzimidazole group.
- **MOYASHI** is recommended on several crops like Apple, Grapes, Vegetables, Pulses and Papaya. It is good fungicide for Anthracnose, Apple Scab, Powdery Mildew and several Leaf Spot diseases.
- **MOYASHI** is a systemic fungicide having preventive and curative action. It is quickly absorbed by plants and translocated into the system. It prevents fungus penetration and lesions formation and shows very good curative effects on fungal diseases.
- **MOYASHI** acts on fungal reproductive system due to which fungal cell division and development is affected.
- **MOYASHI** has a wide window of application used as a seed treatment, rhizome / tuber dip, soil drenching and foliar spray.

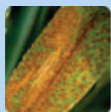


## MOYASHI™

- ✓ **MOYASHI** is highly cost effective and successful fungicide for the three decades.
- ✓ **MOYASHI** having sulphur in atomic form thus exhibits good phytotonic and antifungal effects on plants.
- ✓ **MOYASHI** is a perfect solution for Anthracnose, Cercospora leaf spot, Powdery mildew and Scab disease.
- ✓ **MOYASHI** is compatible with most of the fungicide and insecticide used in crops.
- ✓ **MOYASHI** quickly and uniformly dissolves in water.
- ✓ **MOYASHI** is safe for environment and users.

### Application and Dosage Recommendations

Crop	Disease	Dosage / Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (liters)	
Papaya	Powdery Mildew	286	300-400	4-8
Apple	Scab	286	300-400	3
Bottle Gourd	Anthracnose	572	300-400	1
Grapes	Powdrey mildew, Anthracnose, Rust	286	300-400	7



Rust



Anthracnose



Ring rot



Powdery mildew



Sheath blight

## NOYAKU™

(AZOXYSTROBIN 23% SC)

### SYSTEMIC FUNGICIDE HAVING PREVENTIVE, CURATIVE AND ERADICATIVE ACTION

- NOYAKU belongs to strobilurin group of fungicide
- NOYAKU is recommended on several crops like Potato, Chilli, Grapes and Tomato to control both phycomycetes and deuteromycetes class of fungus like Powdery mildew and Downy mildew.
- NOYAKU disrupt the electron transport chain by binding the Qol site of complex III within mitochondria this will affect the respiration of the fungi.
- NOYAKU is a strobilurin fungicide with protectant, curative, eradicator and antispurulant actions work very effectively against fungal pathogens.
- NOYAKU is a highly systemic fungicide rapidly absorbed by the plant and provides protection for longer period.



## NOYAKU™

- ✓ NOYAKU is the latest discovery and most popular fungicide molecule.
- ✓ NOYAKU is used to breakdown the resistance due to the different mode of action compared to conventional fungicides.
- ✓ NOYAKU can be used under multiple disease syndrome attacking plant at same time this saves money as well as time in disease management system.
- ✓ NOYAKU is compatible with the commonly used agrochemicals.
- ✓ NOYAKU it has the ability to control advance stages of the fungus.

### Application and Dosage Recommendations :

Crop	Name of Diseases	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (litres)	
Grapes	Downy mildew, Powdery mildew	200	200 - 300	7
Chilli	Fruit rot, Powdery mildew	200	200 - 300	5
Mango	Anthrachnose, Powdery mildew	0.10% or 1ml/ltr	200 - 300	5
Tomato	Early & Late blight	200	200	5
Potato	Late Blight	200	200	12
Cucumber	Downy mildew, Powdery mildew	200	200	5
Cumin	Blight, Powdery mildew	200	200	28
Pomegranate	Leaf & Fruit spot	0.10% or 1ml/ltr	200 L/acre or depending on size of tree	5



Late blight



Fruit spot



Powdery mildew



Fruit rot



Late blight



## PIKAPIKA™

(PROPICONAZOLE 25% EC)

### SYSTEMIC FUNGICIDE HAVING PREVENTIVE AND CURATIVE ACTION

- **PIKAPIKA** belongs to triazole group of fungicide.
- **PIKAPIKA** is recommended on several crops like Groundnut, Paddy, Wheat and Soybean on Rust bunt, Sheath blight and Leaf spot diseases.
- **PIKAPIKA** affect the cell wall formation of fungal cell by inhibiting the ergosterole formation thus fungus loose its penetration ability and cannot grow inside the plant.
- **PIKAPIKA** a protectant and curative fungicide to be used as prophylactic at early stage of fungal disease development.
- **PIKAPIKA** is also having growth regulatory effects and impart the shining effect on grains of cereal crops.
- 



## PIKAPIKA™

- ✓ **PIKAPIKA** is a highly systemic, most efficient and cost effective fungicide helps crop to achieve maximum yield potential, as well crop quality.
- ✓ **PIKAPIKA** is compatible with commonly used pesticides except with lime, sulphur, bordeaux mixture or alkaline solutions.
- ✓ **PIKAPIKA** is rapidly absorbed and translocated through the xylem and active ingredient will remain within the plant tissue and prevent it from being washed off.
- ✓ **PIKAPIKA** has the ability to stay inside the leaves for longer duration and it participate on mechanism to prevent continuous fungal infection even under rain fall conditions.

### Application and Dosage Recommendations :

Crop	Disease	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (litres)	
Wheat	Karnal bunt, Leaf rust / Brown Rust, Stem rust, Stripe / Yellow rust	200	300	30
Rice	Sheath blight	200	300	30
Groundnut	Early & Late leaf spot, Rust	200	300	15
Tea	Blister blight	50-100	70-100	7
Soybean	Rust	200	200	26
Cotton	Leaf spot	200	200	23



Karnal bunt



Sheath blight



Late Leaf spot



Rust



Leaf spot

**SAIKIN™**

(TRICYCLAZOLE 75% WP)

**BROAD SPECTRUM SYSTEMIC FUNGICIDE**

- **SAIKIN** is belongs to Trizole chemical group.
- **SAIKIN** is very effective fungicide used to control the Blast disease in rice.
- **SAIKIN** rapidly absorbed and translocated systemically in plants and provides longer duration control.
- **SAIKIN** inhibits melanin biosynthesis does not allow blast fungal spore to enter the rice plant.
- **SAIKIN** should be sprayed at the initial blast development of the leaf called Leaf blast stage followed by its application before the symptoms visible on neck.
- **SAIKIN** reduces the chaffy & broken grains and also increases the quality & yield of the Rice crop.
- **SAIKIN** should be used as preventive on Basmati Rice meant for Export purpose and PHI of 30 days to be maintained.

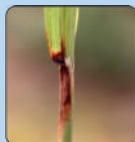


## SAIKIN™

- ✓ **SAIKIN** is a highly systemic fungicide which provides effective control of Leaf blast, Node blast and Neck blast in Rice.
- ✓ **SAIKIN** can be applied as preventive spray starting from Nursery to mature crop stage or immediately after appearance of Blast symptoms.
- ✓ **SAIKIN** has not developed the resistance among the blast races in India.
- ✓ **SAIKIN** is compatible with commonly used pesticides. It is not compatible with lime sulphur and Bordeaux mixture or alkaline solutions.

### Application and Dosage Recommendations :

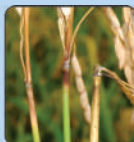
Crop	Disease	Dosage/Acre		Waiting Periods (in days)
		Formulation (g)	Dilution in water (litres)	
Paddy	Blast	120-160	200	30



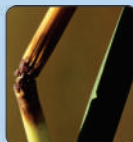
Collar blast



Leaf blast



Neck blast



Node blast

# SATSUMA™

(MANCOZEB 75% WP)

## CONTACT FUNGICIDE FOR PREVENTING CONTROL

- SATSUMA belongs to dithiocarbamate group of fungicide.
- SATSUMA is recommended on several crops against wide varieties of disease complex.
- SATSUMA react with sulfhydryl groups of amino acid and enzymes within fungal cells resulting in disruption of lipid metabolism, respiration and production of adenosine triphosphate due to its multi site action fungus are unable to develop resistance against it even if continuous and regular use.
- SATSUMA is a pure contact fungicide effective before fungal penetration inside the leaf hence the application should be carefully plant when maximum spore are falling on leaves under whether conditions.



## SATSUMA™

- ✓ SATSUMA is used as foliar sprays, seed treatment and nursery drenching in various crops.
- ✓ SATSUMA along with disease control satsuma provides Manganese and Zinc nutrition to the crop.
- ✓ SATSUMA has good compatibility with commonly used agrochemicals.
- ✓ SATSUMA can control many fungus belongs to phycomycetes, ascomycetes and deuteromycetes group of fungi only when it is applied at right stage.
- ✓ SATSUMA being cost effective is still a popular choice among farmers of india.

### Application and Dosage Recommendations :

Crop	Names of Diseases	Dosage/Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (litres)	
Potato	Late Blight, Early Blight	600 - 800	300	-
Tomato	Late Blight, Buck eye rot, Leaf spot	600 - 800	300	-
Wheat	Brown, Black Rust	600 - 800	300	-
Maize	Leaf blight, Downy mildew	600 - 800	300	-
Paddy	Blast	600 - 800	300	-
Jowar	Leaf spot	600 - 800	300	-
Banana	Tip rot, Sigatoka leaf spot, Cigar end rot	600 - 800	300	-
Apple	Scab, Sooty Blotch	30 gm/tree	10 ltr/tree	-
Grapes	Angular leaf spot, Downy Mildew, Anthracnose	600 - 800	300	-
Guava	Fruit rot	20 gm/tree	10 ltr/tree	-
Groundnut	Tika diseases, Rust	600 - 800	300	
	Collor Rot	1200	400	
Cauliflower	Leaf Spot	600-800	300	
	Blight	600-800	200	
Chilli	Damping off	1200	400	
	Fruit rot, Ripe rot, Leaf Spot	600-800	300	



## **SODATSU™**

(CYMOXANIL 8% + MANCOZEB 64% WP)

### **SYSTEMIC AND CONTACT FUNGICIDE**

- **SODATSU** is a combination product from Acetamide and Ethylene bis-dithiocarbamate chemistry
- **SODATSU** is a systemic and contact fungicide for control of grape downy mildew and late blight of potato and tomato.
- **SODATSU** is highly effective and specific on Oomycetes (water moulds) Fungi which is not easily control by other fungi.
- **SODATSU** is a prophylactic and curative fungicide and capable to penetrate inside the plant cell and stop hyphae development.



## SODATSU™

- ✓ **SODATSU** is locally systemic action supplements the effectiveness of companion fungicides, especially during periods of intensive disease pressure.
- ✓ **SODATSU** is relative safer to mammals, fish aquatic invertebrates, birds, bees and earthworms.
- ✓ **SODATSU** exhibits unique multi-site action, which leads to low disease resistance development.
- ✓ **SODATSU** can be used alternatively with strobilurin and other mode of action to have better disease management strategy.
- ✓ **SODATSU** is compatible with other fungicides and insecticides.

### Application and Dosage Recommendations :

Crop	Disease	Dosage/Acre		Waiting Periods (in days)
		Formulation (gm)	Dilution in water (liters)	
Grapes	Downy Mildew (Plasmopara viticola)	600-800	200-400	10
Potato	Late Blight (Phytophthora infestans)	600	200-300	10
Tomato	Late Blight (Phytophthora infestans)	600	200-300	10
Cucumber	Downey mildew (Pseudoperonospora cubensis)	600	200-240	10
Citrus	Gummosis (Foot rot) (Phytophthora palmivora)	2.5g/Ltr water or Linseed oil	10L/water, 50ml (linseed oil)/tree	82



Late blight



Downey mildew



Gummosis



Powdery mildew



## SUKOYAKA™

(AZOXYSTROBIN 11% + TEBUCONAZOLE 18.3% SC)

### A NOBEL COMBINATION FUNGICIDE WITH SYSTEMIC ACTION

- **SUKOYAKA** is combination fungicide from Strobilurin and Triazole group of chemistry.
- **SUKOYAKA** is a recommended on Paddy for Sheath blight and Chilli for Powdery mildew, Root rot and Die back however due to broad spectrum activity it can control many fungal diseases affecting various crop.
- **SUKOYAKA** is having Contact action on fungi and does not allow fungus germ tube formation as a preventive use. It can be also used as a curative fungicide after fungal penetration inside the leaves due to its systemic action.
- **SUKOYAKA** having Azoxystrobin is prevent respiration of fungi and Tebuconazole is an Ergosterol inhibitor thus preventing cell wall formation of fungi.
- **SUKOYAKA** has wider application and can be applied as preventive and curative.
- **SUKOYAKA** impacts positively on the physiological activity of the applied crop by improving the yield & quality of the produce.



## SUKOYAKA™

- ✓ **SUKOAYAKA** is combination of two most powerful molecules used worldwide and so far no resistance is reported against them in India.
- ✓ **SUKOAYAKA** has favourable toxicological profile and does not harms beneficial insects.
- ✓ **SUKOAYAKA** due to dual mode of action has capacity to control tough fungal diseases and has longer residual action.
- ✓ **SUKOAYAKA** due to systemic action can be used under adverse environmental conditions.
- ✓ **SUKOAYAKA** is ideally compatible with regularly used insecticides and Fungicides.

### Application and Dosage Recommendations :

Crop	Disease	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Potato	Early blight ( <i>Alternaria solani</i> ), Late blight ( <i>phytophora infestans</i> )	300	200	-
Wheat	Yellow rust ( <i>Puccinia striiformis</i> )	300	200	-
Tomato	Early blight ( <i>Alternaria solani</i> )	300	200	7
Rice	Sheath blight ( <i>Rhizoctonia solani</i> )	300	320	-
Onion	Purple blotch ( <i>Alternaria porri</i> )	300	320	7
Chilli	Fruit rot Powdery mildew Dieback	240	200-300	5



Fruit rot



Early blight



Sheath blight



Powdery mildew



Dieback

## TEBURA™

(TEBUCONAZOLE 25.9% EC)

### SYSTEMIC FUNGICIDE HAVING PREVENTIVE AND CURATIVE ACTION

- **TEBURA** is a broad spectrum systemic fungicide from Triazole chemistry.
- **TEBURA** is effective against various fungal diseases in crops like Rice, Chillies, Groundnut, Fruits, Vegetables and other field crops.
- **TEBURA** affect the cell wall formation of fungal cell by inhibiting the ergosterole formation thus fungus loose its penetration ability and cannot grow inside the plant.
- **TEBURA** is a protective, curative and eradivative fungicide.
- **TEBURA** rapidly absorbed by the plants and translocated acropetally in the plant system through xylem.



## TEBURA™

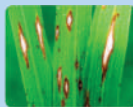
- ✓ **TEBURA** acts as a systemic fungicide. Demethylase inhibitors (DMI) interfere in the process of building the structure of the fungal cell wall.
- ✓ **TEBURA** inhibit the reproduction and further growth of the fungi.
- ✓ **TEBURA** to be used as preventive and curative application for effective in disease management.
- ✓ **TEBURA** is compatible with most of the insecticides and fungicides
- ✓ **TEBURA** is safe for environment, mammals and beneficial insects.
- ✓ **TEBURA** exhibit good Phytotonic effect in various crops.
- ✓ **TEBURA** along with effective disease control improves quality and quantity of the produce.

### Application and Dosage Recommendations :

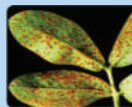
Crop	Disease	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Rice	Blast, Sheath Blight	300	200	10
Chilli	Powdery Mildew, Fruit Rot	200-300	200	5
Groundnut	Tikka and Rust	200-300	200	49
Onion	Purple blotch	250-300	200	21
Soybean	Anthrocnose (Pod blight)	250	200	14
Black gram	Leaf spot, Anthrocnose	300	200	17



Fruit rot



Blast



Rust



Purple blotch

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**YAMATO™**

(CARBENDAZIM 50% WP)

**CONTACT AND SYSTEMIC FUNGICIDE  
FOR PREVENTIVE DISEASE CONTROL**

- **YAMATO** belongs to benzimidazole group of fungicide.
- **YAMATO** is effective against a wide range of pathogenic fungi in various crops.
- **YAMATO** acts by inhibiting the development of fungi by interfering with spindle formation at mitosis cell division stage.
- **YAMATO** is systemic fungicide with protective and curative action.
- **YAMATO** has very good compatibility with commonly used agro chemicals.

**Packing: 100g, 250g, 500g, 1kg**

## YAMATO™

- ✓ **YAMATO** is a contact and systemic fungicide.
- ✓ **YAMATO** is highly cost effective and widely used as a combination with other mode of action fungicides.
- ✓ **YAMATO** is used in various ways i.e., soil drench, soil mixture and foliar spray.
- ✓ **YAMATO** is compatible with other fungicides and insecticides.
- ✓ **YAMATO** as a advantage of multi side action as well as sepicific sites this helps in resistance management.

### Application and Dosage Recommendations :

Crop	Names of Diseases	Dosage/Acre		
		Formulation (gm)	Dilution in water (litres)	Remarks
Paddy	Blast	100 - 200	300	
	Sheath Blight	2 gm/kg seed	1 lit/10 kg seed	Wet slurry treatment
Wheat,Barley	Loose smut	2 gm/kg seed	1 lit/10 kg seed	Wet slurry treatment
Cotton	Leaf spot	100	300	
Jute	Seedling blight	2 gm/kg seed	1 lit/10 kg seed	Wet slurry treatment
Walnut	Downy leaf spot	3	10 ltr/tree	
Sugar beet	Leaf spot,Powdery mildew	80	160	
Peas	Powdery mildew	100	240	
Cluster beans	Powdery mildew	140	300	
Cucurbits	Powdery mildew, Anthracnose	120	240	
Chillies	Damping off	2 gm/kg seed	1 lit/10 kg seed	Wet slurry treatment
Brinjal	Leaf spot, Fruit rot	120	240	
Apple	Scab	2.5g/Ltr water	10 ltr/tree	
Grapes	Anthracnose	120	240	
Walnut	Downy leaf spot	3	10 ltr/tree	
Rose	Powdery mildew	1	2 ltr	
Ber	Powdery mildew	10	10 ltr/tree	
Moong	Leaf spot, Web blight	100 - 200	300	
	Powdery mildew	200	300	
Tobacco	Frog eye spot, Anthracnose	90	300	

## NOZAWA™

(THIFLUZAMIDE 24% SC)

**Nozawa:** It effectively controls *Rhizoctonia solani* fungus which is major cause sheath blight in paddy.

**Nozawa:** It is rapidly absorbed by roots and leaves and translocated in xylem and apoplast throughout the plant.

**Nozawa:** It is used to control sheath blight disease of Rice; Early blight on Tomato and Black scurf on Potato.



## NOZAWA™

**NOZAWA** is a systemic fungicide with both preventive and curative action. It is highly effective in controlling SheathBlight diseases in standing crop of paddy.

### DESCRIPTION:

**NOZAWA** should be used as a preventive or before development

#### Application and Dosage Recommendations :

Crop	Disease	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Potato	Black scurf (As seed treatment)	2.5 ml/10kg potato tuber	-	Used as seed treatment in potato
Tomato	Early blight	200	200	7
Rice	Sheath blight, Rhizoctonia solani	150	200	28





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CROP SCIENCE

**KAZASHI™**

(ISOPROTHIOLANE 40%EC)

- **Kazashi:** is a systemic fungicide approved for the control of blast disease in rice crop



125

Packing: 100ml. , 250ml. 500ml , 1ltr, 5ltr

## KAZASHI™

### DESCRIPTION:

**KAZASHI** (Isoprothiolane 40% EC) belongs to dithiolane group. It is a systemic fungicide with curative and protective action. The chemical is absorbed by the leaves and roots and translocate acropetally and basipetally.

### MODE OF ACTION:

**KAZASHI** gets absorbed by the plant and accumulated in the leaf tissues to avoid bacterial invasion, hinder bacterial metabolism and hence inhibits bacterial growth.

### FEATURES & BENEFITS:

- **KAZASHI** is a synergistic systemic fungicid with two-way transmission.
- **KAZASHI** can be applied both as preventive and curative.
- **KAZASHI** is an excellent product to control paddy blast.

### RECOMMENDATIONS:

Crop	Disease	Dosage (ml /Acre)	Dilution in water (liters)	Waiting periods (in days)
Paddy	Blast	300	200-400	60



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**SAYAKA™****(PICOXYSTROBIN 7.05% + PROPICONAZOLE 11.71% SC)**

**Sayaka:** A systemic multifunctional fungicide with strong preventive and curative action

**Sayaka:** A Unique Combination Of Very Powerful And Good Fungicide Chemistry Strobilurin And Triazole

**Sayaka:** An early stage fungicide used to control paddy sheath blight and rust disease of wheat.



127

Packing: 200ml. , 400ml., 1ltr,

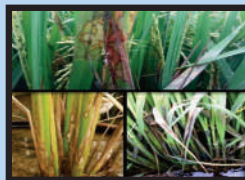
# SAYAKA™

**Sayaka:** is a new generation molecule. It gives complete solution for Rice Sheath Blight, False Smut, and wheat Yellow rust.

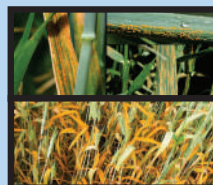
**Sayaka:** increases the quality of grains and also the yield.

### Application and Dosage Recommendations :

Crop	Disease	Dosage/Acre		Waiting Periods (in days)
		Formulation (ml)	Dilution in water (liters)	
Paddy	Sheath blight, False smut	400	200	24
Wheat	Yellow rust	400	200	52



Sheath Blight



Rust Disease



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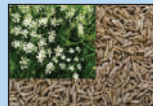
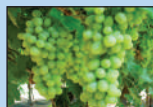


**SASAGE™**

(SULPHUR 80% WDG)

Disease resistant and disease curing contact fungicide

**Use sasage of IFFCO-MC  
Protects crop from disease**



## SASAGE™

- sasage is made up of sulphur technical with 80% of active ingredient it is used to prevent fungal disease in plant.
- sasage is a broad spectrum contact fungicide which is preventive in nature. it also provides sulphur to the plant which is essential for the plant.
- sasage controls fungal spots, leaf spot and rust.
- sasage controls fungal disease in grapes, mango, peas, cowpea, apple, cumin etc.

### Specialties

- sasage is a dust free flowable micronized sulphur granule which is easy to measure application.
- sasage gets dissolved instantly in water and spreads upon the foliage quickly and escapes leaf burn.
- sasage is a fungicide, micronutrient (sulphur) and miticide and has a triple action.
- sasage long control for a longer period.
- sasage application is safe against spore and buring on leaf and fruits.

### Application and Dosage Recommendations :

Crop	Disease	Dosage/Acre		Waiting Periods (in days)
		Formulation (gram)	Dilution in water (liters)	
Grapes	Powdery Mildew	750-1000	300-400	-
Mango	Powdery Mildew	750-1000	300-400	-
Wheat	Powdery Mildew	1000	200	24
Cumin	Powdery Mildew	750-1000	300-400	-
Apple	Scab	750-1000	300-400	-
Cowpea	Powdery Mildew	750-1000	300-400	-
Guar	Powdery Mildew	750-1000	300-400	-
Pea	Powdery Mildew	750-1000	300-400	-

### Directions for use

Its use is not recommended for those crops which are damaged by use of sulphur, for vegetables of cucurbits family and apple, pears and varieties of other fruits where the temperature is equal or more than 85°F or 30°C





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(A Joint Venture of IFFCO & Mitsubishi Corporation)



IFFCO-MC Crop Science



# P. G. R



**IFFCO-MC Crop Science**





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CROP SCIENCE

**HUMETSU<sup>®</sup>**

Use IFFCO-MC **Humetsu<sup>™</sup>**  
for healthy and robust crops.



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Packing: 100ml, 250ml, 500ml, 1L



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**GENUINE QUALITY  
REASONABLE PRICE**



CROP SCIENCE

## HUMETSU®

- Humetsu is a combination of naturally occurring organic substances and nutrients
- It is manufactured specially for the Indian crop and agricultural environment conditions
- Humetsu is obtained at Siberian Lignardites area from special natural feedstock, which itself is formed by natural decomposition processes happening since eons of years.
- Humetsu is quickly absorbed by the plant and active role in nutrient bio-chemical processes and further develops inherent strength in the plant, which helps them to withstand extreme climatic conditions.
- Humetsu is a combination of naturally occurring humic & fulvic acid. It is available as a mixture product with chelated Macro & Micro Nutrients (Nitrogen, Potash, Phosphorous, Zinc, Magnesium, Manganese, Iron, Boron, Molybdenum, Copper, Cobalt, Silicene)
- Humetsu can be used as an application mixture with other agrochemicals and it is safe for the environment as well.

### Benefits of the usage of Humetsu

- Improvement in the photosynthesis process
- Micro nutrient elements are easily absorbed by the laminar surfaces of the plant/crop.
- Plant stresses arising due to abiotic factors are reduced

**Seed treatment by Humetsu™** Apply 10 ml of Humetsu™ in 1 litre of water and prepare a uniform solution and then treat 1 Kg of seeds with that solution.

Seed Dressing	Vegetative	Pre-reproductive
Seed treatment	New shoot & formation root formation	Pre flowering, Seed germination, flowering stage, and initial seedling phase.
	Use twice at an interval of 15 days	Apply soon and in case of extreme climatic conditions, repeat the seed application at 10-15 days interval.

**Root Treatment :** Add 2ml Humetsu™ in 1 litre of water and treat roots before transplantation of the plants/crops

### Application and Dosage Recommendations :

Stage	Dosage
Seed Dressing	10 ml/kg seed
Foliar Application	400-600 ml/acre
Soil Drench	2 ml/L water or 1L/acre
Drip/Sprinkler Irrigation	500 ml to 800 ml/acre



**YOUR SUPPORT-OUR TRUST**



**AMINOS<sup>®</sup>**

**IFFCO-MC Aminos<sup>™</sup>**  
**for healthy and robust crop**



133

Packing: 100ml, 250ml, 500ml, 1L

**IFFCO**

Wholly owned by Cooperatives

**GENUINE QUALITY  
REASONABLE PRICE****IFFCO-MC**

CROP SCIENCE

**AMINOS<sup>®</sup>**

This product is made up of Free Amino acid, carbon and micronutrient elements. This is an ideal nutrient product for soil and crops. This treats any type of deficiency in soil.

- ★ Aminos<sup>™</sup> increases the production of chlorophyll and optimise the plant respiration and photosynthesis function of the plant
- ★ Use of Aminio<sup>™</sup> is recommended during Root development phase and initial development of the plant. This effectively controls the distribution and circulation of minerals in the plant. This helps in development of strong tissues by cell division and cell development processes.
- ★ This increases the yield during Biotic as well as Abiotic stress and increases the rhizosphere.

### Recommendation for the crops.

(1) Aminos<sup>™</sup> is used upon pods, cereal crops, root crops, cucurbits, leafy vegetables, vine crops, tropical and subtropical fruits and many other crops

### Application method

- (1) For complete canopy coverage by the applied product, foliage application is recommended. For every 1 Liter of water for application only 1- 1.5 ml of product is suggested. Aminio<sup>™</sup> can be sprayed uniformly upon the crop can be mixes with other substances while applying
- (2) Aminio<sup>™</sup> is for the complete nutrition of thr plants. Recommended dose of Aminio<sup>™</sup> per acre is 250-500 ml of the product.



**YOUR SUPPORT-OUR TRUST**



**SHIGOTO-408™**

SILICONE SUPER SPREADER

**IFFCO-MC's SHIGOTO-408 for  
Healthy and High Yielding Crop**



135

Packing: 50ml, 100ml, 250ml, 500ml, 1L



Wholly owned by Cooperatives

**GENUINE QUALITY  
REASONABLE PRICE**



CROP SCIENCE

**SHIGOTO-408™**

## SILICONE SUPER SPREADER

- ◆ **SHIGOTO-408** : Is a silicone based Non-ionic spray adjuvant which can be used with a broad range of agrochemical formulations.
- ◆ **SHIGOTO-408** : Provides enhanced spreading of agrochemicals on the leaf surfaces leading to a better spray coverage.
- ◆ **SHIGOTO-408** : Most effective as a tank side adjuvant when used 24 hours within preparation of the spray solution with pH between 4.5 and 8.0.

### APPLICATION

- ◆ Shigoto-408 is compatible with all category of agrochemicals that is Insecticide, Fungicide, Herbicide, Plant Growth Regulator, Fertilizer & Micronutrient.

### DOSE

5ml per 15 lit of Spray solution.

- ◆ **DIRECTION FOR USE** : Strictly follow label instructions on tank filling of insecticide, fungicide, herbicide, plant growth regulator, fertilizer and micronutrient, but fill water volume to only 90%. Add Shigoto-408 mix thoroughly and add the remaining water.
- ◆ **SAFETY PRECAUTIONS** :
  1. Ensure the seal is intact at time of purchase and keep the container closed when not in use.
  2. Wear suitable protective equipment like goggles and facemask. In case of eye contact, immediately flush eyes with water, continue washing for 15 minutes in emergency, obtain medical advice immediately.

### CAUTION

Strictly follow the safety precautions as advised. Keep out of reach of children.

## RESPONSIBLE USE OF PESTICIDE

1

Only use pesticides when needed. Get advice before buying pesticides and only purchase them at authorised retailers.



2

When storing pesticides make sure they are kept in a well-ventilated, securely locked place.



3

Carefully read the product label and leaflets and follow the instructions.



4

Check sprayer regularly for leaks and that nozzles work properly. Wear personal protection equipments while mixing and loading.



Triple rinse empty pesticide containers into the spark tank. Then puncture the container so it cannot be used for water or food storage. Take empty, rinsed containers to the nearest approval collection site.



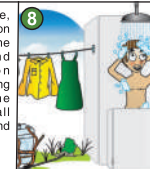
While spraying pesticide, always wear personal protection equipment and only use calibrated equipment with no leaks. Spray early in the morning or late in the evening when it is less windy. Do not eat, drink or smoke while spraying.



Do not spray pesticides near water source. Do not pollute the environment by misusing pesticides or leaving empty containers in the field.



After spraying pesticide, take a shower and put on clean clothes. Wash the spray equipment and personal protection equipment while protecting water source and the environment. Store all equipment separately and safely.



## FIRST AID FOR PESTICIDE CONTAMINATION

### INHALATION

If you accidentally breathe in pesticides, find a ventilated place where you are able to get some fresh air. Loosen your shirt and belt. If breathing stops, artificial respiration must be performed on the casualty using proper equipment.



### SKIN

If pesticides get in contact with your skin, remove any contaminated clothing and wash the skin with abundant soap and water.



### EYES

If pesticides get in contact with your eyes, wash with a gentle stream of cool clean water for at least 15 minutes. Wash each eye individually, from inside out, to prevent cross contamination.



### MOUTH

If you accidentally swallow pesticides, you must seek medical help as quickly as possible. Do not drink anything. Keep calm and comfortable as much as you can and do not induce vomiting.



### The meaning of Safety Symbols printed on pesticide bottles :



Always wear  
Eyeglasses



Keep out of the reach  
of children



Wash your face  
thoroughly



Keep away from  
reservoirs



Always wear  
gloves



Always wear  
shoes



Wear face mask  
on your face



Keep away from  
your pets



EXTREMELY TOXIC



HIGHLY TOXIC



MODERATELY TOXIC



SLIGHTLY TOXIC



# Notes

- **Note:** Always use Flood Jet or Flat Fan nozzle for herbicide spray.
- Please read the enclosed label and leaflet before use and follow the given instructions.
- The Packages of product shall be disposed off in a safe manner so as to prevent environment and water pollution.
- **Disclaimer:** Since the storage and use of the products is beyond our control, we do not take any responsibility, other than the uniform quality of our products.
- The recommended dosages are as per [www.cibrc.nic.in](http://www.cibrc.nic.in) and registration certificates obtained by IFFCO-MC Crop Science and Trade Partners.

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**Krishi-Rasayanon Ke Saath, Bima Haathon Haath**

## **Kisan Suraksha Bima Yojna**

**Free Accidental Insurance on Purchase of IFFCO-MC Products**

IFFCO Sadan, C-1, District Centre, Saket Place, New Delhi-110017  
[www.iffcomc.in](http://www.iffcomc.in)



**IFFCO-MC Crop Science**